

Medway Perinatal Support Service Evaluation Final Report

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An Evaluation by:

The Institute of Health Visiting in Partnership with the University of Kent

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Acroynms

FGD	Focus Group Discussion
GAD-7	Generalised Anxiety Disorder Assessment-7
GP	General Practitioner
HADS	Hospital Anxiety and Depression Scale
HV	Health Visitor
ITT	Intention to treat analysis
MORS	Mothers' Objects Relation Scale
MPAS	Maternal Postnatal Attachment Scale
MPSS	Medway Perinatal Support Service
NHS	National Health Service
PHQ-9	Patient Health Questionnaire
PMH	Perinatal Mental Health
PPA	Per protocol analysis
SD	Standard Deviation
ToC	Theory of Change
VB	Volunteer befriender
WEMWBS	Warwick-Edinburgh Mental Wellbeing Scale

Executive Summary

Background

Perinatal mental health (PMH) problems are a significant complication of pregnancy and the postpartum period, affecting between 10-20% of women and 10% of men in the UK. They represent a major public health concern due to their potential adverse consequences on the mother, their partner and the child. PMH problems may impair an individual's ability to parent. This may potentially have a direct immediate and also long-term impact on the physical, cognitive, emotional and social health of the infant/child across their life-course. Current provision of (PMH) services across the UK is variable. The 2016 National Health Service (NHS) Five Year Forward View for Mental Health advocates for a multi-agency approach, with the voluntary sector having a recognised and valuable contribution in supporting families affected by or at risk of PMH problems.

Family Action has been delivering a Perinatal Support Service in Medway since June 2015 through a grant received from the Big Lottery Reaching Communities Fund. The service aims to support positive attachment between the parents and child as well as to engage families with their wider family and communities. The Big Lottery Fund has also funded an independent evaluation of the service. The evaluation aimed to:

- Further evidence the impact of the Perinatal Support Services on maternal mental health and mother-infant relationship
- Examine the impact of the Perinatal Support Services on paternal mental health and father- infant relationship.
- Evidence the impact of the Perinatal Support Service on the infant's development, up until the age of one year in relation to supporting the parent-infant relationship and interaction.

Methods

This was a mixed methods evaluation involving both qualitative and quantitative approaches. It was guided by the service defined Theory of Change (ToC), which was developed at the start of the evaluation. Family Action provided anonymised quantitative outcomes data from the following tools: Mothers' Objects Relation Scale (MORS); Hospital Anxiety and Depression Scale (HADS); Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS); Maternal Postnatal

Attachment Scale (MPAS); Generalised Anxiety Disorder Assessment-7 (GAD-7) and the Patient Health Questionnaire (PHQ-9). Data from 123 service users who had finished their engagement with the service were used to inform this report. As there was a change in the measures used by Family Action in 2016, the data provided were divided into two sets during the data analysis to account for this change. The qualitative approach involved key informant interviews with nine service users, two partner agencies and three volunteer befrienders. A focus group discussion was also conducted with four staff members.

Key Findings

Our analysis suggests that the Medway Perinatal Support Service (MPSS) has a significant impact on maternal mental health. For data set one, results indicate a statistically significant difference in levels of self-reported anxiety ($t(55) = 6.96, p < .01, 95\% \text{ CI } [3.15, 5.70]$) and depression ($t(55) = 6.58, p < .01, 95\% \text{ CI } [3.03, 5.68]$) following MPSS support. These changes are clinically significant, with depression reducing from mild to a normal level and anxiety reducing from moderate to mild. These changes in mental health are reflected in the statistically significant increase in mental wellbeing assessed through the WEMWBS ($t(29) = -6.05, p < .01, 95\% \text{ CI } [-17.57, -8.69]$).

For the second data set, a paired-samples t-test (analysis-by-analysis) found a significant mean difference ($t(12) = 4.541, p = .001, 95\% \text{ CI } [3.48, 9.90]$) with post MPSS support anxiety ($M=9.08, SD = 4.96$) lower than pre MPSS support anxiety ($M=15.77, SD = 4.68$). This is a clinically significant change from moderately severe to moderate anxiety. A paired-samples t-test found a significant mean difference ($t(12) = 5.015, p < .01, 95\% \text{ CI } [5.35, 13.57]$) with post MPSS support depression ($M=6.92, SD = 3.0$) lower than pre MPSS support depression ($M=16.38, SD = 7.37$). This is a clinically significant change from moderately severe to mild depression. Caution is required in the interpretation of these findings due to the significant amount of missing data and the small sample size used in the final analysis.

The changes and improvement in mental health were also reported in the qualitative interviews. Several service users felt that the MPSS was a major contributing factor to the changes in their mood and anxiety levels. Following engagement in the MPSS, there were narratives to indicate that service users felt better able to be socially engaged, undertake

normal day to day activities and in some cases, be well enough to go back to work if they had been on maternity leave.

This evaluation sought to understand the impact of the service on parent-infant relationship/interaction. Analysis across the two quantitative datasets showed an improvement in the mother-infant relationship. For data set one, an exact Wilcoxon signed rank test showed there was a statically significant difference in service users perceived warmth of infant ($N=51, z = -4.57, p < .01$) and invasiveness ($N=51, z = -2.29, p = .021$). Although a much smaller sample size was used for data set two, the results were also indicative of an improvement in the mother-infant relationship. An overall statistically significant MPAS total mean difference was reported in a paired-samples t-test ($t(7) = -3.81, p = .07, 95\% \text{ CI } [-13.23, -3.09]$) with a mean increase of 8 points. The attachment subscale reported a statistically significant mean difference ($t(7) = -3.34, p = 0.12, 95\% \text{ CI } [-1.14, -3.34]$) with scores increasing from pre MPSS support ($M=36.2, SD = 4.99$) to post MPSS support ($M= 40.1, SD = 3.85$), indicating improved self-reported attachment between mother and infant. The hostility and interaction MPAS sub scales were non-significant. The number of cases who completed this measure pre MPSS support is low ($n=10$) and post ($n=8$) hence caution is required in the interpretation of these findings.

The qualitative data supported the quantitative findings. Service users reported improvements in their mental health and improvements in their relationships with their baby. Some service users also reported improvements in their relationships with their other children, as well as their spouse or partner. For those service users who had specifically been referred to the service to obtain support to bond with their child and who had engaged with the programme, there was a general consensus that the MPSS had helped them to achieve this. This was on a continuum ranging from those who felt that they had recovered from depression and anxiety and were much more able to bond with their child, to service users who had somewhat improved their mental health but still required ongoing support to positively develop the parent-infant relationship.

Overall, there were positive reviews about the service. There was a general consensus among service users, partner agencies and MPSS staff that the service addressed an unmet need for

PMH support in Medway. Furthermore, the MPSS staff, partner agencies and several service users felt that the level of support that MPSS provided complimented and enhanced statutory services such as the GP, midwives or health visitors, who may not have the capacity to provide the same frequency and intensity of the one-to-one support and home visits to families as the support workers or volunteer befrienders. Several service users felt that there was need to raise more awareness about the MPSS so that other people with mild to moderate PMH problems could receive the support which they had received.

Conclusions

The improvements in mental health and parent-infant interaction described by service users and the improvements seen in the outcome measures data suggest that the Medway Perinatal Support Service is successfully meeting its aims and objectives. Caution is required when interpreting the effect of the intervention on mental health as the improvement could be due to an interaction and combination of other factors, such as prescribed medication for mental health, as well as other possible confounding factors. During interviews, many service users disclosed being prescribed medication postnatally for mood disorders, however, participants still felt that the MPSS had played a significant role in their recovery. This suggests that there is a specific role that is played by the service in helping service users recover, which is not available through medication alone. We would recommend a randomised control trial or quasi-experimental design to determine the specific effect of the service on improvement in perinatal mental health. Previous evaluations of Family Action's Perinatal Support Service have highlighted the difficulties with data collection and missing outcomes data. This was also the case in this evaluation and results must be interpreted against the backdrop of the small sample size used in the final quantitative analysis. It may be necessary to provide additional training to staff on the administration of outcome measures and application of the collected data. Overall, the MPSS is providing an essential service to those experiencing or at risk of experiencing mild to moderate perinatal mental health problems in Medway.

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1. Introduction

1.1 Perinatal mental health in the UK

PMH problems are a significant complication of pregnancy and the postpartum period affecting between 10-20% of women and 10% of men in the UK [1, 2]. They represent various psychiatric disorders which begin or persist during pregnancy or the year following the birth of the baby [3]. Depression and anxiety are the most common disorders during this perinatal period and are often comorbid with each other [4-7]. However, they may also overlap with more complex or severe disorders [5, 8-10]. PMH problems are a major public health concern given that suicide is the leading cause of maternal death in the UK after cardiovascular disease [2].

Factors such as previous history of mental illness, low social support or psychosocial adversities such as extreme stress, poverty, migration and abuse are known to increase the risk of developing PMH problems [9-12]. The potential adverse consequences of PMH problems on the mother [4, 10, 13-15], her partner [16-18] and her baby [12, 19-23] are well documented in the literature. These may include an impaired ability to parent due to disengagement with the infant; poor responsiveness to an infants' cues for attachment; inability to support an infant when they are distressed, or inability to provide warmth to the infant [12]. These are important aspects of parenting which can potentially have a direct immediate, as well as long-term, impact on the infant's physical, cognitive, emotional and social development [2, 9-12, 19-24].

The costs of PMH problems are estimated at £8.1 billion for each birth cohort, with 72% of these costs being associated with the adverse impact on the child rather than the mother [24]. These costs do not account for instances where no action is taken to address maternal mental health problems, which is a significant concern given that evidence from systematic reviews and cohort data suggests that up to 50% of women are unable to access adequate treatment and support to facilitate recovery [25-27].

To this end, investment in PMH was identified as a priority area in the 2016 NHS Five Year Forward View [2]. Current service provision for PMH support within the UK is variable, with 40% of localities providing no service at all and only 12% of localities providing community support for women with severe perinatal mental health problems [2]. The current national objective is to increase the number of women with severe PMH problems supported from 2000 in 2017 to 30,000 by 2021 through providing access to evidence based perinatal support services delivered in partnership with other agencies [2]. While this may address the needs of those with severe PMH problems, there is need to also scale up services for those with mild to moderate forms of PMH problems as these can also have an adverse impact on the first 1001 critical days of a child. Early intervention during these critical days through provision of PMH services to those who need them, will improve immediate and later outcomes for the child [28].

Provision of PMH services involves a multiagency approach and the Five Year Forward View fully recognises the critical role played by the voluntary sector in supporting families affected by mild to moderate PMH problems [2]. This role is also well documented in literature [2, 29-34]. In light of this, there is a drive towards collaborative commissioning of services, with voluntary organisations being key players in the planning and delivery of PMH services [2, 33, 34]. The 1001 critical days manifesto also envisages that volunteer and outreach services will have the greatest success in reaching isolated and vulnerable families [28].

1.2 Background and rationale for the Perinatal Support Service

1.2.1 Medway Population: Risk factors for perinatal mental health

PMH problems are caused by a number of factors, and no single factor can be viewed in isolation in relation to the prevalence or incidence of PMH problems in an area [35]. The current prevalence rates of PMH problems in Medway are comparable with the rest of the UK and estimated at between 10-20% [35]. It is not the objective of this report to discuss risk factors for PMH in detail, but the discussion below focuses on a number of risk factors for PMH problems as they pertain specifically to Medway where the support service is provided.

Medway is a local authority in the South East of England with a population of 278,542 [36, 37]. The general fertility rate in Medway in 2016 was 66.2 births per 1000 women aged 15 to 44 years, which is higher than the national average of 62.5 births per 1000 women aged 15 to 44 years [38]. Although there has been natural population growth in Medway, migration has also contributed to this growth with a large number of young people between the ages of 20-30 and younger families moving from London into the area [36]. Migration often results in disruptions of social networks and could lead to isolation, which is a known risk factor for PMH problems [11, 12].

In 2016, Medway was ranked within 37% of the most deprived Local Authorities in England [39]. It has some areas of affluence as well as areas in the 1% most deprived areas in England [39]. According to the report by the Medway Public Health Directorate in 2015, 4.9% of the households in Medway had no one in paid employment, which was higher than the national average of 4.2% [40]. Previous research suggests that unemployment, poverty and a low socio-economic status, may increase the risk of PMH problems [12, 41].

Medway has one of the highest rates of teenage pregnancies in the UK, which are above the 75th percentile of all local authorities in England [36, 40]. Teenage pregnancies are often associated with unwanted and/or unplanned pregnancies and social isolation, which are risk factors for PMH problems [7]. In 2012, Medway had more sole registrations of birth (6%) as compared to the national average of (5.4%) [35]. Sole registration is an indicator of lack of social support during the perinatal period. Extensive primary research indicates that isolation is a significant risk factor for developing PMH problems [35, 41-43].

Previous history of mental illness is a significant risk factor for PMH problems [3, 7, 25, 44]. Between 2016 and 2017, Medway had a 10% prevalence of depression among patients registered with GPs, which is higher than the national prevalence of 9.1% [45]. Medway also reported a higher prevalence of mental illness between 2015 and 2016 (5.8%) compared to the national average of 5.2% [45]. However, during this same period, Medway had a lower prevalence of severe mental illness (0.68%) on GP practice registers as compared to the national average of 0.9% [45]. Based on these prevalence rates it can be argued that previous history of mental illness could be a contributing factor to PMH problems in Medway.

The socioeconomic factors which have been discussed in this section suggest that there is significant risk of development of PMH problems for mothers and fathers in Medway. As highlighted by the South East Clinical Research Network, there is need for a comprehensive collaborative approach to addressing PMH in Medway [46].

1.2.2 Perinatal Mental Health Services in Medway

Currently, there are primary, secondary and tertiary PMH services in Kent and Medway [40, 46]. Like the rest of the UK, there is variation in the commissioning of these services across Medway. It is anticipated that the implementation of the Five Year Forward View will contribute towards increasing prevention, detection and treatment of PMH problems in this area, as well as equitable access to services. PMH services in Kent and Medway involve a multidisciplinary approach with various stakeholders, including voluntary organisations, who are already known to be making significant contributions to addressing mild to moderate PMH problems in this area [41, 46]. Against this backdrop, Family Action has been delivering a Perinatal Support Service in Medway.

1.2.3 Family Action's Perinatal Support Service Model

Family Action is a voluntary organisation which provides practical, emotional and financial support to families experiencing poverty, disadvantage and social isolation. The organisation was established in 1869 and currently provides services to over 45,000 families through over 140 community based services across England, Wales and the Isle of Man.

One of the service models provided by Family Action is the Perinatal Support Service. This is an early intervention, low-medium intensity service for those diagnosed with low to moderate mental health issues, or at risk of developing perinatal depression [47]. The service is delivered from the 16th week of pregnancy through to the child's first birthday by support workers and volunteer befrienders, who have a minimum of two hours interaction with clients per week. They assist clients to engage with community networks, support attachment and promote positive parenting behaviours. The peer supporters and volunteer befrienders are supervised by a service coordinator with a health and social care background.

There is a growing evidence base for the Perinatal Support Service model. A randomised control trial of the Newpin Perinatal Support Service showed that women who were vulnerable to perinatal depression who received social support were half as likely as those in the control group to have experienced the onset of depression requiring antidepressants or to have remained without recovery from depression during the twelve month period of the study [48]. These findings informed the Family Action Southwark Perinatal Support Service and a further evaluation conducted in 2009 showed that 88% of service users had a reduced score for anxiety and 59% had a reduced score for depression [49]. Caution must be exercised in the interpretation of these findings as there was no control group used in the design of the evaluation and there was a small sample size used for the final analysis (n=17).

Nevertheless, the results of the evaluation were further replicated in an evaluation of implementation of the service in Hackney, Mansfield, Oxford and Swaffham [31]. The authors reported significant improvements in anxiety and depression ($p<0.00$) and social support ($p<0.1$). They also reported improvement in the mother's relationship with the baby in terms of warmth, ($p<0.00$), but not invasiveness ($p=.109$) [31]. The authors indicated that data was only available for one third of women who received services, hence the small sample size in the final analysis (n=33 for depression and anxiety, n=35 for warmth and invasiveness and n= 42 for social support). The authors noted the limitations of their evaluation in that no pre and post outcome data were available for two thirds of service recipients [31]. It is therefore open to question whether the findings would have been the same if data had been collected from all the participants. In addition, the study did not have a control group which limits how much change in mental health wellbeing could be attributed to the service alone.

Notwithstanding these points, these studies provide good evidence for the Perinatal Support Service and were part of the data used for an economic analysis conducted in 2014. The cost benefit analysis suggested that the Perinatal Support Service provided a financial benefit of £2429 for each participating mother, with this figure potentially rising to £4383 when value was placed on the woman's wellbeing [50]. Although these figures are suggestive of the economic benefits of this service, they need to be interpreted with caution as they are not based on an actual economic evaluation.

The promising evidence of the perinatal support service was the basis for the adoption of the service model by Aberlour, Scotland's Children's Charity [51]. An evaluation of the pilot implementation of this service in Falkirk was conducted to assess feasibility and acceptability of the service and to assess if the service would be able to address perinatal mental health issues in the area. The authors reported lower levels of anxiety and depression among participants, greater warmth and lower feelings of invasiveness [51]. However, the evaluation also had a very small sample size (n= 14) which limits the generalisability of the findings. In the absence of a control group it is difficult to determine the specific contribution of the service in the improvement in anxiety and depression as reported in the evaluation.

Despite these limitations, these studies provide preliminary evidence about the potential benefits of the Perinatal Support Service. The Perinatal Support Service is now manualised and runs in seven locations across England and Wales.

1.2.4 Medway Perinatal Support Service (MPSS)

The Medway Perinatal Support Service received some initial funding from Medway Clinical Commissioning Group and Medway Council to set up the service in October 2014. The service as funded by the Big Lottery Fund, and the subject of this evaluation, began in July 2015, and is funded until June 2018. The service aims to:

- Support positive attachment between the parents and child.
- Reduce service use across primary, secondary care and social services.
- Engage families with their wider family and communities.
- Improve the self-esteem and employment opportunities for peer supporters.

In line with the Family Action's Perinatal Support Service manual [47] upon which the MPSS is based, the key aspects of the service include:

- An initial assessment of need by a service coordinator.
- The recruitment, training and supervision of volunteer befrienders and support workers.
- Maintenance of referral networks by the service coordinator.
- Provision of home visits by a suitably trained volunteer and or a support worker who provide emotional support as well as practical support with day to day activities.

- Use of validated outcome measures to measure clients progress while they are engaged with the service.
- The establishment of small groups that provide peer support for the mothers and fathers; enable the development of social networks; foster knowledge and understanding of the baby's needs and support the emotional wellbeing of mothers and or fathers.
- Collaborating with various stakeholders who refer clients into the service as well as receive clients who are referred from the service.
- Eight therapeutic one to one sessions for mothers with higher levels of need with trained volunteer counsellors, psychology graduates or students on placement with the voluntary organisation Parent Infant Partnership (PIP) UK. Sessions are provided as part of the closure of a case, or at the start of a service user's engagement with the service, dependent on need.
- Events, such as Family Fun Days, Christmas parties and school holiday activities which include a picnic and play in the local park.

Family Action also received funding from the Big Lottery Fund to conduct an independent evaluation of its service. The Institute of Health Visiting and the University of Kent have collaborated to evaluate this service.

1.3 Report Structure

The outcome of this report is based on the findings from desk reviews of relevant documents, quantitative analysis of outcome measures, analysis of qualitative data from key informant interviews and a focus group discussion. The report is presented in six sections as below:

- Section 1 Provides the Introduction and Background Information to the service
- Section 2 Describes the Study Methodology used in this study
- Section 3 Presents the Findings from this evaluation
- Section 4 Presents the Discussion and Recommendations
- Section 5 Provides a brief conclusion
- Section 6 Contains a List of Appendices

2. Evaluation Methodology

2.1 Purpose of the evaluation

The purpose of evaluation was to strengthen the evidence base for the Perinatal Support Service with a focus on the delivery of the Medway Perinatal Support Service. The original objectives of the evaluation were:

- To further evidence the impact of the Perinatal Support Services on maternal mental health and infant-mother attachment.
- To examine the impact of the Perinatal Support Services on paternal mental health and infant-father attachment.
- To evidence the impact of the Perinatal Support Service on the infant's development, up until the age of one year, especially in terms of the parent-child relationship and attachment.
- To explore whether the service reduces referrals and attendance across primary and secondary healthcare services and social services.

Although the evaluation aimed to look at how the service improves attachment, this was discussed at the outset of the evaluation as being methodologically challenging. According to attachment theory, attachment refers to the emotional relationship that an infant develops when they look for safety and security from their primary caregiver [52, 53]. Secure attachment enables the infant to develop positive emotional and social outcomes throughout life [52, 53]. Secure attachment develops through various positive interactions between the primary caregiver and the child, including responsiveness, play nurturing and feeding [52]. Given that attachment occurs between an infant and their primary care giver and not the other way round, the research team and Family Action agreed that it would be very challenging methodologically to measure attachment based on the available outcome measures data. Instead it was agreed to measure parent-child interaction using the HOME tool which was identified through a systematic review conducted by City University [54].

However, implementation of the HOME tool began towards the end of the evaluation, and consequently there was insufficient data to enable analysis at the time of write up of the report. In addition, there was no access to hospital episodes data for the families accessing

the service, therefore it was also agreed that assessing how the service reduces the use of secondary and primary services was not possible. The objectives of the evaluation were therefore revised to:

- Further evidence the impact of the Perinatal Support Services on maternal mental health and mother-infant relationship.
- Examine the impact of the Perinatal Support Services on paternal mental health and father- infant relationship.
- Evidence the impact of the Perinatal Support Service on the infant's development, up until the age of one year in relation to supporting the parent-infant relationship and interaction.

2.2 Evaluation Approach

This was a mixed methods evaluation with four key aspects:

- Desk Review.
- Theory of Change workshop.
- Analysis of quantitative outcomes data.
- Qualitative data collection and analysis.

2.1 Desk Review

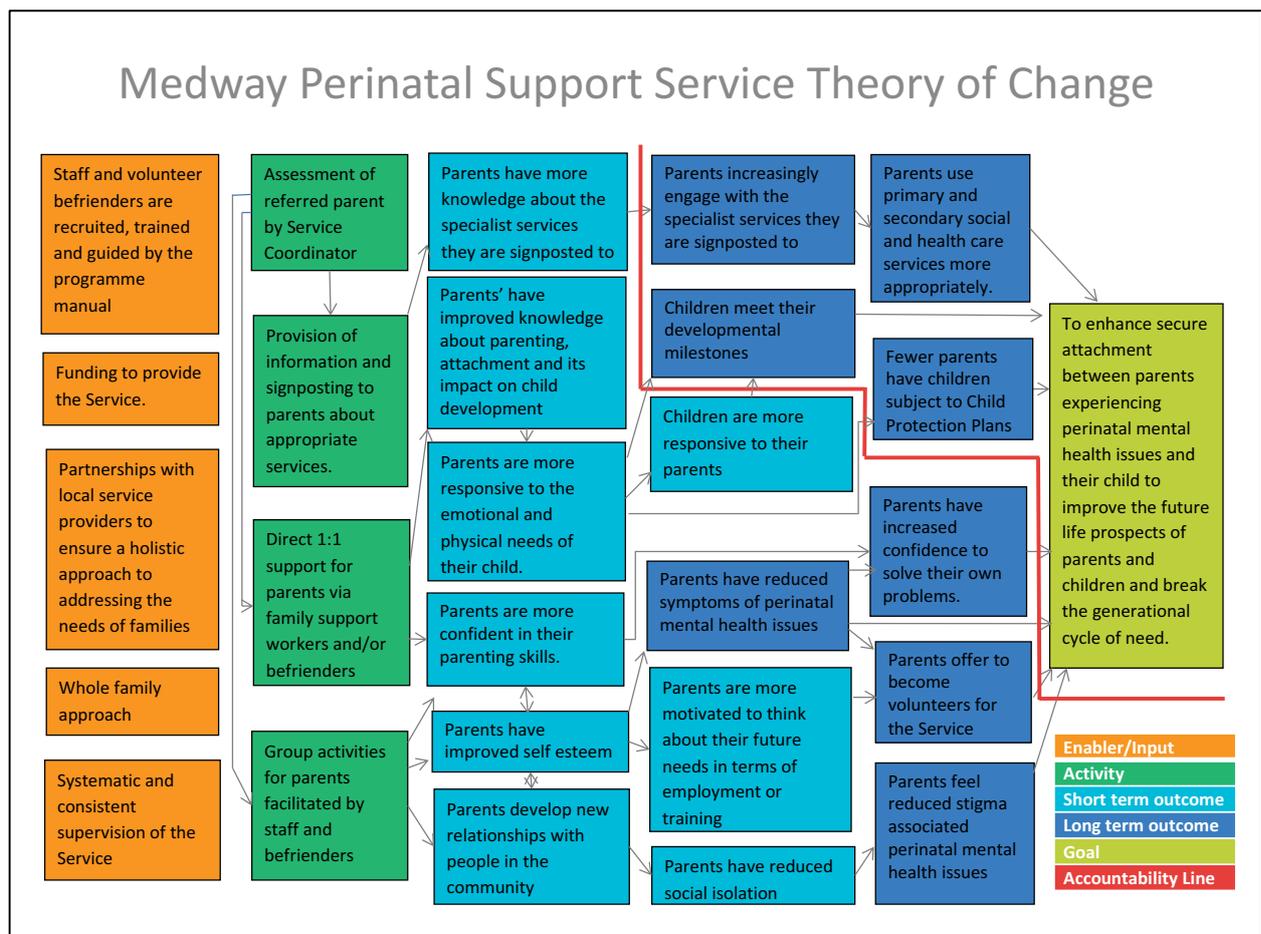
The research team conducted a review of Family Action documents on the Perinatal Support Service to understand the service approach; processes and strengths and possible challenges. The documents reviewed included the Perinatal Support Service manual; previous evaluation reports and various service monitoring reports. In addition, the research team conducted an extensive review of published literature on PMH services in the UK, the role of voluntary organisations in addressing PMH, as well as literature on various interventions to address PMH problems. This was useful particularly for the development of the narrative for the ToC as well as the evaluation data collection tools.

2.2 Development of the Theory of Change (ToC)

A ToC allows stakeholders clearly define for the service or intervention the long-term goal and the short term and midterm outcomes, illustrating the components, mechanisms, relationships and sequences of causes and effects [55-57]. We conducted a workshop to develop the ToC with various stakeholders including: senior management and staff at Family Action, service recipients, volunteer befrienders and partner organisations. The narrative for the ToC is in Appendix 1.

By the end of the workshop we had a diagrammatic representation of the Perinatal Support Service (Figure 1) that showed clear links between the expected outcomes of the service; the underlying assumptions; the enabling factors; the activities and the goal of the service [55-57].

Figure 1: Medway Perinatal Support Service Theory of Change



Developing the ToC allowed identification of suitable qualitative and quantitative indicators to assess how well the service was achieving the expected outcomes. We also developed the

interview guides and focus group guides used after the workshop. These data collection tools are available upon request from Family Action.

2.3 Quantitative data

2.3.1 Quantitative Approach

Anonymised quantitative outcome measures data was provided by Family Action. This data was entered into SPSS version 24 for analysis. As is common in health research, some outcome data were missing [58]. To address this all missing data were followed up with Family Action who were able to provide some of the missing values. Due to changes in procedures at Family Action there were variations in the outcome measures (questionnaires) used for the assessment of MPSS. The data for this report are split into two sets to allow for the change in measures used by MPSS. Table 1 details the two sets. There was an overlap in the use of measures for cases, so a distinct date could not be applied. In cases where no measure data were collected January 2016 was applied as the cut-off date as this is when set two data measures began implementation. Cases were included where demographic data were collected but not outcomes measures as many of these had multiple contacts with MPSS.

Table 1 Data Set Outcome Measures

Data Set One	Data Set Two
Mothers' Objects Relation Scale (MORS) [59]	Maternal Postnatal Attachment Scale (MPAS) [62]
Hospital Anxiety and Depression scale (HADS) [60]	Generalised Anxiety Disorder Assessment -7 (GAD-7) [63]
Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) [61]	Patient Health Questionnaire (PHQ-9)[64]

A description of the outcome measures is provided in the technical appendix which is available upon request from Family Action.

2.3.2 Missing data

Data set one comprised 69 cases and data set two 54 cases. Please see **Error! Reference source not found.** and **Error! Reference source not found.** below for percentage of missing measures data for each data set.

2.3.2.1 Missing data set one

Table 2 below shows the percentage of missing measures data for data set one.

Table 2 Percentage of missing measure data for set one

Measure	Pre (%)	Post (%)
Hospital Anxiety & Depression Scale	4	19
Warwick-Edinburgh Mental Wellbeing Scale	37	56
Mother Objects Relation Scale	23	26

Age of mother was missing for one case, referral closure date for two cases (3%) and non-visit contact for four cases (6%). Data was complete for all other variables.

2.3.2.2 Missing data set two

Table 3 below shows the percentage of missing measures data for data set one.

Table 3 Percentage of missing measure data for set two

Measure	Pre (%)	Post (%)
Generalised Anxiety Disorder Assessment	70	71
Patient Health Questionnaire	70	76
Maternal Postnatal Attachment Scale – <i>total score</i>	82	85
Maternal Postnatal Attachment Scale – <i>attachment</i>	82	85
Maternal Postnatal Attachment Scale – <i>hostility</i>	82	85
Maternal Postnatal Attachment Scale – <i>interaction</i>	87	87

For nine cases, mothers age was missing (17%), referral closure date for 15 cases (28%) however service duration was provided with data missing for five cases (9%) and 31 cases missing for non-visit contact (63%). This reflects the changes in MPSS procedures.

2.3.3 Data analysis

Frequency analysis was performed on all data for demographics relating to referral reasons and sources. There was no comparison control group so these results are potentially only

relevant to this specific group. All data in each set were included in analysis as per ITT principle. Multiple regressions were not performed on the data due to the high level of missing data and data distribution.

2.4 Qualitative

2.4.1 Qualitative data collection

The qualitative enquiry made use of key informant interviews and a focus group discussion.

a. Key Informant Interviews

We had a purposively selected sample of nine service users participate in the interviews. We also had two partner organisations participate in the study as well as three volunteer befrienders participate in the interviews. We made use of an interview guide to ask questions which would help us to meet the objectives of the study. We also made use of probes to encourage participants to elaborate on their responses.

b. Focus Group Discussions

Focus groups are a good method of building consensus on issues during an evaluation. We conducted a focus group discussion with four staff members who were working on the Perinatal Support Service.

2.4.2 Qualitative data analysis

We used Framework analysis to analyse the qualitative data [67]. We used NVivo 11.4 for data management.

2.5 Research Governance

The evaluation was conducted in accordance with the UK Policy Framework for Health and Social Care Research and Good Clinical Practice guidelines. Ethical approval was obtained from the University of Kent research ethics committee reference SRCEA id 182. All participants provided written informed consent to participate in this evaluation. Confidentiality and anonymity of service users has been maintained by using pseudonyms and changing any identifying details from the qualitative data.

3. Evaluation Findings

3.1 Introduction

This section is divided into the following sub sections:

3.2 Provides a brief description of the evaluation participants.

3.3 Focuses on the impact of the Perinatal Support Services on parental mental health and parent-infant interaction.

3.4 Focuses on the impact of the Perinatal Support Service on the infant's development with regards to infant-parent interaction.

3.5 Focuses on the perceived strengths of the service.

3.6 Focuses on the perceived limitations of the service and recommendations from service users, MPSS staff and partner agencies for improvement.

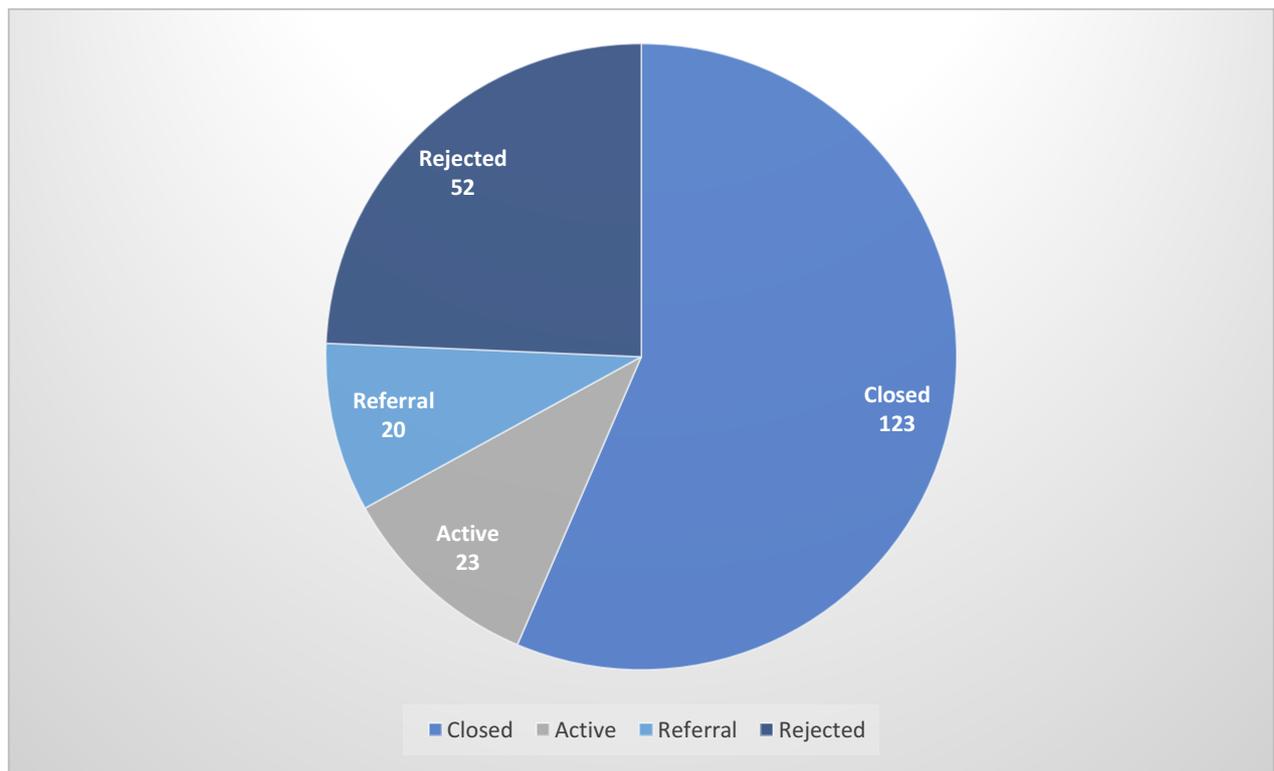
3.2 Description of participants

3.2.1 Description of families

The MPSS team provided quantitative data to the Institute of Health Visiting. This included data which were collected before Big Lottery funded the service in July 2015.

Data for 218 cases were provided. This included active cases, completed cases, cases referred to other agencies and cases which were excluded because they did not meet the inclusion criteria for the service as shown in Figure 2.

Figure 2 Status of all referrals made to MPSS January 2015 to October 2017



To be able to show pre and post-test changes in service users, the quantitative data included in this report are from MPSS completed cases between July 2015 and October 2017. Data from active and rejected service users were excluded from this report. To this end, we have used data for 123 service users to inform this report. These comprise of 99 completed MPSS cases, 21 disengaged cases and three cases which relocated to areas outside of MPSS catchment area. Of these, two cases were placed in mother and baby foster care and one case in a refuge. Reasons for other service disengagement are unknown. Due to the high levels of missing data, we were only able to calculate the dropout rate (attrition rate) for the service between July 2015 to August 2017 (26 months), this was 19.5%.

The number of family members in each case ranged from one (expectant mother) to nine ($M=3.8$ members, $SD = 1.4$). Cases comprised of mothers, fathers, siblings, grandparents and other adults. Over half of families had three or four members. The mothers age ranged from 17 to 42 years ($M=29.8$ years) and fathers were aged 20 to 46 years ($M = 30.2$ years).

Nine service users participated in the qualitative interviews. Their socio-demographic characteristics are summarised in table 4:

Table 4: Socio-demographic characteristics of interview participants

Characteristic	Distribution (% n=9)
Sex	
Male	11.1
Female	88.9
Age Group	
25-30 years	33.3
31-40 years	44.4
Age not disclosed	22.2
Marital Status	
Married or Living Together	66.7
Single	22.2
Divorced	11.1
Number of Children	
1	44.4
2	22.2
≥ 3	33.3
Employment Status	
Employed	22.2
Unemployed	77.8

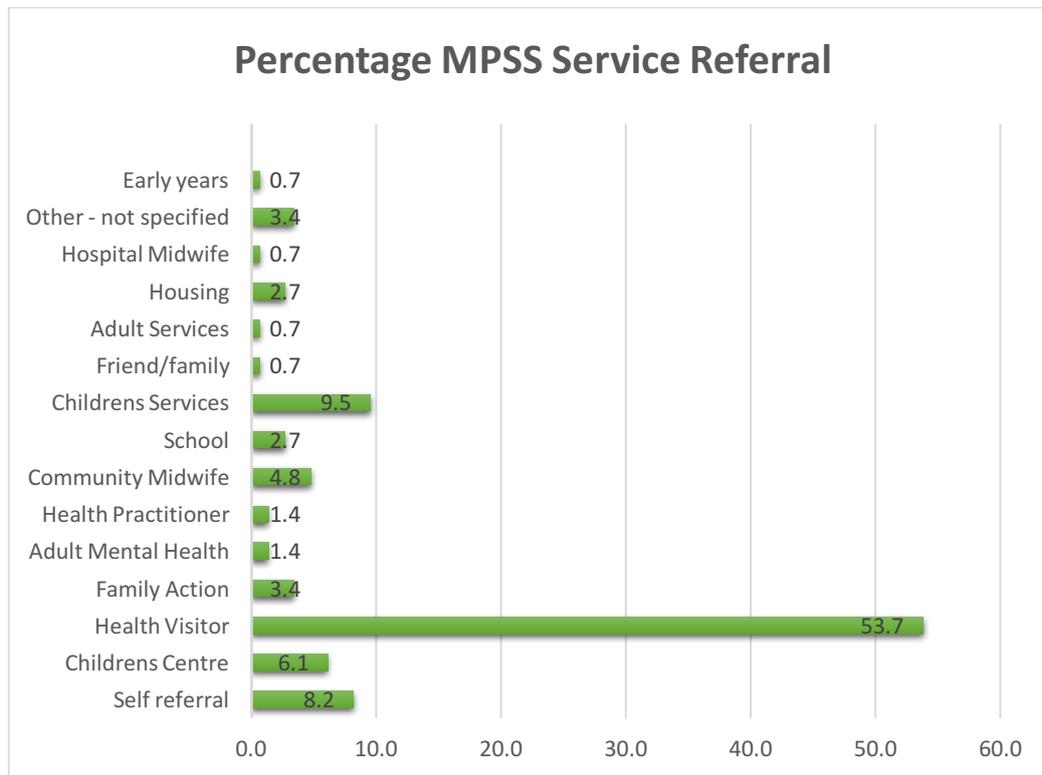
3.2.2 Description of staff members and volunteer befrienders

Four staff members participated in the focus group discussion and three volunteer befrienders participated in the interviews. As this is a small number of participants, the full range of demographic data are not presented in order to protect the anonymity of participants.

3.2.3 Description of partner organisations

The Perinatal Support Service involves working with partner agencies. These partner agencies refer families into the service. Health Visitors accounted for 53.7% of all referrals to MPSS (see **Error! Reference source not found.** for detailed breakdown).

Figure 3: MPSS referral sources January 2015 to October 2017



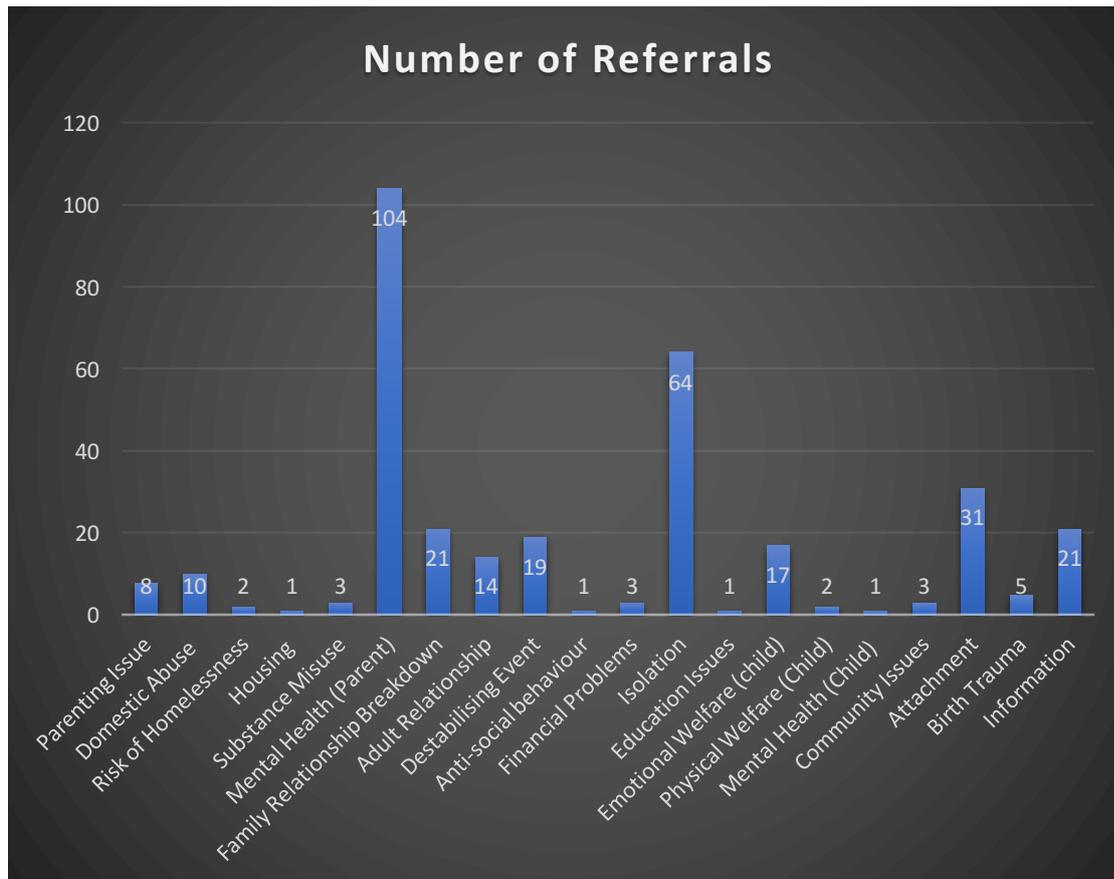
Two partner agencies who refer families to the MPSS participated in the interviews. Their demographic data are not presented in order to protect their identity.

3.2 Impact of the Perinatal Support Services on parent mental health and infant-parent interaction

3.2.1 Reasons for referrals

The most frequent reason for referral to the service was mental health of parent (85%), followed by isolation (52%) and parent-infant attachment (25%). Some service users were referred for multiple reasons. Figure 4 details referral reasons.

Figure 4: Reasons for MPSS referrals from January 2015 to October 2017



The qualitative data also indicated that families were referred or self-referred to the MPSS for various reasons as detailed in Figure 4. Furthermore the qualitative data indicate that over and above PMH problems, service users often had other challenges which impacted on their wellbeing and family functioning. Support workers and or volunteer befrienders systematically worked out how to address the challenges through an agreed Action Plan which was reviewed on a regular basis:

Interviewer 1: ... What are some of the challenges that families face, um, that can result in the need for support from your organisation?

P1: Social isolation.

P4: Mm hm. Anxiety and depression.

Int1: Mm hm.

P2: Emotional support.

P4: Yeah.

P2: Is quite big.

Staff Focus Group Discussion.

As the evaluation sought to understand the impact of the service on parent mental health this section focuses on the service user's experiences of PMH illness and the factors perceived as contributing to the illness. Although we have focussed on mental health, our analysis indicates that some of the reasons for referral into the service were either a contributing factor to the PMH problems or the result of PMH problems as will be detailed in the analysis below.

A. The onset of PMH problems and seeking professional help

Service users described a gradual build-up of symptoms of PMH problems, with some initially dismissing these symptoms and then eventually coming to a point where they had to overcome the stigma associated with PMH problems or when the symptoms had become so critical that and they had to seek for assistance from one of the referrers listed in figure 4, such as the GP, health visitor or the midwife:

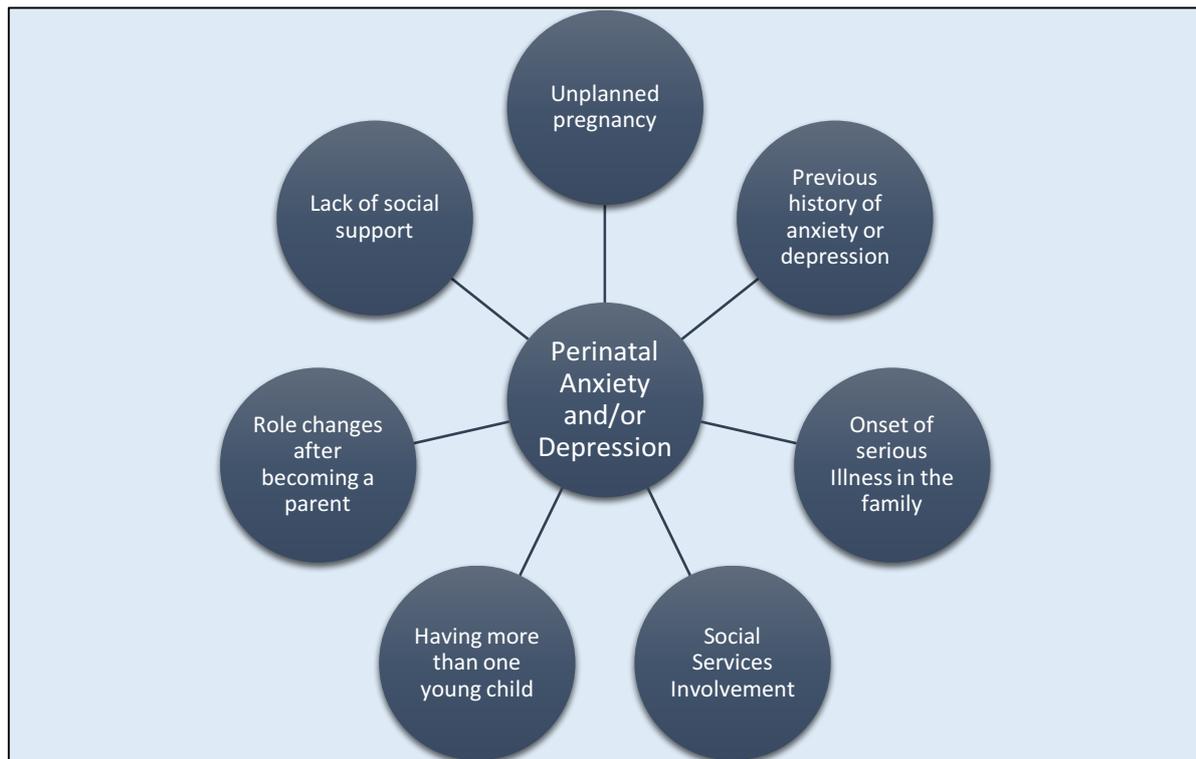
... I kind of knew last August that something wasn't quite right.....but I think I just put it down to being tired. And also, I think in your mind you think, I did anyway, that it was admitting that I was a failure as a mum by sort of...you know, thinking like that. Um, so I finally went to the doctors around March time because it was just getting worse... **Service User 102**

Anxiety and depression were the two main forms of PMH illness described by participants which is expected as this is the inclusion criteria for the service. Narratives on these illnesses suggest that the illnesses often overlapped as indicated in the literature [9] as a form of anxious depression. Some participants described experiencing more severe forms of psychotic disorders and seeking specialist mental health services who then referred into the MPSS once there was an improvement in their mental health.

B. Factors contributing to the occurrence of perinatal anxiety and depression

There was significant overlap in the factors described as contributing to the occurrence of anxiety and depression, as well as the impact of these on parent-infant interaction by participants as shown in Figure 5.

Figure 5: Factors perceived as contributing to perinatal anxiety and depression.



We will now describe these factors in more detail:

I. Having more than one young child

There were several nuances in the data pertaining to how having more than one young child through multiple births or a subsequent pregnancy contributed to perinatal anxiety. Some service users described feeling overwhelmed and unable to cope with more than one young child. In a number of narratives service users processed their young children's behaviour, such as excessive crying or screaming, as reflecting on their inability to cope as a parent. This fear of being seen as unable to cope was a contributing factor to some service users choosing to remain indoors, which led to further isolation and further compounded their PMH problems.

II. Unplanned pregnancy

Other narratives on anxiety or depression related to having an unplanned pregnancy. For example Service User 103 reported falling pregnant before she felt emotionally ready for another child:

I had trouble bonding...with him at first and I didn't have a very easy pregnancy. And I suffered a miscarriage before I had him..... and then I fell pregnant pretty quickly with him ...after I'd lost the baby. So, I had a hard time getting...my head around everything and yeah, I wouldn't refer to him by his name, even though he had a name from the March until I had him in June.... **Service User 103**

Service user 103 had low mood because she was still recovering from the loss of a pregnancy and was anxious about the possibility of losing the second pregnancy. This affected her ability to bond with the baby.

III. Social Services Involvement

Other narratives of perinatal anxiety were related to social services being involved with a family to work out the historical and current risks to the safety of the children, particularly where there was history of severe mental illness or children who had gone into care.

Respondent: ...that other part of the Social Service where I felt under pressure and, because I ended up losing a bit of my hair, so alopecia, stress related alopecia.

Interviewer: You were really stressed, yeah. **Service User 105**

The involvement of Social Services created the fear of losing the children, which created incredible stress and anxiety for parents.

IV. Serious illness within the family

Other reports of anxiety and or depression in the data related to a parent having a serious illness such as cancer or the long-term illness of a child:

I was in such a state of anxiety with everything that was going on.....And it turned out that she was having trouble breathing, so she got taken back onto the PICU again and given kind of more stuff to try and keep her temperature down and help with breathing, but it was probably about 4 in the afternoon that happened and by late kind of evening they realised that it wasn't kind of improving at all. **Service User 109**

V. Previous history of anxiety or depression

Some participants also spoke about how they had history of anxiety or depression prior to pregnancy which they felt contributed to developing PMH problems during pregnancy. Research has shown these factors as contributing to the emergence or persistence of mental health problems during pregnancy [7], and this was also reflected in the data:

Yeah, I was under mental health at the time as well, so, severe depression, because I lived with my nan until I was 33 year old. Er, my nan passed away. **Service User 108**

VI. Role changes after becoming a parent

Depression was also described as emanating from having to make adjustments such as stopping work or changing other aspects of one's social life in order to care for the children. This perceived change in status or identity was viewed as a contributing factor to low mood:

One of my clients was, first clients was, um, a male. He, um, kind of, he had a baby and his life just turned around, completely and he couldn't cope at all, the shock of becoming of father was too much for him and it was the first time he developed depression and anxiety and he didn't have any stable template on how to be a father because he grew up without, he grew up without having a father. **Volunteer befriender 120**

VII. Lack of social support

Depression and anxiety were also described as emanating from lack of social support:

You want your mum there but obviously my mum's not been there, um, There's been no other family support at all, um, so I think that kind of like built it up and built it up and I went back on, um, like depression tablets. **Service User 108**

...and had no-one, and I didn't have friends when I left the work place 'cause when you leave the work place it's like an institute.....boom, see you later, you're gone, kicked to the kerb, you're nothing now, and so I lost all my friends, I lost all my, everything. **Service User 104**

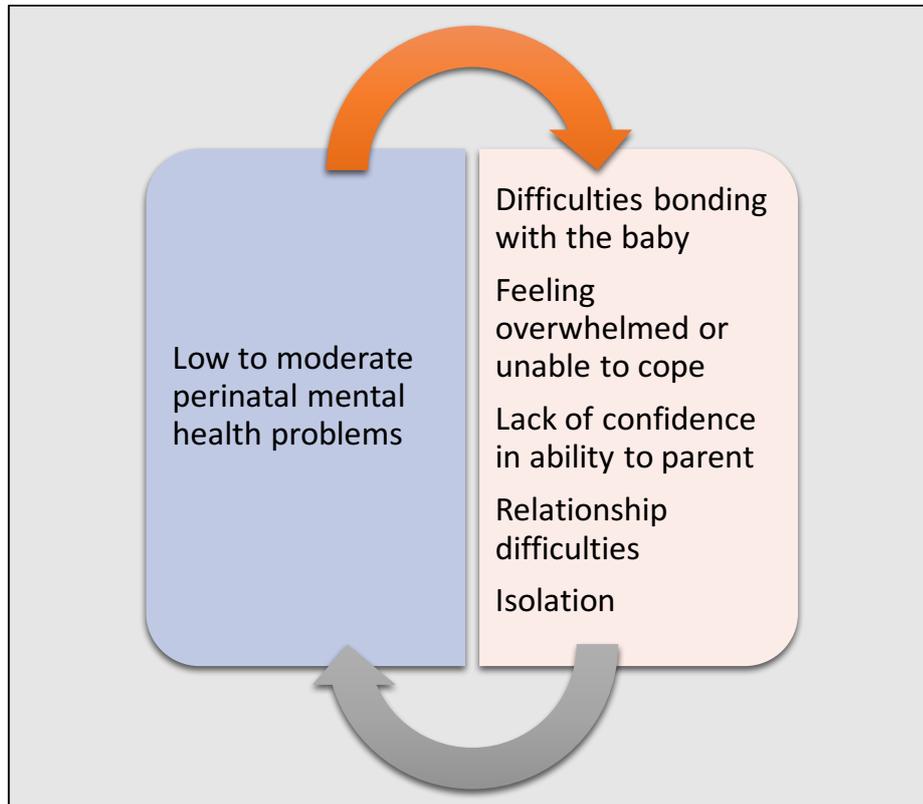
The experiences described by service user 108 and 104 also highlight how social isolation contributed to the occurrence of perinatal mental health problems in this population. Our quantitative analysis indicates that 52% of service users were referred into the service to address isolation in addition to the perinatal mental health problems.

3.2.2 Impact of challenges on families

In this section, we describe some of the effects of PMH problems which were discussed by service users. Although this gives the impression that the occurrence of the PMH problems and the effects had a linear relationship, the narratives suggest that the relationship was

more symbiotic in that the PMH problems impacted the service users' relationship with their baby; their partner if they were in a relationship; and their perception of themselves, which in turn impacted on the severity of the PMH problems, as shown in figure 6 below.

Figure 6 : Perceived effects of PMH problems.



I. Difficulties bonding with the baby

In the narratives by staff, volunteer befrienders and service users, one of the effects of PMH problems on parents was inability to form an emotional relationship with the baby, as demonstrated by lack of warmth towards the baby:

It was probably useful to, um, to discuss how I'd been feeling and you know, how I was feeling towards Amy because it kind of made me feel quite angry towards her and um, resentful of her and that kind of thing. **Service User 116**

Interviewer 1: Okay. Um, and, uh, how do those challenges affect their ability to care for children, for their babies, in your opinion?

P2: Sometimes it's about being available for the child.... So, they might be physically present but they're not always emotionally present..... Um, sometimes it's not always being aware of what the child needs, based, a lot of that can be based on their own experience. **Staff FGD.**

The quantitative data also indicated that 25% of the referrals were for parent-infant attachment. The symbiotic relationship between the illness and effects was demonstrated in some reports of worsening of symptoms of PMH problems because of feeling guilty about their inability to bond with their baby.

II. Isolation

Closely related to the feelings of guilt were feelings of being isolated because of the illness as well as the inability to bond with the baby:

I sort of said to her, you know "well firstly to meet other women that feel the same way" because it can be quite isolating feeling like that, um, "and also just to have someone that I can talk to, that I can be brutally honest with and not have them judge me". **Service User 102**

However, it is important to also point out that lack of social support and isolation were mentioned by some participants as a contributing factors to experiencing PMH problems even when bonding was not an issue. This again highlights the symbiotic relationship between the illness and effect and the challenges of determining which occurred first.

III. Feeling overwhelmed or unable to cope

Data from some service users, staff and volunteer befrienders showed that another effect of PMH illness was persistently feeling overwhelmed or unable to cope:

...but because it was my first I just didn't know if it was normal, how overwhelmed...and I also had a lot of regrets about the birth um and how it went, um which I think contributed massively... in that I didn't bond for months and months um, um and kind of really retreated into myself quite a lot ... **Service User 107**

However, in other narratives there were significant demands on the service users in the aftermath of the baby arriving which made them feel overwhelmed and which then precipitated low mood and or anxiety. This also highlighted the complexity of determining which came first the low mood or the being overwhelmed.

IV. Lack of confidence

Narratives from the volunteer befrienders, staff and some of the service users also indicated that PMH problems often made service users feel inadequate as parents, knocked their confidence in their ability to parent and reduced parenting self-efficacy:

And I think with their social isolation as well they don't have that person that they would necessarily talk to about day-to-day things, especially if it is their first child. [Clears throat] They don't know what's normal and what isn't, so they might have a baby that's crying, like normal crying and they feel like it's excessive and they can get worked up and feel like they're doing something wrong and kind of, um, worry about things like that... **Staff FGD**

V. Relationship difficulties

Finally, one of the effects of PMH problems described in the data was relationship difficulties. However, this was another issue which seemed to have a symbiotic relationship with PMH problems in that in some narratives it seemed to be a predisposing factor to the occurrence of illness but in other narratives, relationship difficulties commenced because of PMH problems as shown in the quote below:

Um, I think I kind of told my husband and he was just really stressed because...he had to deal with me and deal with my daughter and kind of in the past with my anxiety he's been very patient but I think he was kind of at the end of his tether...because he was kind of so stressed as well and he was kind of getting to the point where he was just getting angry and annoyed and being like "it's all in your head, it's so frustrating" **Service User 109**

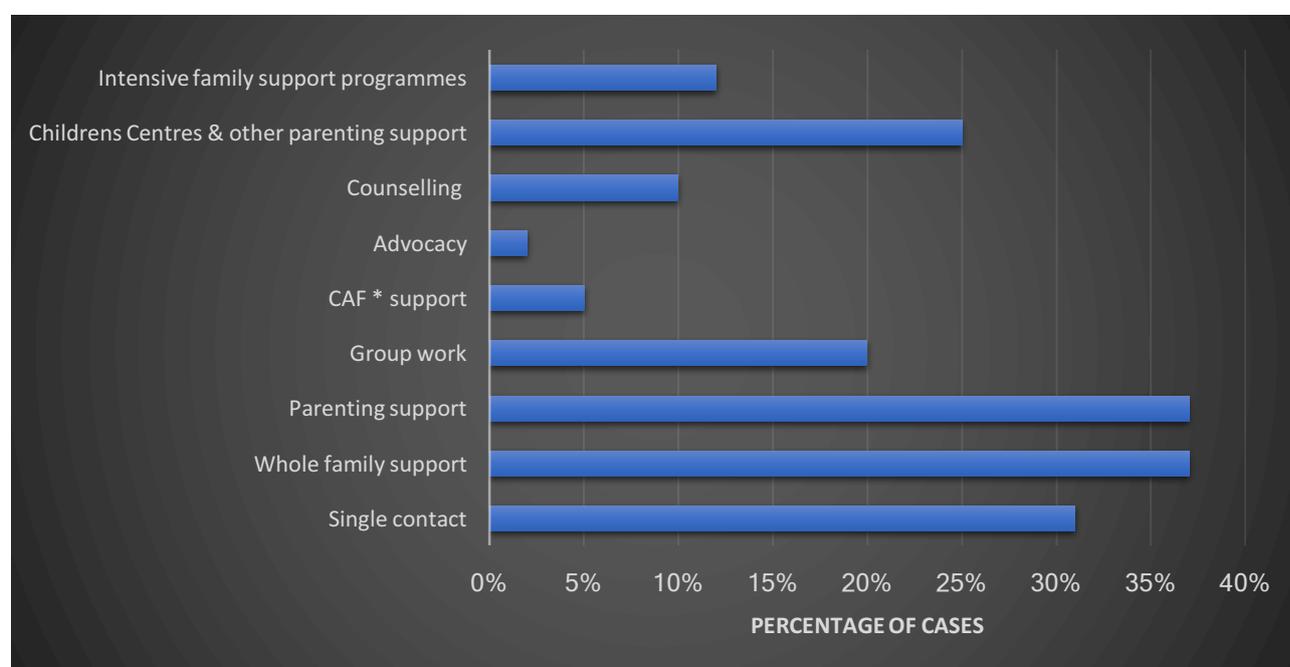
Service user 109 made the point that they started to experience relationship difficulties after she developed the second episode of anxiety and pressure that the illness brought to their marriage. In another narrative, relationship difficulties including domestic violence were perceived as a contributing factor to PMH problems.

3.2.3 Range of support provided by MPSS

The complexity and diversity of challenges faced by service users were addressed using a flexible approach tailored to an individual needs. Service duration ranged from less than one week to sixty-six weeks ($M = 21.5$ weeks, $SD = 14.1$ weeks).

Support delivered to cases varied according to needs and were in addition to one-to-one support visits from workers. Single contact support was provided to cases who no longer desired MPSS or where signposting was the appropriate action. Whole family support was delivered to mothers and infant service users. Parenting support was provided when requested by service user. This would be a particular issue raised by the service user (sleep, feeding, routines). Group work were small groups (3-5) with a specific weekly focus allowing time for a play, chat, cup of tea and relaxation. Data for individual sessions are not provided but these ranged from 0 to 50 ($M=7.28$, $SD= 8.91$). The range of support provided to service users is summarised in figure 7 below:

Figure 7: Range of support provided by MPSS to Service Users from January 2015 to October 2017



* Common Assessment Framework

Families were able to access more than one of the services in figure 7. The qualitative data also supports the findings indicated in figure 7 and suggest that the MPSS offered service users various forms of support to address some of the contributing factors and effects of PMH problems.

3.2.3.1 Addressing mild to moderate PMH problems

Our analysis indicates that the MPSS primarily addressed PMH problems through the befriending service which was delivered by the support workers or the volunteer befrienders. Our working definition of befriending is the process by which MPSS staff (support worker or volunteer befriender) meet with service users on a regular basis to provide emotional support and/or practical support [51].

Befriending took various forms, including individual one-to-one sessions which were largely delivered during the home visits, or in a mutually agreed place such as the MPSS offices. The number of home visits per family ranged from 0 to 45 ($M = 8.85$ visits, $SD = 8.96$) as the service is tailored to the needs of the family. The befriending service was also delivered in group settings.

The data suggest that support workers and volunteer befrienders used home visits as an opportunity to provide service users with a “friend” who would check on how they were coping in terms of their emotional and mental health or other issues which could be impacting on their wellbeing or family functioning. The support worker or volunteer befrienders were also responsible for coordinating the support the service user received from the MPSS, as well as reviewing the progress service users were making towards the agreed Action Plan, as indicated in the quotes below:

So, I would... My expectation is for them to befriend and reduce isolation, um, listening ear without counselling really, um, and generally just a helping, [coughs] helping them get out, **Partner Agency 114.**

I think because the ladies are so kind of lovely and it feels, it doesn't feel like they're just being paid to help you out, it feels like they're actually kind of a genuine extra friend....Um, but at the same time you are, you're aware that they're not a friend.....if, if you know what I mean? Because they kind of do things in a kind of structured kind of way and you know that there isn't that kind of emotional attachment there. It's difficult to try and explain. **Service User 109**

Most of the service users indicated that accessing one-to-one befriending service sessions provided them with a “safe place” to talk about their challenges with someone who was empathetic and non-judgemental and who would provide them with a listening ear. By talking

to a “friend” about the challenges which seemed overwhelming, service users often described how they were able to obtain a different perspective about some of the challenges they were facing, which helped to reduce their anxiety or depression about the matter and reassured them about their ability to parent and boosted their confidence:

You know, sometimes you need to hear that for it really to take affect because you think you’ve got to do everything, as a mother. You think that you’ve got to make everything run smoothly and then feel really guilty when you don’t and do you know what? Just sometimes having someone to say, especially if you don’t have family around you.....like my lady didn’t, just say, “Do you know what? It’s fine, don’t worry about it, washing up can wait.” Things like that, I think, come in really handy for new mums.**Volunteer befriender 115**

Closely related to this, befriending also provided families with practical support, such as helping with the children, or with other their daily tasks which would otherwise make the early days of parenting overwhelming. This also included helping service users to develop a method to organise themselves through the use of a planner. Being able to organise self and children cannot be underestimated as service users narrated how this gave them a sense of control over their circumstances.

Befriending was also important for addressing isolation among service users as they had someone come to their house on a regular basis. It also addressed isolation by providing service users with support to attend significant meetings outside of the home with someone they could trust and who they felt had their best interests:

Respondent: ...and occasionally I’ll get a text saying... For example, I got a text last week off a mum saying, can you come to my PIP interview with me?

Interviewer: Yeah.

Respondent: PIP assessment, which is Personal Independence Plan which used to be Incapacity Benefit.....because she wanted someone to support her through that. **Volunteer befriender 120**

Um..., if you had appointments and you had like the other children with you, so if I had an appointment for Mark or James and I was struggling to go, they would come to the appointments with me, so they would come to either the doctors or the hospital ...**Service User 108**

The quantitative data also support these findings and indicates that 33% of service users were accompanied by staff to various meetings as part of their whole family support, hence this was an important aspect of befriending.

Befriending was also helpful for supporting families to be able to get out of the house and attend Family Action group sessions. Staff would offer to go with service users to give them confidence to attend the group and act as a “friend” or for some provide a lift to enable them to attend the group sessions. The group meetings were an important aspect of befriending. They were usually small (3-5) with a specific weekly focus allowing time for a play, chat, cup of tea and relaxation. They provided service users with the opportunity to obtain peer support and make new friends and thus reduce isolation as indicated in the discourses below:

I think they're [group meetings] invaluable really, to tell you the truth, especially to like first time parents or like parents who experience, going through other troubles as well, because you, you meet all, like all sorts at the group.Er, like, a lot of them have all had, got their own troubles and stuff, so just knowing you're not the only one in the boat sort of thing as well. **Service User 105**

3.2.3.2 Supporting child development as it pertains to parent-infant interaction

Support to address parent-infant interaction was particularly useful for service users who indicated that they felt that they were unable to bond with their child. The data suggest that although the service was often tailored to the needs of the family, support on child development and parent-infant interaction was provided universally to those who were interested. By using this approach most service users who were involved with the MPSS received information on child development and on improving parent infant interaction. This support was delivered during home visits, during group meetings or through referral to specialist services to support parent-infant interaction if this was a significant issue for a service user.

Several participants discussed that the volunteer befrienders and support workers often modelled how to interact with the babies as well as issues around child development during the home visits:

P1: I think as well like just talking to some parents, like stuff that they do and like encouraging what you see as like positive behaviour, so you're seeing them with their baby for example, they might just think that they're just doing something like really bog standard, like sitting their baby and like talking to them and gargling and doing all of that, really bog standard, but I think if you address that and go "oh that's really nice" and "baby can see this now" and kind of like look at like child development and things like that, they go "oh like I didn't almost realise that", do you know what I mean? And kind of pointing that out encourages them to do it more, um, which I think quite often they don't realise the effect of those little things and what they actually have. Um, so I think by talking to them and actually, um, talking to them about that and what effect it does have, and then seeing them at group doing the same thing and other mums doing the same thing, has a real positive. Does that make sense?

P4: Yes.

P1: Do you know what I'm trying to say? Um, yeah. **Staff FGD**

The above quotes suggest how parent-infant interaction and supporting child development were woven into normal activities during the home visits and how parents were encouraged to make this a natural part of normal daily activities with their children. However, where bonding was known to be a specific area for which additional input was required for a service user, staff suggested specific activities to improve parent infant interaction such as games and or songs:

...and she brings me out activities to do each week....she.....brought me out a booklet this morning, um, for like songs to sit and sing with him and just like building that interaction.....and building that bond **Service User 103**

The MPSS also supported child development and parent infant interaction through the group meetings. The group sessions provided an opportunity to learn from other parents who were in similar situations and observing how they interacted with their children. In addition, group meetings were held on specific issues such as weaning, sleeping, routines, and other aspects of child development which increased parenting self-efficacy. Group settings also stimulated the child development by providing children with the opportunity to interact with other adults and children outside of their home.

Where it was clear to staff working with a family that a service user could benefit from other activities which could increase bonding but were not available in MPSS, for example baby massage, families were given referrals to these specialist services and supported to access these services:

PI:I also referred her to a local Children's Centre who provided baby massage so her and her baby can kind of bond a bit more and she's loved doing that, she said it's great, and when you see her now with her child she's so very different with him, um, yeah, you know, before she was sitting on her lap and face, you know, would face away from her, she wouldn't acknowledge him, she wouldn't look at him, he wouldn't look at her, you know, facially, and, um, but that's all very different now. And I think that's a lot to do with obviously yeah, coming, coming to group, with providing the one-to-one support and we also provided her the one-to-one support through, um, OXPIP as well. We had a trainee placement counsellor would you call her? **Staff FGD**

In this section, we have provided a summary of some of the key services provided to service users in order to address mild to moderate PMH problems, parent infant interaction and child development. We will now examine the impact of the service .

3.2.3 The impact of the MPSS on maternal mental health

Overall, the analysis indicated improvement in mental health wellbeing of parents following MPSS across the two quantitative data sets as well as the qualitative data.

For data set one, results indicate a statistically significant difference in levels of self-reported anxiety ($t(55) = 6.96, p < .01, 95\% \text{ CI } [3.15, 5.70]$) and depression ($t(55) = 6.58, p < .01, 95\% \text{ CI } [3.03, 5.68]$) following MPSS for mothers. These changes are clinically significant with depression reducing from mild to a normal level and anxiety reducing from moderate to mild. These changes in mental health are reflected in the statistically significant increase in mental wellbeing assessed through the WEWBS ($t(29) = -6.05, p < .01, 95\% \text{ CI } [-17.57, -8.69]$) and are detailed in table 5. We found a positive correlation¹ between the difference in anxiety and difference in depression which was statistically significant ($\tau_b = .484, p < .01$), which suggests

¹ A Kendall's tau-b correlation

that for service users who had both anxiety and depression, improvement in anxiety also meant improvement in depression.

Table 5: Mean service users scores (and standard deviations) of MORS, HADS and WEMBS self-report measures

Measure	Pre MPSS	Post MPSS	Difference
MORS -warmth (n=52)	28.89 (5.50)	31.60 (6.11)	2.71 (7.34) *
MORS – invasion (n=52)	10.56 (6.78)	9.69 (7.19)	0.87 (7.98) *
HADS – anxiety (n=56)	13.11 (4.04)	8.68 (4.55)	4.43 (4.76) *
HADS – depression (n=56)	10.16 (3.99)	5.80 (4.46)	4.36 (4.95) *
WEWBS (n=30)	35.40 (8.91)	48.53 (9.35)	13.13 (11.89) *

* Statistically significant at $p < .05$

Although different outcome measures were used for data set two, the improvement in overall mental health were also replicated. A paired-samples t-test (analysis-by-analysis) found a significant mean difference ($t(12) = 4.541, p = .001, 95\% \text{ CI } [3.48, 9.90]$) with post MPSS anxiety ($M = 9.08, SD = 4.96$) lower than pre MPSS anxiety ($M = 15.77, SD = 4.68$). This is a clinically significant change from moderately severe to moderate anxiety. Caution is required with these data as with a sample size of 13 the probability of an alpha error (type 1) is 0.75, critical $t = 0.312$. A paired-samples t-test found a significant mean difference ($t(12) = 5.015, p < .01, 95\% \text{ CI } [5.35, 13.57]$) with post MPSS depression ($M = 6.92, SD = 3.0$) lower than pre MPSS depression ($M = 16.38, SD = 7.37$). This is a clinically significant change from moderately severe to mild depression. These changes are detailed in table 6 below:

Table 6: Mean service user scores (and standard deviation) of GAD-7, PHQ-9 and MPAS self-report measures

Measure	Pre MPSS	Post MPSS	Difference
GAD (n=13)	15.77 (4.68)	9.08 (4.96)	6.69 (5.31) *
PHQ-9 (n=13)	16.38 (7.37)	6.92 (3.01)	9.46 (6.80) *
MPAS – attachment (n=8)	36.23 (4.99)	40.13 (3.85)	3.90 (3.29) *
MPAS – hostility (n=8)	19.51 (2.96)	21.51 (3.13)	2.00 (3.03)
MPAS – interaction (n=6)	19.50 (7.00)	19.50 (5.28)	0.00 (2.36)
MPAS – total (n=8)	70.35 (12.97)	78.51 (11.22)	8.16 (6.06) *

* Statistically significant at $p < .05$ Please note the small sample sizes

The qualitative data support the changes demonstrated in the quantitative. Several service users felt that their mental health had improved over the course of the time that they were received MPSS support:

...I think it was quite useful for me to have somewhere to go and talk about that, that wasn't with him or with the consultant or whatever and so that was quite good, um, it kind of enabled me to deal with that in a more calm manner! [Laughs] And then I went back to work straightaway so I suppose I kind of felt like I'd dealt with feeling unwell, um, before going back to work... **Service**

User 116

Um, um, so yeah, it's, it was really helpful. Um, yeah, it's a million times better than it was this time.....last year because I'm actually able to function in society again.....rather than just being this recluse that every time, dreads every time that the shopping is needed because she doesn't want her husband to leave her in case she keels over or particularly keels over while holding the baby and...what can I say? Thank goodness because she's into everything and... ..I wouldn't be able to cope with her anymore if I was just confined to sitting on the sofa the whole time....**Service**

User 109

The above discourses suggest that participants felt that the MPSS was a major contributing factor to their recovery from PMH problems and ability to engage in normal day to day activities. This includes some cases where service users became well enough to go back to work if they had been on maternity leave. It is important to note that participants described variable changes in mental health on a continuum, from being fully recovered to noting a level of change but still largely struggling with mental illness and obtaining specialist input. There were a number of common themes that emerged in the data with regards to factors which contributed to improved mental health over the course of engagement with MPSS, including: learning to be more positive about themselves and others; adopting more realistic expectations about parenting; developing new relationships to address isolation; addressing the specific issues that contributed to the anxiety and depression and obtaining specialist mental health input and antidepressants or anti-anxiety drugs if this was perceived by healthcare professionals as necessary.

Firstly, service users described how exchanges with the volunteer befrienders or support workers in the one to one sessions gave them the opportunity to learn to think differently about their circumstances and be more positive about their journeys as parents.

Closely related to this was the notion that having a listening ear and a safe place to discuss the mismatch between the expectations of parenthood and the actual experience allowed service users to accept themselves, as well as accept that neither they nor their children were perfect. This process gave service users the opportunity to be kinder to themselves and to forgive themselves when they did not live up to the ideals of parenthood. This also enabled them to feel less guilty about their perceived shortcomings or the perceived shortcomings of their children when they cried excessively or misbehaved.

Secondly, several service users also felt that developing new friendships and being part of the group sessions reduced isolation; allowed them to meet others who sometimes were facing similar challenges to themselves and in some instances even more challenging situations.

Thirdly, our qualitative data also suggest that service users were aware that several factors in addition to the support from the MPSS contributed to their improvement in mental health. This included the Children's Centres; the partner agencies working with the MPSS, and specialist mental health services input and/or their GP who would prescribe antidepressant and or anxiety drugs if these were perceived as necessary by the healthcare professionals:

Yeah. I think luckily kind of by the time that Family Action got involved over Christmas the medication kind of kicked in, so I'd managed to kind of push myself a little bit anyway. ...But it was really, really, I don't think I'd have recovered anywhere near as quickly as I did or maybe even not as much as I did with, without her support. Um, we'd kind of like go for little walks and...and things as well and that was really helpful. **Service user 109**

There were several narratives like Service User 109's story, which suggests that although medication played an important role in the improvement in mental health, the MPSS had its own unique but equally important role in the improvement in PMH. Service users reported that improvement in mental health was a result of working jointly with the MPSS staff to identify the specific sources of anxiety and or depression and being able to address these as shown in Naomi's story:

Naomi had a history of depression with her first pregnancy and remained on antidepressants for a length of time after the perinatal period. She was referred to the MPSS by her health visitor after her second child Lisa developed a serious illness which required hospitalisation. Naomi found her daughters' illness overwhelming, particularly as she had no family support or friends to help her during the difficult period of Lisa's hospitalisation. She had estranged relations with her parents which further compounded her isolation:

After referral to the MPSS, Naomi was befriended by the support worker as no volunteer befriender was available to take up the case. The support worker provided a listening ear to her on a weekly basis. The sessions were particularly helpful in giving her the platform to be able to tell someone about the trauma she had suffered after the breakdown of family relationships. She was able to open up about how isolated she felt from her family and how this impacted on her parenting. Naomi was also able to discuss her anxieties about her debts and was referred to an organisation to support her with this. Although not naturally disposed to attending group meetings, Naomi received support from her support worker to overcome these anxieties by accompanying her to the group meetings and introducing her to other women who were going through similar situations to herself. Naomi reported that the combination of the antidepressants which she was taking, coupled with the support from MPSS had significantly improved her mental health. She felt that she was more confident and had made friends with other mums from the group meetings. Over time trust was built within these friendships and they were no longer just superficial, but involved visiting each other's homes and supporting each other with childcare needs. Naomi felt that she had become more confident and was no longer feeling isolated:

...like it's made me a different person, er, well not a different person but it's made my confidence a bit more, um, have it making a friendship, um, not just that one friendship but having a friendship with the other mums as well, um, the groups, obviously what they put on in groups, um, I've put stuff on in groups as well when I've gone to group, I've made pizza and I've taken in to share with people....

3.2.4 The impact of the MPSS on paternal mental health

The MPSS does not collect outcome measures data for fathers as mothers mental health is the main criteria for accessing the service. We only had one man who participated in the interviews. As such it was not possible to assess the changes in paternal mental health after MPSS quantitatively. We report about the perceived changes in paternal mental health from third party qualitative narratives given by partners of fathers who had accessed the service

as well as reports from staff who had supported male service users either as part of the MPSS or PAPAS group:

Respondent: Um, we had a tough relationship, um, mostly because he wouldn't open up about anything, he was holding back a lot of.....mental trauma from when he was younger as well, so it was affecting everything he did now and we was arguing every week and it, we worked through but it wasn't the greatest of relationships.

Interviewer: No.

Respondent: Um, but yeah, since seeing Family Action we very rarely argue. The last argument we had was about two months ago and it was over who was going to do the washing so [laughter] it...

Interviewer: Quite an important argument!

Respondent: It's petty arguments. [Laughs] But yeah, um, our relationship's been amazing since seeing them. He knows he's got someone that he can talk to and ...get that stress out now, rather than trying to keep it to himself. And yeah, it's really helped us. **Service User 103**

Service user 103 made the point that her partner's mental health improved significantly after accessing support from Family Action. During the interview she was unsure whether her partner had received the support as part of the MPSS or the PAPAS group. She attributed most of the changes to the support her partner had received via one to one sessions which gave him the opportunity to build trust with someone and be able to talk about the factors which contributed to PMH problems. In another interview, Ezekiel's shared his own changes in paternal mental after the MPSS:

Ezekiel got a referral to the MPSS via Social Services as there were significant safeguarding concerns regarding his son Taylor. Ezekiel and Taylor's mothers' relationship had ended abruptly and it was not until the middle of her pregnancy that he found out that he was going to be a father. The news came as a shock to him as he had not been planning to have any children. He had suffered from severe depression prior to becoming a dad, but was on his way to recovery. Taylor's mother Tadiwa had severe psychotic disorders which impaired her ability to parent such that her other children had gone into care under Section 31a of the Children Act 1989 England. Tamar was not allowed to have unsupervised contact with her children. To this end, the news about her pregnancy with Taylor raised significant safeguarding concerns, leaving Ezekiel with the choice to either take full custody of Taylor or for Taylor to go into care. Ezekiel chose to care for his son.

He found the unplanned pregnancy, involvement of social services and the adjustment to fatherhood stressful and isolating. MPSS were able to pair him with a volunteer befriender to help him to address the isolation related to being a single father with full custody of an infant. Their support was also critical in helping him understand about child development and how his interaction with his son was vital for bonding. Isolation was also addressed through attending group meetings. He was unable to drive so either the volunteer befriender or support worker would give him a lift to either the usual MPSS group or supported him to attend the PAPAS group. These groups were useful for developing new friendships. Ezekiel also reported that the groups were useful for obtaining peer support and being able to discuss with other parents about caring for their children. Ezekiel felt that engaging with the MPSS had been beneficial for him particularly with regards to addressing isolation, meeting other parents facing similar situations to himself and gaining confidence in his ability to raise his son well. They were doing well enough for social services to consider pulling back:

....like yeah, didn't, just one big whirlwind sort of thing, but we're slowly getting there now. Social Services are talking about pulling away now as well, so been downgraded, because she was under the child protection and now they're just saying like, CI, child in need, so.

3.2.5 The impact of MPSS on parent-infant interaction

This evaluation sought to understand the impact of the service on infant-parent interaction. Analysis across the two quantitative datasets showed an improvement in the mother-infant relationship. For data set one, an exact Wilcoxon signed rank test showed there was a statically significant difference in service users perceived warmth of infant ($N=51$, $z = -4.57$, $p <.01$) and invasiveness ($N=51$, $z = -2.29$, $p =.021$). We found a statistically significant negative correlation² between the difference in anxiety and perceived warmth towards infant which was statistically significant ($\tau_b = -.254$, $p <.14$). There was a negative correlation³ between the difference in depression and perceived warmth towards infant which was statistically significant ($\tau_b = -.328$, $p <.01$) and a negative correlation⁴ between the difference in invasiveness and perceived warmth towards infant which was statistically significant ($\tau_b = -.216$, $p <.37$).

Although a much smaller sample size was used for data set two, the results were also indicative of an improvement in the mother-infant relationship. An overall statistically significant MPAS total mean difference was reported in a paired-samples t-test ($t(7) = -3.81$, $p = .07$, 95% CI [-13.23, -3.09]) with a mean increase of 8 points. The attachment subscale reported a statistically significant mean difference ($t(7) = -3.34$, $p = 0.12$, 95% CI [-1.14, -3.34]) with scores increasing from pre MPSS ($M=36.2$, $SD =4.99$) to post MPSS ($M= 40.1$, $SD = 3.85$) indicating improved self-reported attachment between mother and infant. The hostility and interaction MPAS sub scales were non-significant. The number of cases who completed this measure pre MPSS is low ($n=10$) and post ($n=8$) with MPAS attrition at 20%. As no outcomes data are collected from fathers, it was not possible to assess the impact of the MPSS on father-infant interaction.

However, there were some qualitative findings on changes in both paternal and maternal-infant interaction. Some service users reported improvements in their mental health and with

² A Kendall's tau-b correlation

³ A Kendall's tau-b correlation

⁴ A Kendall's tau-b correlation

this came an improvement in their ability to bond with their baby and in some instances relationships with their other children and spouse or partner:

Interviewer: Have you noticed any other changes?

Respondent: Uh, I'm feeling better in myself.

Interviewer : Yeah?

Respondent: Um, I'm on 100mgs of Sertraline, um, but I feel a lot more relaxed than I did.....beforehand. Um, I don't feel under as much pressure and I feel like my bond with both of ...the kids is improved. **Service User 103**

For those service users who needed support to bond with their child there was a general consensus that the MPSS had supported them to achieve this. This was in a continuum ranging from those who felt that they had recovered from depression and anxiety and were much better placed to bond with their child, to service users who had somewhat improved in their mental health but still required support from the MPSS or other charities, and so felt that although there was some change in their interaction with their child, this aspect of their parenting was still a work in progress.

3.4 The impact of the MPSS on child development in terms of infant-parent interaction

There were no quantitative outcome measures data on infant-parent interaction available from the MPSS at the time of write up of this report as the HOME tool which was adopted to capture this was only implemented in October 2017. An online survey was conducted on the implementation of the HOME tool. The Perinatal Support Team indicated that they had received training the HOME tool in October. A few minor revisions were made to the tool before use with service users from the end of October 2017. At the time of the survey, December 2017, three support staff had used the tool between one and five times. They reported finding the HOME tool straightforward to implement with no additional training required. Service users have responded positively with the HOME tool opening up discussions. One participant commented that they felt it would be more beneficial to complete the tool when children were aged between 3 to 4 months. Another found the tool easier to use in practice than theory. This is a positive start with future data from the HOME tool required to provide comprehensive feedback.

3.5 Perceived strengths of the MPSS

At the time of data collection, the MPSS had not yet identified a tool to measure service user feedback quantitatively. We therefore present the qualitative findings on the perceived strengths and limitations of the MPSS.

There were very positive reviews about the service. Several service users felt that the service needed to continue to receive funding to support more families based on the changes they could see in themselves and in other service users they met through the group meetings:

I think they're invaluable, do you know what I mean, I really do, I don't think there's, I think they should be funded and helped as much as possible, because like, people like me do need these, you know. And not only me, there's other, just mums out there who just need that break, you know, otherwise they're stuck indoors with their kids, and...**Service User 105**

I, I think everything they've done is amazing and everything they do do for people is really good and I can't imagine not of had that service, I can't imagine where me and Maidei would be right now sort of thing. **Service User 106**

Service users were unanimous in the perception that the support worker was a key strength of the service:

Um, yeah, Support worker was absolutely amazing actually, I really, really valued the time with her.....but um, yeah and it was just, I used to really look forward...to her visit um and I never knew what I was going to talk about it, like that time was just so um, everything was reactive you know, I was just, kind of was, trying to figure it all out so she'd come and um, and you know, ask how I'd been and then she'd just manage to kind of, she'd manage to draw out of me you know, whatever it.....if there was anything. Some weeks there wasn't something bothering me, um but she had a really, I guess she was just, she was just open, sometimes it would just be chatting and, about nothing um, but yeah it was just a really... ..nice base to be able to, to talk So yeah it was, it turned into definitely much more of an emotional support than I was anticipating actually. **Service User 107**

As the MPSS did not have a lot of volunteer befrienders, several service users only had access to a support worker, who then played the role of befriender as well as support worker. All

service users felt that the support workers had been vital in the improvement of their mental health and ability to interact with their baby where bonding had been a key reason for being referred to the service. Several participants indicated that the support workers were empathetic, knowledgeable and were well trained in developing relationships with vulnerable families. Other service users noted that support workers were non-judgemental in their approach and were perceived as incredibly supportive in ensuring that any issues which were impacting on a family's wellbeing were addressed.

Several service users also particularly valued the whole family approach and the fact that the service was tailored to the individual needs of the families. Some service users found it helpful to have regular reviews of progress as this gave them the opportunity to see the progress they had made, identify any additional challenges which needed addressing and develop small steps to help them achieve the agreed plan.

For some service users, the MPSS was useful in that they could choose the services that they were comfortable to get involved in, but could also receive the support they needed to access other services which were potentially beneficial to them but were out of their comfort zone. For example, several participants initially reported reservations about getting out of the house and attending group meetings but receiving support to overcome their anxieties about attending these groups. For most service users, the groups were perceived as one of the strengths of the service as they reduced isolation and offered an informal place to learn from other parents through peer support as discussed in various sections of this report.

Due to the vulnerabilities created by PMH problems, service users valued the consistency and long-term approach provided by the MPSS. For service users who had a previous history of mental illness and who had had various professionals come in and out of their lives, this long-term approach was unique in that they had access to the same support worker or volunteer befriender up to the time that their child turned one was invaluable:

Respondent: ...I just thought, ... they're gonna come out, do some sort of assessment, "Oh yeah, we'll, we'll do this, we'll do that," and then that they would cut their service really quick. And where I've had lots of different services, they have lasted a couple of months and then they're right, sorry, that's all we can offer you, and I understand why funding and experience and people

and, you know, but it was I needed, I knew I needed something a bit long, more longer term, you know, um, so that I wouldn't fall through the net.....um, so Lisa sort of assured me sort of, you know, like what to expect, at, as best we can. But there was no limit, which was good, so it kind of, um, I'm a bit more at ease and everything, but... ..

Service User 104

To this end, there was a consensus among service users, partner agencies and MPSS staff that the service addressed an unmet need for perinatal mental health services in Medway and wanted the service to be expanded further:

Respondent: Erm, I think if, if ever the plug were pulled, there would be a massive hole...

Interviewer : Mm-hm.

Respondent: ...let me be clear. And I absolutely would hate, I mean, we, at the moment, we're looking at losing a load of our Sure Start Centres.....erm, and I think, once again, the issues of perinatal, family, children, are, you know, they, they promise the world, and then deliver absolutely nothing and to lose Family Action, as well, I think would be a dreadful shame. Dreadful, dreadful shame. **Partner Agency 119**

Furthermore, the MPSS staff, partner agencies and several service users felt that the level of support that MPSS provided complemented and enhanced statutory services such as the GP, midwives or health visitors, who may not have the capacity to provide the same frequency and intensity of the one-to-one support and home visits to families as the support workers or volunteer befrienders. We found a positive correlation⁵ between the number of visits and difference in reported anxiety which was statistically significant ($\tau_b = .19$, $df = 56$, $p = .038$). However, for data set two, the relationship between the number of home visits and changes in all outcome measures was non-significant which may be because of the smaller sample used for the analysis for data set two. These findings suggest that the home visits were critical for improvement in maternal mental health and potentially valuable for improving the maternal-infant relationship.

Closely related to this, the MPSS was valued for working closely with partner agencies and engaging other services where the level of need was beyond the scope of the service. The

⁵ A Kendall's tau-b correlation

MPSS team had built strong networks with other agencies and were able to draw upon these in order to address some of the issues which affected the mental health of the service users, such as housing or debt, for which the team were not equipped to directly deal with.

3.6 Perceived limitations and recommendations for improving the MPSS

Like any other service, there were some comments on aspects of the service which service users, MPSS staff and partner agencies felt could be done differently or could be improved.

A. Clear strategy for recruiting and retaining volunteers

A major concern and limitation raised by MPSS staff and partner agencies at the time of data collection was the lack of a clear strategy for recruiting and retaining volunteer befrienders, or the need to update the existing strategy considering the services struggles with retaining volunteer befrienders.

Interviewer: And what are some of the challenges or difficult aspects of the service?

Respondent: I think, um, what's challenging for Family Action is that they have a high turnover of, er, volunteers.....And to try and train them all and then get them out working and then retaining them is hard, I think, I think because one of the ethos's of Family Action is to offer people, offer people opportunities to go on....So what tends to happen is they tend to be trained and they, they enjoy it but then they get another job because they've got more skills to get another job. **Partner Agency 114**

It was clear from the interviews that some families did not have any volunteer befrienders who were involved with them and that this role was being done by the support worker. This had significant implications about the number of cases which the service could accept. Therefore, this is an important suggestion for the MPSS.

B. Providing more therapeutic interventions

It is important to point out that several service users found having a listening ear invaluable. However, in a few narratives on the service, there were some concerns about the listening ear being the primary intervention for mental health provided by the MPSS:

I know you can't fix mental health but, um, I don't know if I was expecting some strategies or coping mechanisms and that kind of thing, it was just a talking therapy, which I don't have a problem with because I do understand that, that talking about things is, you know, is really important and, and useful but um, I don't know how beneficial it was for me completely at the time.... I don't really know how to verbalise that! [Laughs] **Service User 116**

The above quote suggests that perhaps there was more which could be done to provide additional therapeutic interventions for mental health by the MPSS in addition to the listening ear and the counselling by trainee counsellors.

C. Raising more awareness about the service and communicating inclusion criteria clearly.

Several service users mentioned only finding out about the MPSS at the point when they were referred to the service by their health visitor or midwife. This concerned a number of them as they felt that there were other people who had PMH problems who did not know about the support they could access from MPSS:

Interviewer: If there's anything about it you could change, what would you change?

Respondent: Um... [Pause] I don't know. I think if there was one thing to change, I think more kind of advertisement because...

Interviewer: Okay! [Laughs]

Respondent: Not advertisement so much because I'd never heard of Family Action....Never heard of them, so kind of them putting their self out there a bit more, if you know what I mean. **Service User 108**

In the staff focus group discussion, there was some discussion about increasing advertisement about the service, but there were some reservations about this given that they were facing challenges meeting the demand for their service. This was also related to the challenges in recruiting volunteer befrienders. In another narrative, there were suggestions that there would be less pressure on the service if there were clearer criteria given to partner organisations about the families that qualified for the service:

Yeah, um, the criteria isn't always very clear, um, and it does tend to change and for me that's quite a problem, um, because my view of where Family Action should sit is sometimes different.. Referral should be for isolation, support, befriending, um, but other agencies tend to have a higher

criteria, so Social Services will refer in with really complicated families whereas we tend not to.

Partner Agency 114

This said, it is important to note that the other partner agency who participated in the evaluation felt that MPSS staff were quite clear about their inclusion criteria:

For me, I think they have, here, they have a very clear, clear, erm, it's, I don't know, it's hard to work, they have a very clear idea of what they're doing...they have, for me, very clear guidance.

Partner Agency 119

D. Flexibility around case closures

There were two main suggestions around case closures which emerged from some service user narratives. For some service users, the recovery in their mental health had happened quicker than anticipated and there were concerns that the one to one sessions had gone on longer than was necessary:

... I was kind of maybe giving more sessions a miss and things, and we kind of realised that it had kind of got to the point...where it had been obviously really helped me but we kind of got to the point where maybe I didn't necessarily kind of need the help... ...from Family Action anymore and it was kind of beginning to feel, I think the word she used was a chore. ...I'm not necessarily sure a chore but yeah, it was kind of feeling like oh it's another thing I've got to do that I necessarily don't need or want to do so much anymore. ... So yeah, she kind of reminded me that until my daughter was a year old I could always come back if I needed to ...but she really didn't think I would need to. **Service User 109**

In other instances, families felt that they had not fully recovered by the time that their child turned a year old. To them, their child turning one was the criteria used to close the case rather than their sufficient improvement in mental health. The MPSS staff mentioned that there was a lot of preparation into closure of cases to enable a smooth transition. Families were given the option to be part of the group that met on a regular basis but not as part of the MPSS. Furthermore, service users were referred on to other services if there was need for this. However, there were several suggestions from service users about possible flexibility about closure and the possibility of extending support beyond the time that a child turned a

year old so that the consistency in approach would be maintained and service users would be given a bit more time to recover if they did not manage to do this by the time the child was a year old. Although there might be some merits in this approach, this would create additional pressure on the service as support would need to be provided beyond the perinatal period.

E. Referral times

In some narratives, service users felt that it might be useful to try and reduce the time between receiving a referral and meeting the family for the first time. It is important to point out that for most service users mentioned that the referral process had been very quick and easy but for others this was reported as having taken a long time. One participant felt that her referral had taken a long time because it was made over the Christmas period and there was no one to attend to the referral. To this end, they suggested that skeleton staff be available over long bank holidays as families may be more vulnerable during these periods.

F. Group Meetings

There was a consensus about how invaluable the group meetings were and their added value to service users. However, there were some changes suggested to the group meetings. In the first instance, there were some concerns about the men's group being poorly attended to the point of being stopped. It was not clear the specific reasons why this group was failing and there were suggestions to try and address factors which could hinder the group meetings. For the groups which were held in Children's Centres there were significant concerns from service users, staff and partner agencies on the impact that the closing down of Children's Centres was going to have on the running of the groups and attendance.

3.7 Summary

In this section of the report, we have described the factors which were perceived as contributing to the emergence or persistence of PMH problems as well as the perceived effects of PMH problems on individuals and their families. We have detailed how the interaction between the MPSS staff, service users and other agencies contributed to expectations of and beliefs about efficacy of the service in tackling the effects and or contributing factors to the PMH problems. We have also examined the mechanism by which

the MPSS was thought to improve maternal and paternal mental health as well as parent-infant interaction. In addition, this section highlights the aspects of the service which were perceived as going well and thus viewed as the key strengths of the MPSS. We have also highlighted those aspects of the service which service users, partner agencies and MPSS staff felt needed to be changed in the future planning of the service. It is important to reiterate that there were a lot of positive outcomes from the service and overall enthusiasm for the service. The limitations and recommendations suggested can only serve to strengthen the service and the good work which was already pointed out by service users, staff and partner agencies.

4. Discussion

4.1 Key Findings

The evaluation findings suggest that MPSS is providing a much needed PMH service in Medway. The results of this evaluation match other previous evaluations of the Perinatal Support Service [31]. We found statistically and clinically significant improvements in anxiety and depression, as well as statistically significant improvements in the mother-infant relationship. These are important findings as they suggest that the MPSS improves outcomes for mothers and infants and may be able to reduce some of the costs related with the impact of untreated PMH problems on the mother, infant and or her partner by providing an early intervention for PMH problems [24]. These positive results also suggest that the MPSS can be classed as an important Tier 2 intervention for the 1001 critical days [28].

Several service users reported that the Perinatal Support Service was a major contributing factor to the changes in their mood and anxiety levels. The tailoring of the MPSS to meet individual family's needs was also perceived as a strength of the service. However, this conversely presents challenges evaluating the service as it is difficult to determine what factors are associated with any change in mothers. A key underlying component is the emotional, practical and social support service users receive from staff. This has been well documented in previous studies as enabling recovering from perinatal mental health problems [29, 42]

Following engagement with the MPSS, there were narratives to indicate that service users felt better able to function in society, do normal day-to-day activities without feeling overwhelmed, and in some cases be well enough to go back to work if they had been on maternity leave. There were a number of common themes that emerged in the data with regards to factors which contributed to improved mental health over the course of engagement with MPSS, including: learning to be more positive about self and others; adopting more realistic expectations about parenting; developing new relationships to address isolation; addressing the specific issues that contributed to the anxiety and depression, and obtaining specialist mental health input and or antidepressants and/or anxiety medication drugs, if this was perceived by healthcare professionals as necessary.

With improvement in mental health, service users also reported an improvement in their ability to bond with their baby, and in some instances improvement in their relationships with their other children, as well as their spouse or partner. For those service users who had specifically been referred to the service to obtain support to bond with their child there was a general consensus that the MPSS had helped them to achieve this. This was on a continuum ranging from those who felt that they had recovered from depression and anxiety and were much better placed to bond with their child, to service users who had somewhat improved in their mental health but still required support from the MPSS or other charities, and so felt that although there was some change in their interaction with their child, this aspect of their parenting was still a work in progress.

The improvements in mental health and maternal-infant relationship suggest that the MPSS is successfully meeting its aims and objectives. Caution is required when interpreting the effect of the intervention on mental health as the improvement could be due to an interaction of prescribed medication for mental health and MPSS. During interviews, many service users disclosed being prescribed medication postnatally for mood disorders however participants still felt that the MPSS had played a significant role in their recovery. This suggests that there is a specific role which is played by the service in helping service users recover which is not available through medication alone. This is in line with the NHS Five Year Forward View which also suggests that voluntary organisations such as the Family Action have a role to play in

addressing PMH problems and increasing access to much needed services for PMH problems [2].

Overall, there were extremely positive reviews about the service. To this end, there was a general consensus among service users, partner agencies and MPSS staff that the service addressed an unmet need for perinatal mental health services in Medway. This was reflected in service users advocating for the MPSS to be more widely advertised so that other parents suffering from or at risk of developing PMH problems would be able to access the service. It is unlikely that service users would make such a recommendation unless they were happy with the service, felt that their expectations had been met or surpassed and wanted other parents who were in a similar situation to have access to the support that helped them to recover. A major concern and limitation raised by MPSS staff and partner agencies at the time of data collection was the lack of a clear strategy for recruiting and retaining volunteer befrienders or the need to update the existing strategy considering the services struggles with retaining volunteer befrienders.

4.2 Lessons about data collection methods used

The design of the evaluation had several strengths which allowed the team to meet the evaluation objectives. However, the team acknowledges the following limitations about the evaluation design:

1. There was a significant amount of missing quantitative data which impacted on the quality of analysis which could be performed. This additionally limits the future generalisability of findings from this evaluation due to the small sample size used in the final quantitative analysis.
2. Up until the introduction of the HOME tool, the MPSS collected outcome measures for mothers only. Consequently, we were unable to assess whether or not maternal mental health is associated with better outcomes for children in this service, which is a key underlying assumption for the ToC for the MPSS. With the collection of data from the HOME tool as a proxy for the children, this could potentially be reviewed in future evaluations and the ToC edited if necessary. Lack of outcome data for fathers means that

findings on paternal mental health are based on the qualitative data and cannot be generalised to other populations.

3. The measures being applied by MPSS altered during the evaluation period. Although the new outcome measures measured similar constructs the validity between them is unclear so comparison is unsuitable.

4.3 Recommendations for Practice

In view of the evaluation findings, as well as the lessons learnt while conducting the evaluation, we would like to make the following recommendations to improve practice:

4.3.1 Development of a strategy for recruiting and retaining volunteer befrienders

In view of the approach used by the MPSS to deliver services, we recommend that Family Action develop a strategy for the recruitment of more volunteer befrienders in order to meet the demands of the service. This would need to be developed after reviewing the current barriers to recruitment and retention of volunteers, so that strategies could be developed to overcome these barriers. It would also be necessary to have an Annual Work Plan looking at the number of volunteer befrienders expected to be recruited each calendar month and then assessing progress against the set targets. It is important that volunteer befrienders continue to receive training on how to engage and support families.

4.3.2 Collecting MPSS Service Satisfaction Feedback

To support future development and delivery of the service, we recommend that MPSS team develop a brief questionnaire to collect service satisfaction feedback from service users. This would ask questions about all aspects of the service including the home visits and the group sessions. This could be done using text messaging as this would be easily accessible for service users and would ease data collection for Family Action. This method would also help minimise bias allowing service users to give feedback anonymously. This would allow identification of service elements that users find beneficial and those which may need further development.

4.3.3 Contacting service users

Support staff were very diligent in attempts to engage potential service users. A protocol to specify the number of contact attempts with referred parents would reduce the amount of time staff spend trying to engage with families who do not want to engage with the MPSS. Some of these families may engage with the MPSS on subsequent referrals. If it is made clear by referrers that the MPSS will only make a set number of contact attempts and if no response is received it will be assumed the service is not required, this would ensure equitable access to services for those in need.

4.3.4 Case service review

The length of service varied greatly and was tailored for each service user's needs. To reduce the numbers of service users who disengage, a case review at five weeks is suggested to allow those who are considering disengaging with MPSS to end the service. This would save support workers time in not having to follow-up service users who are not returning and allow service users to stop the service if they no longer want the service.

4.3.5 Training for MPSS Support Workers

We recommend that staff receive additional training in completion of the outcome measures and that there be a format for quality assurance of data completion within FA. Improved data collection would facilitate better understanding of the service impact. Additional and ongoing training on the administration of measures and application of the collected data would be beneficial to improve data collection. Training on measures is suggested to be acceptable to staff based on the HOME-tool training.

4.3.6 Measures

Family Action changed outcome measures to enable them to focus on the outcomes they wanted to measure. We suggest that there be a balance between the changing demands of the service and the outcomes being measured and the tools being used. To provide consistency and to allow comparisons of pre and post intervention measures it is important that the same measures be applied. This would also increase data quality and help to minimise missing data. It may be helpful to have a review of the tools which are most

appropriate for measuring the objectives of the service and then consistently using these tools.

The data suggest that the MPSS increased parenting self-efficacy, however there is currently no tool to measure this. It may be important for Family Action to adopt a tool to measure this aspect of their work. This might include using the Tool to Measure Parenting Self-Efficacy (TOPSE) [68].

In line with the review conducted by City University, we recommend that Family Action continue to use the HOME tool to assess changes in infant-parent interactions. The systematic review conducted by City University [54] indicated that there were no validated measures that directly measured the baby's attachment through unstructured observational methods. The HOME tool was identified as a promising tool for measuring infant parent interaction by measuring the baby's life experience and is the most widely validated tool for measuring this [54]. Our survey on the use of the tool indicates that it is acceptable to both staff and families and would be complement other outcome measures being used by the service.

4.3.8 Protocol development

During the evaluation, it was unclear whether MPSS had a protocol in place to implement when service users scored highly on measures of anxiety and depression. When taking this type of measure, it is important for any high scores to be addressed immediately. This could mean a referral to the service users GP for specialist mental health support, especially in instances when suicidal ideation is suggested.

5. Conclusion

Medway Perinatal Support Service is providing an essential support service to those experiencing, or at risk of experiencing, mild to moderate perinatal mental health problems. The significant improvements in mental health and parent-infant interaction described by service users and the improvements seen in the outcome measures data suggest that the design of the service allows it to meet its objective. Given the paucity of services for those experiencing mild to moderate PMH problems, the Medway Perinatal Support Service is filling

a significant gap in services and providing support to those who would otherwise not receive any services. The evaluation has identified areas where the service could be further developed.

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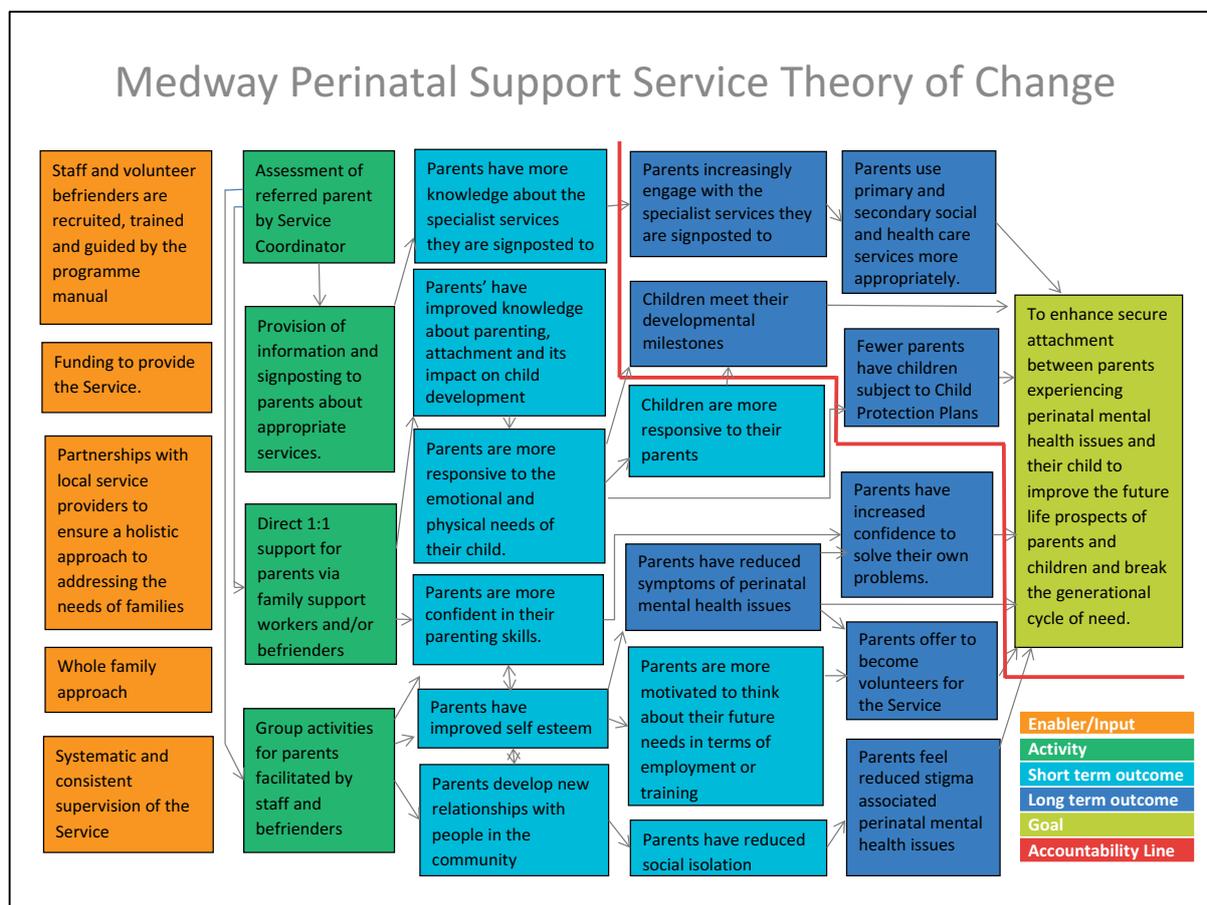
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6. Appendices

Appendix 1 : Theory of Change for Medway: Perinatal Support Service.

The Theory of Change which was developed for the Medway Perinatal Support Service is shown in figure 1 below:



In the development of the ToC, the following six key underpinning assumptions were made :

1. Delivering a perinatal support service will improve both parent-to-child and child-to-parent interaction.
2. Increasing parents' knowledge about parenting, nurturing, attachment and its impact on child development will result in improved interaction between parents and children.
3. Parents referred to the service want to access and genuinely engage with the support provided to them.

4. Providing parents with group activities and one-to-one support will reduce social isolation.
5. Training will enable staff and volunteers to document, record and evidence the progress or regression made by parents and children.
6. Participating in the support service will improve the confidence, self-esteem and future life prospects of service users and volunteers.

The evidence underpinning each key assumption is summarised below:

1. Delivering a perinatal support service will improve both parent-to-child and child-to-parent interaction.

Formation of a secure attachment between a child and their parent is important as it shapes the social and emotional development of the child, their mental health as well as their future educational achievement [1, 2]. A parent's sensitivity to an infant's needs is an important determinant in the development of a secure attachment. Sensitive parenting can be difficult for some parents who are experiencing poor mental health [2].

Parenting programmes have been shown to improve both parent-to-child and child-to-parent attachment when delivered during the perinatal period. In one study, expectant mothers and fathers reported an increased attachment to unborn infants during a group perinatal relationships-based education programme [3]. Another study showed that support delivered by a therapist was effective; 91 per cent of parents reported an improvement in the quality of their parent-infant relationship [4]. These findings were also replicated in studies of early intervention programmes specifically designed to target attachment [5, 6]. The authors reported improved attachment security, emotional regulation and cognitive development in infants as well as improved parenting competence and mental health in mothers [5, 6].

Both home-based programmes and or group interventions have been shown to be effective in improving attachment. One home-based programme to promote parent-child interaction reported a positive difference in infant-parent attachment security at 18 months old as well as improved cognitive skills [7]. Comparison of group interventions and standard home visits to enhance security of attachment in a randomised control trial indicated that both methods

resulted in some improvements in infant attachment security [8]. Increased quality of mother-infant interactions following perinatal interventions is reported to improve health and cognitive benefits for infants [9]. The Perinatal Support Service offers the potential to strengthen parent-child and child-parent attachment as indicated through the above evidence of positive outcomes in one-to-one and group perinatal parent support services.

2. Increasing parents' knowledge about parenting, nurturing, attachment and its impact on child development will result in improved interaction between parents and child.

There is evidence to suggest that equipping parents with appropriate skills and knowledge can lead to improved attachment. A randomised control trial of a support programme that included education on parenting, maternal health and social support, provided by a multidisciplinary team to mothers in their homes, found that at 12 months old, the infants were three times more likely to be securely attached in comparison to the control group who received care as normal [10]. These findings were also reflected when mothers reported an increased ability to connect with their infant after a twelve-week complex group mother-infant intervention whose components included education, social and psychotherapy [2]. This finding has also been found in hard to reach parents, with increased confidence, knowledge of child development and feeling more prepared for parenthood reported following an evidence based nine-week group perinatal education programme [3].

A core aim of Children's Centres was to improve outcomes for young children and their families with a strong focus on increased interactions between adults and children [11]. These centres offered evidence based parenting programmes and service users have reported improvements in relationships with their child and confidence in parenting [11]. The Family Action Newpin Perinatal Support Service, which provided emotional and practical support to parents, reported that all parents who participated in one of the services achieved the target of improved communication and bonding with their infant [12]. Many of the parents would have continued increasing their parenting knowledge and skills, as 75 per cent joined activities at Children's Centres. Evidence therefore supports the assumption that increasing parents' knowledge about parenting, nurturing, attachment and its impact on child

development during the perinatal period can promote improved attachment between parents and child.

3. Parent's referred to the service want to access and engage with the support provided to them.

The acceptability of the service to parents and willingness to actively engage with the support provided is essential for the feasibility of the service. 72% of socially excluded women in Southwark, London who were referred to the Newpin Perinatal Support Service between 2007-2008, engaged with the service. This suggests that the service is acceptable to parents. Having a non-professional befriender providing support as well as the perceived positive psychosocial impact of the service were key reasons for service engagement [12]. A larger trial of the Perinatal Support Service across four areas in the United Kingdom found 14 to 27 per cent of parents declined a referral to the service for unknown reasons [13]. An evaluation of a pilot Perinatal Support Service in Scotland, reported a 90 per cent completion of baseline measures, with only four referrals declined due to parents not engaging [14]. A survey conducted in 2011 found 71 per cent of mothers with a low household income who were offered access to antenatal classes attended, indicating a strong trend for mothers to engage with support services [15]. Having support to engage in referred services is key for some parents. One study reported that parents were able to reduce social isolation through meeting other parents at Children's Centres due to the support received from Health Visitors [16].

The Perinatal Support Service is a person-centred service that enables consideration of social and practical needs. This type of approach is collaborative allowing the befriender to respond to the parents needs which can make the parent more likely to feel engaged and involved with decisions. There is strong evidence to support this assumption from previous Perinatal Support Service pilots, other perinatal support services and the person-centred care.

4. Providing parents with group activities and one-to-one support will reduce social isolation.

For many socially isolated parents, a key factor to overcoming isolation is provision of one-to-one support. This has been reported in previous evaluations of the Perinatal Support Service [12-14]. In these evaluations, parents initially accessed group activities through the support of an accompanying befriender. Another study reported that health visitors support facilitated parent attendance at health clinics and children's centres, leading to a reduction in social isolation for the majority of parents [16].

Group interventions were also reported as reducing social isolation for clinically depressed mothers as reported in a previous evaluation of the Perinatal Support Service [13]. This has been replicated in another primary study as well as a systematic review of common PMH disorders [17-18]. The review suggests that delivery of group interventions postnatally is perhaps better when addressing social support and emotion [18].

Evidence indicates that combined one-to-one support and group activities provided in the community after birth can reduce social isolation, supporting this assumption.

5. Training will enable staff and volunteers to document, record and evidence the progress or regression made by parents and children.

Family Action has written a comprehensive Perinatal Support Service Manual to guide staff and Volunteer befrienders through the process, from setting-up the service to evaluation of its impact. Training is provided to staff and volunteers to equip them with the tools to deliver the Perinatal Support Service. Evaluation of the Family Action Newpin Perinatal Support Service pilot in Southwark reported 19 volunteer befrienders completed the six-week training programme, which was further supported with monthly supervision meetings and regular telephone support from the project coordinator. Volunteer befrienders were encouraged to attend additional training when the need arose. Feedback from Volunteer befrienders indicated they found the training provided appropriate for the role.

The Family Action PSS evaluated by Jane Barlow and colleagues [14] reported problems with the questionnaire format used to evaluate the service outcomes as well as loss to follow up of parents whose mental health had improved resulting in them disengaging with the service. Family Action has now addressed these problems through the development of a standardised core training manual, supported further with Family Action policies and procedures. The role of the Service Coordinator is recognised as a key component of the Perinatal Support Service. Data collection was also identified as an area of difficulty in the Scottish Perinatal Support Service pilot, with the timing of referrals making it unviable to collect some measures and causing issues with the validity of social support measures [15].

Other perinatal services where community members were delivering the intervention have been successful in documenting the progress made by mothers and their infants, following training provided by a professional [19]. This evidence provides support for the Family Action Perinatal Support Service evaluation model. Caution is required as bias can occur during the monitoring of services. To overcome potential bias, community members were trained to collect data, both qualitative and quantitative, while visiting service users in their homes [20]. This service overcomes this bias through the use of the Institute of Health Visiting to collect qualitative data from stakeholders and to conduct the analysis. This will allow an objective evaluation of the Family Action Perinatal Support Service.

6. Participating in the support service will improve the confidence, self-esteem and future life prospects of service users.

Strong evidence supports the assumption of improved confidence and self-esteem of service users following perinatal support services. Participating in an antenatal parenting programme support service intervention has been reported as improving self-esteem, relationship satisfaction and mental health for parents provide [18, 21]. Previous evaluations of Family Action's Perinatal Support Service' have found increased confidence and self-esteem in service users [13-15]. Whether this data are reflective of the samples is unclear due to the limited amount of quantitative data available. However, qualitative interview data records the positive life changing effect of the 'Perinatal Support Service.

Although psychological improvements are associated with increased future life prospects, the long-term life prospects of the Perinatal Support Service are unclear due to lack of longitudinal data to provide conclusive evidence about on the subject. Most cohort studies have examined the impact of PMH problems on the outcomes of the children [22-23]. These studies highlight the importance of antenatal mental health support for parents. The Perinatal Support Service has the potential to disrupt the impact of poor parental wellbeing on infants thorough increasing the confidence and self-esteem of parents.

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