

**Understanding Inequities in Accessing Antenatal Services: a realist
evaluation of take up of community-based antenatal programmes**

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Dedicated to the memory of my amazing, soulful, wonderful best friend Liz (Betty) Chambers, in honour of our shared experiences of having babies and leaning on each other when we needed it the most. Always and forever.

Abstract

Background

Specific funded programmes can be designed to engage expectant parents in antenatal provision in the community which is over and above standard antenatal monitoring appointments. Although targeted to meet specific needs, take up can be lower than expected. This PhD sought to understand why this is occurring, so that effective changes can be made and included locally delivered antenatal interventions in deprived wards in Bradford with a migrant and transient population, delivered by 'Better Start Bradford' (BSB), a health programme funded by The National Lottery Community Fund.

Aim

To understand how, why and in what contexts parents-to-be access community based antenatal projects in the BSB area , in order to facilitate increased service use.

Methods

This PhD was undertaken as a realist evaluation. The methodological approach comprised three phases:

- 1) Rapid Realist Review of the available literature on access to community antenatal programmes to elicit and develop draft programme theories, building on Initial Programme Theories (IPTs) designed at the outset
- 2) Systems mapping involving key stakeholders in focus groups and interviews to develop a systems map on access to BSB's community antenatal projects to elicit and develop draft programme theories
- 3) An ethnography of key stakeholders to test a refined version of these draft programme theories (as Context, Mechanism, Outcome configurations), applying observations, diary entries and realist interviews

Results

- 1) The review of 48 papers and grey literature identified a range of data against the IPTs as well as new theories. These were related to the marketing of programmes, the individual's consideration of whether these were a priority, the quality of contact with practitioners, how information was conveyed (information available to practitioners, allocations of time) and cultural safety, as well as perceived accessibility of programme sites.
- 2) The systems map highlighted the complexity within which pregnant women in the BSB area were being exposed to information about BSB's projects, including the contexts of individual lives and the factors that can impact on whether these are considered in place of something else they could be doing with their time. Acceptability of the offerings was a key finding, as

well as accessibility through being reassured that the projects are 'for them', where they will be treated with respect and would benefit personally.

3) Findings from the ethnography identified key mechanisms for some of the programme theories, especially the value of compassion and respect in helping them to feel they have been understood, the provision of practical resources to enable them to take part, the importance of knowing what to expect from sessions before agreeing to attend, 'familiarity' for pregnant women, accessing a service or venue that they already know and financial barriers in organising their own travel.

Conclusion

A number of factors impact on whether parents-to-be access community based antenatal programmes. These stem from a wish to feel listened to and understood as well as safe in attending. These findings can be applied in similar contexts to help encourage engagement in provision that is additional to standard maternity support, for pregnant women living in different areas. Recommendations focussed on working with the system, involving stakeholders and funders together in co-designing and reviewing activity.

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Abbreviations

BiBBS	Born in Bradford Better Start
BIHR	Bradford Institute for Health Research
BMI	Body Mass Index
BOT	Behaviour Over Time
BRI	Bradford Royal Infirmary
BSB	Better Start Bradford
BSBIH	Better Start Bradford Innovation Hub
BTHFT	Bradford Teaching Hospitals Foundation Trust
CLUSTER	Citations, Lead Authors, Unpublished material, Scholar searches, Theories, Early examples, Related projects
CMO	Context, Mechanism, Outcome
CPPT	Confirmed Preliminary Programme Theory
CTRU	Clinical Trials Research Unit
EIF	Early Intervention Foundation
GTT	Glucose Tolerance Test
HRA	Health Research Authority
IPT	Initial Programme Theory
MESH	Medical Subject Headings
MREC	Medicine and Health University Review Committee
NHS	National Health Service
PICO	Population, Intervention, Comparison, Outcomes
PMG	Programme Management Group
PPCs	Perinatal Coordinators
PPIE	Patient and Public Involvement and Engagement
RAMESES	Realist And Meta-narrative Evidence Syntheses Evolving Standards
RCT	Randomised Controlled Trial
STICKE	Systems Thinking In Community Knowledge Exchange
WTTW	Welcome To The world

Chapter 1 Background

1.1 Introduction

This chapter outlines the context of the PhD research, introducing community-based antenatal programmes, the Better Start Bradford programme, issues around engagement of pregnant women in antenatal programmes and specific aims and objectives for the research. Its design is also discussed, with justification of the realist evaluation methodology chosen to explore this topic. An overview is provided of each of the three studies conducted. This research builds on my experience in conducting qualitative research in the fields of sociology and social policy, aiming to understand people's access to different services and what enables or supports this, including access to education programmes and health interventions.

1.2 Overview

This PhD was focussed on exploring access to community antenatal programmes to provide recommendations on how to increase service use. This type of additional funded support could be important, as research has suggested that pregnancy is a time where women often become more aware of the need to develop a healthy lifestyle and that interventions at this life stage can offer a 'way in' to encourage behaviour change [1]. This PhD aimed to understand what factors may be influencing whether parents-to-be attend this type of provision. I used a realist evaluation approach to ascertain how, why and in what contexts these would be accessed. I developed draft programme theories, using the Better Start Bradford (BSB) programme as my focus. In addition, I conducted systems mapping work to support understanding of its programme architecture and to further develop theory around factors that may be influencing whether parents-to-be attended BSB's specifically funded community antenatal projects. These draft theories were then tested via an ethnography of key stakeholders, including pregnant women.

Better Start Bradford (BSB) is a multi-layered programme that involves the implementation of multiple interventions in an area of deprivation. Effectiveness of delivery very much depends on the reach and level of engagement with families. However, participation data from BSB indicated that many of its projects do not reach all families. As noted in research on engagement in deprived areas, promotion of such interventions may be substantial, but take up can be low[2]. Although management and delivery staff at the BSB programme had their own ideas about the potential causes of inconsistencies in engagement, there had been a lack of existing evidence. Such data would help to direct future design and amendments to these interventions, maximising participation for the remainder of the funded period and would provide insights to support implementation within and outside of the area. Within this thesis, engagement is referred to as actually attending at least one session offered by a programme or project.

1.3 Standard Antenatal Care and Community-Based Antenatal Programmes

1.3.1 Standard Antenatal Care

In this thesis, standard antenatal care is defined as clinical appointments with midwives and doctors that look after the health of mother and baby. Accessibility to healthcare is considered as the use of relevant services that can improve health outcomes[3]. Specific components of access include: availability; adequacy of care; accessibility; appropriateness; affordability[4]; as well as timings of access[5, 6]. Globally, standard antenatal provision is not widely used and there is less take up of services amongst lower and middle income countries, in part because of inequities in the availability of free, quality care[7-9]. In addition, health policies have not been effective in reducing health inequalities between social groups within countries[10] and this is also the case for antenatal care. Although this provision of care is generally well-received in the UK, studies have suggested differences in take up between socio economic groups, including a study reporting that the most deprived women were 60% less likely to have received any antenatal care, when compared to the least deprived[11]. There have also been differences in take up by ethnic group[12]. Parents from lower income groups and Black and Asian backgrounds in the UK have a poorer journey through this aspect of their pregnancies. ‘Late initiation’ of antenatal services in the UK is more prevalent for women born outside of the UK, when compared to those born within the UK [13]. This is especially the case for women from Black and Asian backgrounds and single mothers, who are less likely to attend booking appointments¹ within 12 weeks and/or attend 20 week scans on time [12]. In England, standard antenatal care includes regular health monitoring with a midwife, two pregnancy ultrasound scans as well as tests to screen for certain conditions. Women expecting their first baby will be offered 10 antenatal appointments. Parents may also be offered parent education classes, usually held at a local hospital[14]. It has been previously noted that there is limited detail of the impact of engagement in antenatal care on maternal and child outcomes, which may be partly due to differences in what is ‘acceptable and appropriate for, and accessible to, the women it is intended for’[15].

1.3.2 Community Based Antenatal Programmes

Existing available literature refers to community-based antenatal programmes as antenatal or maternity care delivered at a community site, that is not hospital based[16, 17]. For the purposes of this thesis, I have extended this definition to provision that is ‘over and above’ a standard appointment or hospital-based parent education class. Community-based antenatal programmes are health and wellbeing antenatal interventions delivered in community settings and include support with emotional and physical health. They can also be aimed at specific populations, e.g.: vulnerable women, young parents and indigenous communities. Locally-

¹ First appointment with a midwife which usually occurs before tenth week of pregnancy
<https://www.nhs.uk/pregnancy/finding-out/your-first-midwife-appointment/>

delivered initiatives for expectant mothers and their families can harness this opportunity to help improve outcomes. They offer a way to reduce inequities and improve justice in access to a good level of care, by making such provision available for everyone, including those from different ethnic backgrounds and low-income families. Delivery of provision in the local area could contribute to making this more accessible for communities, rather than requiring them to travel outside of this area to somewhere more central. Some examples of provision have specific funding attached to them and they can be designed and run with the help of people from the local community[18, 19] and from similar backgrounds, including peer support.

1.4 Summary of ‘A Better Start’ Programme and Better Start Bradford

‘A Better Start²’ is a £215million national programme funded by The National Lottery Community Fund, to boost developmental outcomes for children through community-based programmes and systems change. Delivered in five areas of deprivation within England, covering Blackpool, Bradford, Lambeth, Nottingham and Southend-On-Sea, it aims to improve health outcomes for pregnant women, and children aged 0-3, from 2015 to 2025. Funding is targeted at enhancing communication and language; social and emotional health; and diet and nutrition. An additional planned outcome is to refine how the voluntary and community sector interact with statutory services to support parents and children. This includes parents-to-be.

In Bradford, the local programme is known as ‘Better Start Bradford³’ (BSB). It covers a geographical area that encompasses large amounts of diversity and deprivation. With a £49m allocation of funding, the programme has been focussed on three wards in the South East of the city, namely: Bowling and Barkerend; Bradford Moor; and Little Horton. At the initiation of the programme, these areas were very deprived with the majority of the area coming within the ‘most deprived 10% of areas in England’ [20]. Issues with a migrant and transient population, combined with high levels of infant mortality, obesity and poor oral health, produce an area with very complex needs [20]. The landscape of the overall BSB programme is complex, with the implementation of 20 individual projects⁴, focused on different areas of health improvement, such as: activities to do with children; exercise and getting outdoors; feeding and healthy eating; feeding preparation; mental health and wellbeing; speech and language development; parenting. Successful delivery of the projects requires links with a number of partners, including (but not limited to): statutory health care agencies (e.g.: maternity, health visiting teams, dentistry); the local authority; faith groups; voluntary sector organisations; and schools. Delivery against a backdrop of increasing austerity and the scaling back of public services has meant there are many challenges to overcome in terms of

² <https://www.tnlcommunityfund.org.uk/funding/strategic-investments/a-better-start>

³ <https://www.betterstartbradford.org.uk/>

⁴ BSB’s projects have included: Baby Buddy; Baby Steps; Better Place; Better Start Imagine; Bradford Doulas; Breastfeeding Support; Cooking for a Better Start; ESOL for Pregnancy; ESOL with Infants; Forest School Play Project; HAPPY; HENRY; Home Start Better Start; I CAN; Incredible Years; Little Minds Matter; Perinatal Support Service; Talking Together; Welcome To The World; Innovation Fund.

constructing and implementing appropriate support that is sustainable and can be easily accessed by local people.

Because the BSB programme offers more than one community antenatal intervention, these individual offerings are described as projects (see Table 1.1). Together, the full suite of BSB projects is defined as the programme.

1.4.1 Understanding the Architecture of the Overall Better Start Bradford Programme

I led previous work that explored the 'architecture' of the overall BSB programme (how it is constructed and the ideas behind it) and the various contextual factors that had influenced the success of its projects and how they related to each other. The research incorporated all areas of the programme's health improvement activity to increase understanding of how it is intended to work. This involved a review of information on the programme from reading about the design of the programme as described in web pages and programme documents such as strategy papers and evaluation reports, informal discussions with BSB management staff and academic researchers (an academic team based at the Bradford Institute of Health Research (Born in Bradford Better Start Innovation Hub) that leads on the programme evaluation, including regular evaluation of project implementation[20] and effectiveness evaluation). I used this information to develop an initial exploratory draft mind map (**Error! Reference source not found.**) to illustrate how the provision and its resources (and its three key themes of: diet and nutrition; communication and language; and social and emotional health) appeared to be connected, which was then reviewed by stakeholders to produce a confirmatory systems map (Figure 1.3).

Figure 1.1**Error! Reference source not found.** presents the exploratory mind map, which illustrates the various elements of the programme and how they fitted together. A number of factors emerged that appeared to be integral to the local context. These were reportedly key in terms of affecting the likely success of the projects but were not immediately obvious through review of existing documents and simply working out how different structures and populations might link with the interventions. Factors included: a) *the need to ensure women and their families feel safe and protected*. Meeting basic needs around a feeling of personal safety was seen to be important, including crime in the area and whether they perceived a venue (for attending interventions) to be a safe space; b) *appreciating the environment within which local families were living*. This recognises stresses such as pollution and the quality of available green spaces. This in turn can impact on propensity to exercise and overall can affect physical health; c) *time and money available to families to organise and cook fresh meals as well as access to fresh food and food banks*. The use of takeaways and poor quality of food in community settings was discussed. The impact of this on poor oral health was also mentioned; d) *parental attitudes towards use of language and reading*. This can impact on children's communication and language skills and could also be affected by access to local libraries; and e) *the specific needs of different population groups within the area*: extended families;

Dads/partners; mothers with unhealthy weight; children and adults with disordered eating; parents with undiagnosed learning difficulties; and a transient population.

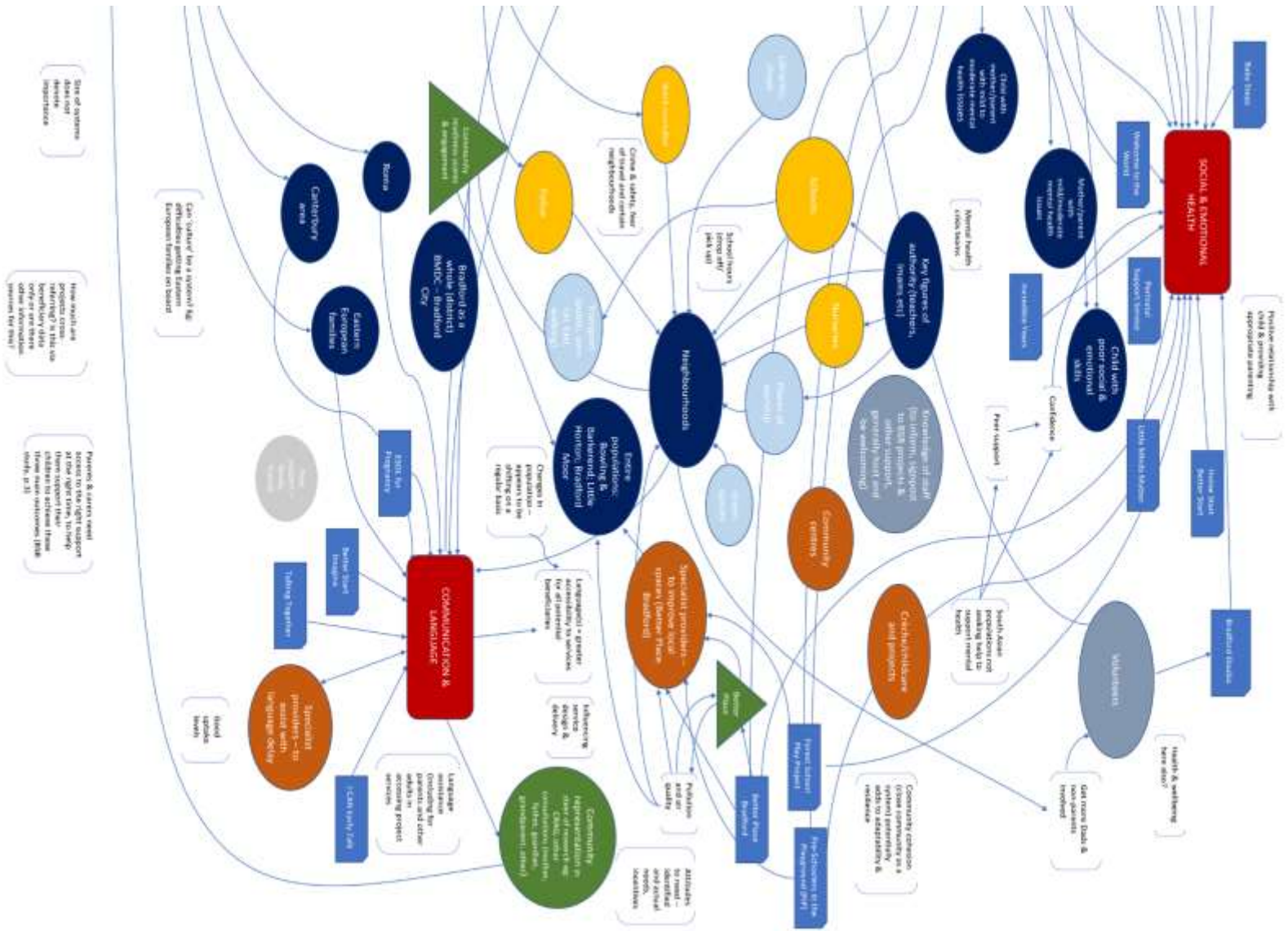


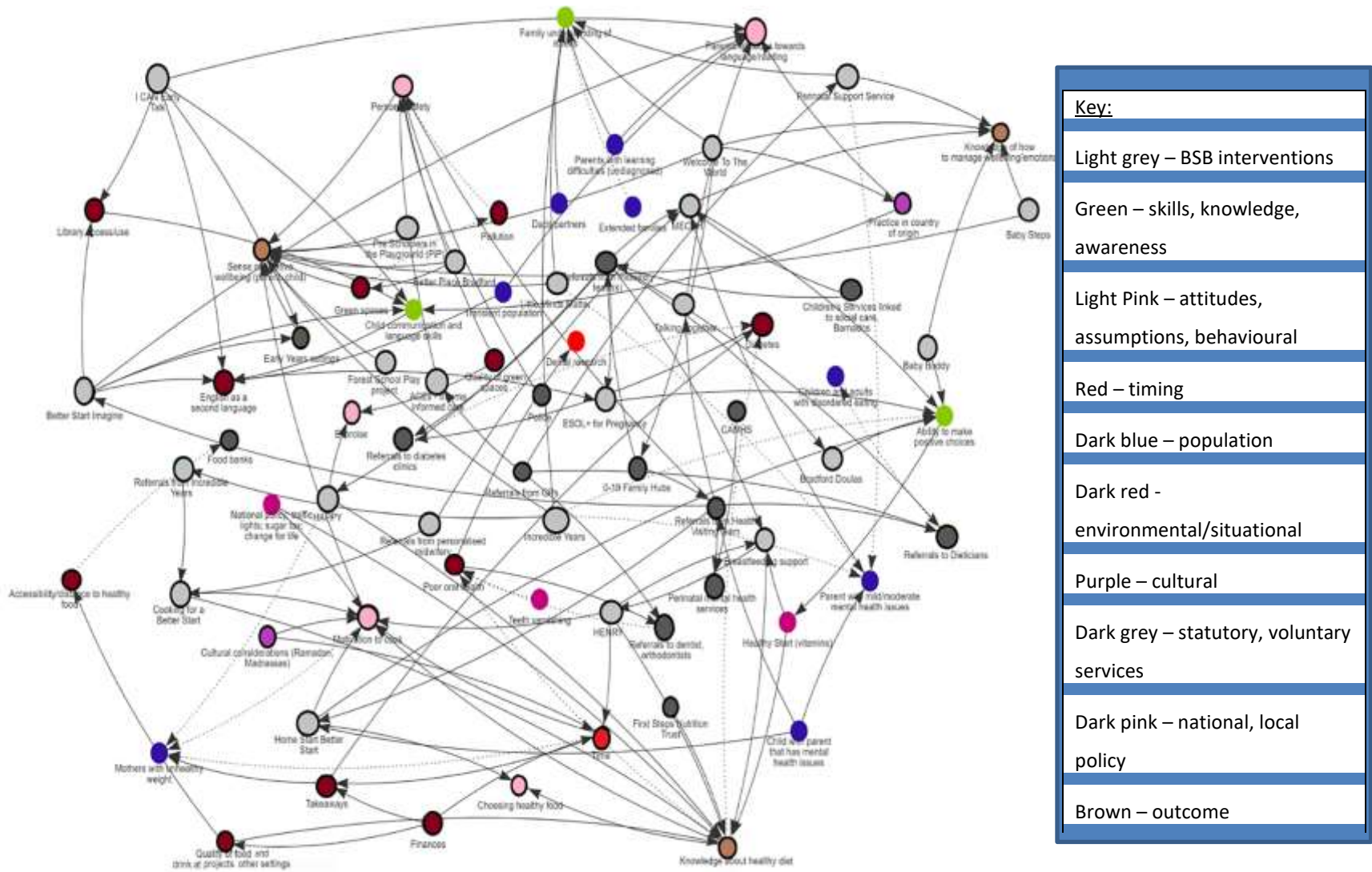
Figure 1.2 Exploratory Mind Map of BSB Programme (section 2)

All of these factors were considered when developing the confirmatory 'systems map', to consider the programme as an overall system (Figure 1.3). Particular expected outcomes were also mapped: knowledge of how to manage wellbeing and emotions; sense of positive wellbeing (parent, child); and knowledge about healthy diet. The map needed to be fully inclusive of all interconnections between organisations and communities. All variables were included on the map as equally sized circles, which are colour coded, to represent different categories; e.g.: green for skills, knowledge, awareness; light pink for attitudes and assumptions. A key is provided alongside the map, for easy reference.

The map highlighted the structure of the BSB programme, how staff, various interventions and other organisations and agencies are linked. It showed how national and local resources interact with what BSB are delivering. For example, initiatives such as sugar tax and the Change for Life campaigns can impact on motivations to cook, which can also be influenced by Cooking for a Better Start. It also indicated potential outcomes and specific, important elements of context. For example, it included the possible contribution of cultural considerations in the area such as food available at Madrassas and how this may influence motivations to cook, demonstrating how this could all link in with furthering knowledge about healthy diet. Sense of personal safety is an attitude that can be impacted by local conditions, such as lack of green space and pollution as well as positively affected by planned solutions such as Better Place Bradford (one of BSB's projects⁵). These elements appeared to exist in a state of tension in influencing to what extent a sense of positive wellbeing can be achieved for parents and children. It is these local nuances that are communicated in this map, bringing together levels of structure, combined with context. It was felt (by stakeholders), that communities were also influenced by other factors. Part of the structure visualised in the map is the influence of the attitudes of others on views about the importance of reading, or participation in a parent education programme for example. These findings tied in with existing work conducted within the Innovation Hub, regarding the identification and measurement of levels of 'community readiness'[2] within the local area. It was also clear that referrals to interventions can be affected by the statutory infrastructure (e.g.: Family Hubs; health visiting team). These services and venues provide platforms for delivery of the interventions and a source of communication and information for the local population.

The draft systems map was disseminated within BSB as a tool to help inform their thinking on where there may be strengths or blockages in the system. It was also shared with academic colleagues within the Better Start Bradford Innovation Hub and presented during a meeting of the Programme's Management Group (PMG), attended by representatives of both organisations.

⁵ <https://www.betterstartbradford.org.uk/project/family/better-place/> is a BSB project that helps to identify beneficial changes to local parks and outdoor spaces, to improve the environment for children and families.



Key:
Light grey – BSB interventions
Green – skills, knowledge, awareness
Light Pink – attitudes, assumptions, behavioural
Red – timing
Dark blue – population
Dark red - environmental/situational
Purple – cultural
Dark grey – statutory, voluntary services
Dark pink – national, local policy
Brown – outcome

Figure 1.3 Draft Map of Better Start Bradford Programme as a System

1.5 Summary of Better Start Bradford's Community Based Antenatal Projects

A number of BSB's funded initiatives focus specifically on the antenatal period and supporting families in Bradford in the transition to parenthood. BSB's community based antenatal projects intend to provide specific support in developing parenting skills as well as in dealing with the emotional and physical aspects of pregnancy, covering topics such as: preparing for labour and birth; bonding with baby; social and emotional health of mother and baby; diet and nutrition (Table 1.1). They aim to improve health outcomes in terms of healthy pregnancies, good mental health of parents, improved skills for looking after babies and generally improved child outcomes and school readiness. Projects have been delivered at various venues, including community centres, 0-19 Family Hubs and the pregnant woman's home.

Table 1.1: BSB's Community Antenatal Projects⁶

Project Name	Purpose	Coverage	Delivered by...	Venues/format
Baby Buddy	Free mobile phone app for parents and parents-to-be – personalised content	Universal	Best Beginnings	Digital
Baby Steps	Antenatal support for women at risk of poor emotional well-being	Women with poor emotional wellbeing	Action for Children	Home visits and local Family Hub - groups
Bradford Doulas	Pregnancy support for vulnerable women	Vulnerable women	Volunteers trained locally	Home visits, accompany to antenatal classes, birth at hospital
ESOL+ for Pregnancy	Language courses for pregnant women to help them engage with midwife and be in more control of pregnancy and labour	Women with English as a second language	Local College, plus midwife	Community venues - groups

⁶ Some funded antenatal projects were not included: universal provision where there was no specific opt-out process (e.g.: personalised midwifery offering continuity of carer, delivered by specific midwifery teams). In addition, the research did not include postnatal services that may have had an antenatal element.

HAPPY	Healthy eating and parenting course for overweight mums	Women with overweight or living with obesity (BMI ≥ 25 kg/m ²)	Barnados	Community venues - groups
Welcome To The World (WTTW)	Antenatal (parent education) course for mums, dads, carers	Universal	Staff at Family Hub and facilitators from BSB	Local Family Hub – groups

BSB management staff play a key role in designing and implementing the projects, including contracting providers and reporting to the funder. The Born in Bradford Better Start Innovation Hub deliver the programme evaluation. The local population are also involved in service design and oversee development of projects via a community representation action group.

The programme has been required to adapt to statutory changes and changes to infrastructure on a regular basis, which have resulted in a different operating landscape to that envisaged when the funding for the programme was first awarded. Structurally, amendments made to statutory services have included the removal of Children’s Centres, which were a central planned delivery vehicle, instead integrating a reduced service into Family Hubs. As well as sea changes in policy at national and local level, individual projects have been altered over time, to incorporate evidence-based feedback on how to improve implementation effectiveness, gathered both locally and nationally e.g.: delivery of the Continuity of Carer agenda in midwifery, with the aim to increase the likelihood of women being able to see the same midwife throughout their pregnancy.

In addition to this, the programme and its projects had been forced to respond to a major health and environmental emergency brought about by the COVID-19 pandemic, adjusting to changes in the local area. The community has changed over time, reflecting a shifting context. Already ‘socio-economically deprived’ [21], general deprivation levels have worsened in the BSB target wards since the first lockdown, with families reporting insecurity, in terms of income and food, with 33% of respondents to a survey on life during COVID-19 stating they were ‘worse off during lockdown compared to three months previously’ [22]. ‘Neighbourhood poverty’ was affecting families with young children, raising stress levels [2]. Levels of immigration had increased, with communities in the target areas reporting a range of languages, covering up to 73 different variations of language.

1.5.1 Engagement and Recruitment into BSB's Antenatal Projects

A midwife at the initial 'booking' appointment is usually the first point of contact women have with information about BSB and what is on offer (unless they are already aware of this through word of mouth or have previously been beneficiaries). After attending an initial appointment with the midwife, the pregnant woman is contacted by telephone by a Perinatal Coordinator, employed and based at the Bradford Institute for Health Research (BIHR). This role is intended to provide women with information on relevant BSB projects they could attend. Perinatal Coordinators speak several different languages used by the local community. If women express an interest in taking part in the project, the coordinator makes a referral to relevant projects. In addition, pregnant women attending the Glucose Tolerance Test (GTT) clinic⁷ at the Bradford Royal Infirmary (BRI) are informed about BSB's projects by staff. Neighbourhood Workers employed by BSB work in an outreach capacity in the community, talking to local families and informing them of what is on offer. Facilitators delivering the antenatal projects (BSB staff or contracted providers) also provide details to those attending sessions about what else might be suitable for them.

Process data collated via BSB's community based antenatal projects suggested some had been underused, with attendance numbers lower than expected and with limited representation from women and partners from different ethnic groups. During a three-year period⁸, unique participation⁹ in three of its projects: Baby Steps; Doulas and HAPPY (as described in Table 1.1), accounted for 6.6%, 3.7% and 3.4% respectively of the total maternity population (women booked to deliver at the BRI with a postcode in the BSB qualifying area)¹⁰. While it is understood that not all women are approached or eligible for projects, this data highlights that a substantial number of women in the area did not participate. These data also suggested that the reach for some projects in terms of population representation (e.g.: ethnic groups) may not represent the actual population. For example, 18.8% of the maternity population within the BSB area were from a White background¹¹, but fewer than expected from these backgrounds participated in projects (14.6% for Baby Steps, 12.4% for Doulas and less than 7.8%¹² for HAPPY). However, numbers of those from Asian or Asian British backgrounds¹³ were over-represented in two of the projects (61.2% for Baby Steps and 82% for HAPPY, compared to 53.6% for the overall maternity population). More research was needed to elucidate why participation was generally lower than expected, including amongst women from certain backgrounds.

⁷ To test for gestational diabetes at 26-28 weeks of pregnancy.

⁸ Time period: 1st April 2019-31st March 2022.

⁹ Participation is defined as attended the first session.

¹⁰ Source: Born in Bradford Better Start Innovation Hub.

¹¹ Includes British, Irish, any other White Background.

¹² This percentage is based on ten participants in the project, where in fact the number was lower.

¹³ Includes any other Asian background, Bangladeshi, Indian, Pakistani.

These issues are not unique to the BSB programme. Previous studies have highlighted that attendance at community-based antenatal programmes is often low[23, 24]. Management at the BSB programme expressed a desire to obtain a deeper understanding of what it was about their provision that may have encouraged engagement and where there may have been a disconnect with the local population. For example, it was unclear whether this was due to a lack of awareness or understanding of how it may be of benefit to them. Existing studies on access to antenatal provision generally, suggested this may be due to not being able to spare the time[11], not being able to physically get there (e.g.: transport)[25] or that they feel they won't be listened to[26]. Just as access to community antenatal programmes may be dependent on affordability or physical accessibility, there are also differing perspectives on the acceptability of what is on offer[27] (provision of funded public health interventions does not guarantee engagement from those who have access to them). This includes different health needs and cultural beliefs, including attitudes towards antenatal care and its benefits, compared to what they might access via family networks[28]. Availability of language support (as offered in the ESOL+ for Pregnancy project), may also have been important to pregnant women. In terms of spoken English ability of the defined overall BSB maternity population in the same period, just under one third had little or no understanding of the language (23.2% had difficulty understanding English and 9.1% had no understanding of English¹⁴). Poor understanding of English can lead to limited communication and comprehension of what is on offer[29]. The research described in this thesis therefore sought to understand what factors were influencing engagement and why they were having an impact. It also explored how engagement issues could be addressed, enabling changes to be made. Where these were straightforward, it was designed to provide evidence to support attendance via 'quick wins' as well as highlighting what may take longer to implement, providing suggestions on how to work towards these amendments.

1.6 PhD Aim and Objectives

1.6.1 Aim

To understand how, why and in what contexts parents-to-be access community based antenatal programmes in the Better Start Bradford area , in order to facilitate increased service use.

¹⁴ A small amount of data are missing for this question in the maternity population (for 77 women).

1.6.2 Objectives

- To identify in what circumstances community based antenatal programmes work best [30] in encouraging equality in engagement from women and partners
- To identify the key mechanisms that influence take up of community based antenatal programmes [31] across different ethnic and social groups
- To identify the contextual factors that have the most impact (positive or negative) on take up of community based antenatal programmes
- To determine what actions may help to encourage equitable access by women and their partners to attend BSB's project sessions, to improve the appeal of sessions to women and their partners

1.7 Adopting a Realist Approach

My PhD explored these objectives using a realist evaluation approach, to gain a deeper understanding of 'what works, how, for whom, in what circumstances and to what extent' [32]. Rather than simply aiming to understand why pregnant women and their partners were not accessing services, (investigating outcomes through reported experiences of stakeholders), I wanted to further develop the evidence by considering the influence of different contexts [33] (environment, structures) and how these can impact on likelihood of take up. I decided that realist evaluation would allow me to highlight this. It would also help me to consider how certain resources of the programme and responses and reasoning from the local community might have interacted with these contexts to spark a decision to attend or not attend an antenatal session. Realist evaluation can be described as 'a type of applied realism' because it is an interpretation of how the world works as well as an acceptance of the different ways in which knowledge can be established [34]. Realist philosophy is positioned between positivism and constructivism, as the problem or issue in question can be seen as 'between reality and our construction of reality' [35, 36]. Intended and unintended outcomes of an intervention are the result of resources, reactions and responses (mechanisms) that have been spurred by the locally specific context [37]. The realist methodology seeks understanding of causality (both intended and unintended) via consideration of programme theories (often described as context, mechanisms and outcome (CMO) configurations [38]). These theories are used to clarify how different contexts elicit particular responses that give rise to different outcomes. This illustration of generative causation is developed through the comprehension of what lies beneath initial layers of what is visible in terms of barriers to engagement. It highlights factors that are in a 'realm beyond empirical measurement' [39] and is useful for evaluating health programmes that are being delivered amongst systems changes, recognising that contexts often change and shift. The approach involves iterative development of draft theories which are then tested using a combination of various methods and data sources [40], as outlined in Figure 1.4.

I felt this was an appropriate and responsive means of evaluating which elements had spurred specific reported impacts in the BSB programme area, especially when considering regular changes to the backdrop of care for populations at local level (e.g.: policy and funding changes, impacting on referral mechanisms). Although some realist evaluations have been conducted on what works in health programming in relation to antenatal provision [41-43], little has been done to explore take up of interventions and understand leverage points of getting women and partners 'in the door', especially with consideration of the wider context and system within which these are delivered. The intended purpose of community antenatal programmes (and in this case, its individual projects) and how these 'ought' to work (the architecture of the programme) is key to helping to theorise about which elements of it should be impactful, for whom. This also includes assumptions made about take up. These ideas can then be used to inform the design of the study and the collection of data [44].

1.7.1 Overview of Methods

My PhD programme of work used a realist approach to understand the provision and take up of community based antenatal projects within the BSB area and incorporated three studies, as detailed below, with the corresponding subsequent chapters summarised in Figure 1.4.

1.7.1.1 Study 1: Rapid Realist Review of the Take Up of Community Antenatal Programmes (Theory Elicitation and Development)

The starting point for this research was Theory Elicitation and Development: Rapid Realist Review of the Take Up of Community Antenatal Programmes. This included the development of Initial Programme Theories (IPTs), ideas about existing information regarding engagement, including why and how things were happening (Chapter 2). These theories were informed by an initial review of national policy documents and reports and observations with stakeholders, including BSB staff, health practitioners and academic staff from the Innovation Hub. The theories were developed (as 'If...Then...Because' statements) to facilitate 'initial programme theorizing' about why something has worked or failed [35, 39]. A review was then conducted of available literature on access to community antenatal programmes in high income countries, where data were collected against each of these IPTs. Rapid Realist Reviews (RRR) may be conducted initially to support design of key theories within a short period of time, particularly where there may be policy implications or results are required quickly to react to shifting contexts [31, 45, 46]. A detailed search strategy was employed, designed to cover quantitative and qualitative data from a range of sources, including published studies, discussion and review papers, grey literature and BSB programme documentation.

An evaluation Reference Group was developed to ensure the inclusion of expertise from those involved in design and delivery and to advise on programme theory, the specifics of the RRR,

including its scope, as well as to signpost to specific literature. Members included BSB staff, practitioners (including midwives) and academics.

1.7.1.2 Study 2: A Systems Approach to Understanding Engagement in Better Start

Bradford's Community Antenatal Projects (Theory Elicitation and Development)

The second study (Chapter 3 Theory Elicitation and Development: A Systems Approach to Understanding Engagement in Better Start Bradford's Community Antenatal Projects) was conducted in parallel with the RRR and involved carrying out systems mapping to understand more about the context within which antenatal take up or potential take up was situated. A 'system' comprises a number of components that create an overall effect but ceases to operate in the same way if one of these components is removed. Systems thinking is a useful way of visualising (in a map) the key variables that influence each other (in positive and negative ways) to create a particular outcome and is often used to better understand the complexity and at times self-reinforcing nature of health problems [47-49]. It can also be applied to dissect the impact of an intervention that has been introduced as a response to that system. It can identify what may be the most effective places to intervene, to produce more lasting outcomes [50, 51], which is useful when considering that health programmes are being delivered amongst different priorities and resource changes. Systems mapping can act as a tool to support the development of a realist evaluation as it can uncover details of the specific local context within which an intervention is being delivered or planned to be delivered. It can also identify specific variables that interact with some of that context, which can be identified as mechanisms.

Chapter 3 presents the mapping of access to BSB's community antenatal projects specifically. This involved mapping take up via focus groups and interviews with practitioners and pregnant women. Each discussion focussed on the different variables relating to contexts, mechanisms and outcomes that may have been impacting on women's participation in the projects and production of individual maps. Analysis of emerging data from this stage was then considered alongside information collected from the RRR to revise the IPTs into CMO configurations (outlined in Chapter 4, Refined Programme Theories for Testing).

1.7.1.3 Study 3: Ethnography of Key Stakeholders (Theory Testing)

A key part of a realist evaluation is the testing of the developed theories via collection of data from a range of sources (which can be from mixed methods, qualitative and quantitative). Programme theories set out ideas of how a programme may operate, so it was important to ascertain if this was happening as theorised, on the ground, 'in the real world using empirical data'[52]. The third study (Chapter 5, Theory Testing, An Ethnography of Key Stakeholders) focused on this testing through ethnographic methods including observation and interviews, to fully understand pregnant women's lives and experiences of contact points with information

about the projects. A range of settings and data collection approaches were incorporated, including observations to cover these contact points (observations of face-to-face and online sessions and commentary about access to support). This initial 'deconstruction' stage provided detail on the range and variation of events. The following 'construction and confirmation' step in the ethnography included realist interviewing with pregnant women and practitioners (e.g.: BSB staff, midwives, and project deliverers), collecting thoughts and comments on each CMO. Both stages involved a digital diary study that allowed the collation of information about women's thoughts and ideas about antenatal provision, captured in real-time. This entire process allowed for the refinement and confirmation of theory (outlined in Chapter 6, Confirmation of Preliminary Programme Theories).

Chapter 7 (Discussion) covers a summary of the thesis and presentation of key findings, including implications for community antenatal programmes and implications of the PhD for research, including methodological contributions.

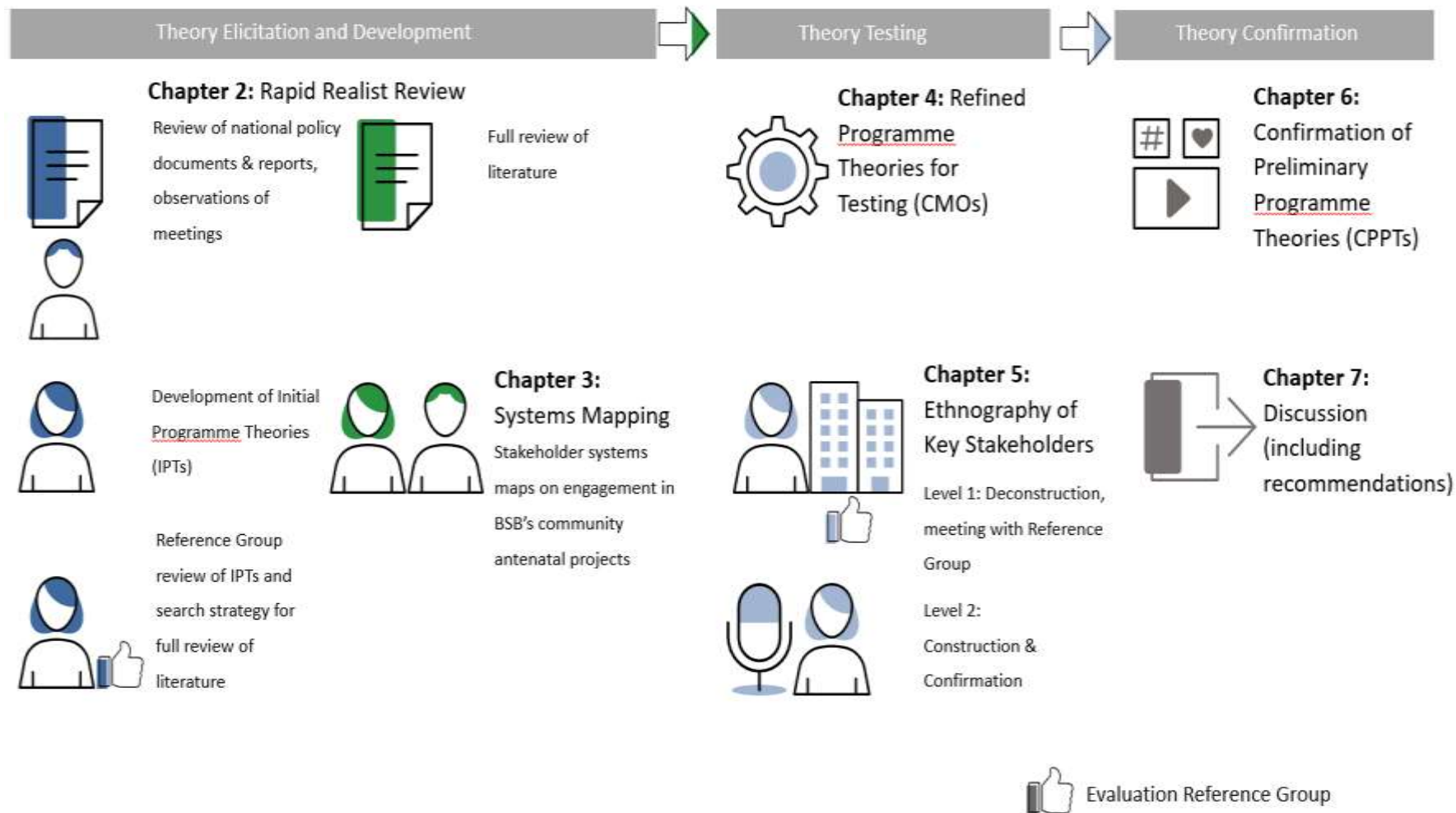


Figure 1.4 Overview of Thesis Chapters

Chapter 2 Theory Elicitation and Development: Rapid Realist Review of the Take Up of Community Antenatal Programmes (Study 1)

2.1 Introduction

This chapter discusses the approach and results of a review of the existing international literature on access to community antenatal programmes in high income countries. It describes how this was based on an initial scoping of national policy documents. It considers potential methods to supplement the scoping (Realist Synthesis versus Rapid Realist Review) and the rationale for selecting RRR. The full method is outlined, along with results and how these related to a set of draft programme theories about access.

As a starting point for the overall realist evaluation, it was important to explore what was already known about access to community antenatal services and how this may or may not have been working. This exercise was intended as a means of confirming or refuting Initial Programme Theories (IPTs) developed from an early (first step) review of national policy documents and observations of BSB's antenatal pathway meetings (sections 2.4.1 and 2.4.2 respectively) and provided an opportunity to identify additional theories emerging from the literature. The review process and findings are presented in line with the RAMESES¹⁵ publication standards[53].

The review was intended as a detailed interrogation of a range of information regarding ideas about how programmes should work[39], as well as findings on barriers and enablers to engagement. It was expected to identify what factors (such as processes and actions) potentially contributed to whether an expectant woman attends antenatal provision. This would provide more detailed information (recognising there may be gaps in what had already been published) to support further development of theory that could be tested and refined, resulting in recommendations for future interventions.

2.2 Realist Approach to Literature Reviewing

A realist approach to literature review is led by a focus on theory about what works for whom, in what circumstances and how, in delivery of interventions, rather than to establish empirical evidence for a topic, as would be the case in a systematic review[54]. Information on what works regarding planning, delivery and take up of a service tends to be included in discussion sections of papers or wider literature such as reports, guidelines and blogs. Because of this, approaches tend to include a greater range of sources and study designs. It allows the mining of text, including all sections of primary research papers, as well as policy reports and other grey literature to find potential theory[39]. Rather than collect all relevant data, it aims to 'attain

¹⁵ Realist And Meta-narrative Evidence Syntheses: Evolving Standards.

modest forms of theoretical generalisability from evidence’[54]. There are two methodologies that can be undertaken with this in mind, namely: realist synthesis and Rapid Realist Review (RRR).

2.2.1 Realist Synthesis

A realist synthesis aims to consider theory about delivery and the context within which complex interventions are introduced in different settings. It allows space for theories to emerge that weren’t immediately apparent at the start of the searching process, leading to amendments to eligibility criteria and additional searches, as part of an iterative process. In addition to the generation of draft programme theories, it supports the ‘testing’ and refinement of existing ones[54].

2.2.2 Rapid Realist Review (RRR)

A Rapid Realist Review (RRR) is an evidence synthesis that applies realist philosophy. It is a rapid process that highlights relevant theory for specific programmes or interventions. It is supported by input from stakeholders involved in the intervention, to help ensure key literature is identified and to further develop theory, including helping to confirm these[31].

Key differences between realist synthesis and a Rapid Review are outlined in the table below:

Table 2.1 Comparing features of the Realist Synthesis with a Rapid Realist Review (RRR)[31, 45, 46, 55]*

	Realist Synthesis	RRR (realist informed evidence synthesis)
Function of review	To elicit transferable theory, considering how this may work in different contexts, interacting with mechanisms and producing similar outcomes in other areas	Provides direct links with what is being delivered ‘on the ground’ and is context-specific to a particular area or ‘family’ of interventions ¹⁶ To help develop recommendations, where there may be policy implications or where results are required quickly to react to shifting contexts
Overall approach	Testing of selected relevant theories through iterative searches of literature, to fully	To establish key theories, based on a focussed search, with input from

¹⁶ E.g.: programmes aimed at supporting expectant parents living in Bradford, in developing social and emotional health, diet and nutrition or communication and language.

	support the narrative analyses 'until the point of theory saturation'[31]	knowledge users, experts and practitioners (Reference Group)
Process length	Around twelve months or more	Around three to six months

*Inspired by table comparing the differences between the systematic review search and the realist search in Booth et al's (2018) book chapter on '*Scoping and Searching to Support Realist Approaches*'[54] and Saul et al's (2013) paper '*A time-responsive tool for informing policy making: rapid realist review*'[31].

2.2.3 Selection and Justification of Approach

The Rapid Review was selected as the most appropriate method of literature review for this evaluation, for the following reasons:

- BSB's antenatal projects were specifically designed (with input from the community) for a specific geographic area, with target populations and outcomes in mind. Because of this, the study required an approach that would be able to focus in on the potential range of experiences that could be relevant at this local level
- A large amount of applied research had already been conducted by the academic evaluation team attached to the projects and paired with detail provided by those delivering projects, some ideas and 'theories' about factors influencing attendance already existed. A growing amount of evidence of a local issue and presence of local experts who understand what is happening 'on the ground', can contribute to a useful 'expedited' process, where a rapid review provides relevant key context and literature[46]
- Projects were being delivered amongst an array of different systems changes, such as in national policy (e.g.: removal of Children's Centres) and changes within contracted services (shifts in focus), so results were needed quite quickly to help inform adaptations to future provision
- Availability of those managing the projects and existing connections to the academic evaluation team, meant there were a range of different practical and theoretical expertise that could be invited to input into the review
- It was important that the design of the review allowed a window of time to test and further refine draft programme theories through empirical work, involving fieldwork with expectant women, their families, practitioners and project deliverers

2.2.4 Reference Group

A Reference Group was planned to advise on the development of the review, providing stakeholder and expert input into its scope (aims, objectives, definitions) and to highlight key papers and other publications relevant to the effectiveness and contexts for the delivery of community antenatal programmes. This is recommended for RRR, to combine knowledge from users and content from experts with knowledge of the area being reviewed, to help ensure 'usability of review products as well as links to current practice' [31]. It is also seen as an important means of ensuring the key literature is identified during a more rapid process including information that has not been published[46]. I aimed to involve a range of members, including BSB staff, practitioners (midwives) and academics, as well as my supervisory team, to capture existing knowledge on the delivery of projects for the local population. It was important to include specialists in the delivery of antenatal services as well as individuals with a detailed practical and evidence-based understanding of the target population and specific complexities faced within specific communities in Bradford as well as BSB's target geographical wards. I worked with existing contacts within BSB and its academic partner: the Better Start Bradford Innovation Hub to approach relevant members of staff, asking them to contribute in terms of guiding the focus of the research, as is the case with Patient and Public Involvement and Engagement (PPIE).

2.3 Review Questions/Aims and Objectives

2.3.1 Aim

To elicit candidate programme theories associated with how, why and in what contexts parents-to-be access community based antenatal programmes in high income countries and within the BSB area.

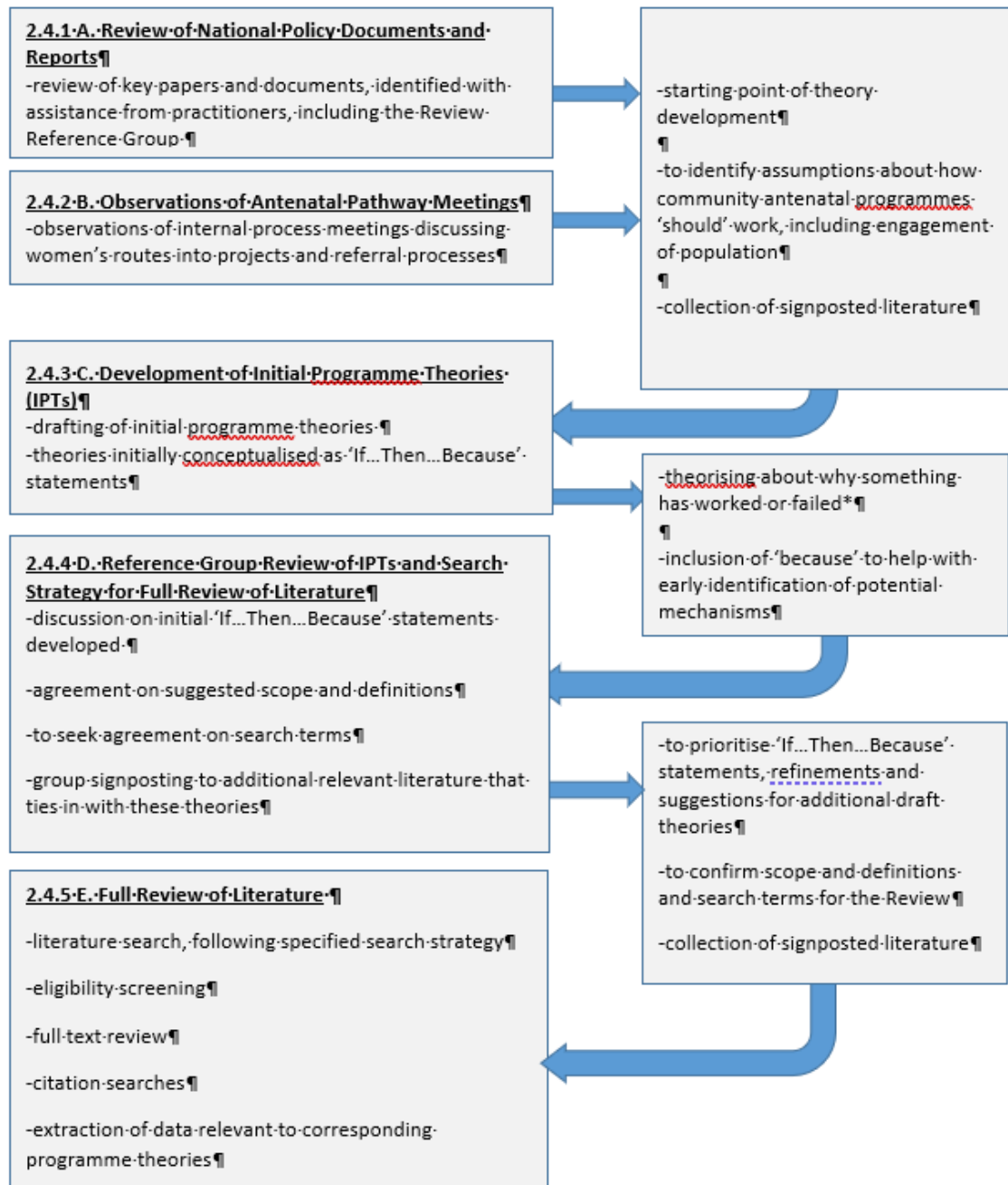
2.3.2 Objectives

1. To identify in what circumstances community based antenatal programmes work best in encouraging engagement from women and partners
2. To identify the key mechanisms that influence take up of community based antenatal programmes
3. To identify the contextual factors that have the most impact (positive or negative) on take up of community based antenatal programmes

2.4 Methods

A Rapid Realist Review was undertaken incorporating a review of national policy documents and reports, observations of meetings; development of Initial Programme Theories (IPTs); Reference Group review of the IPTs and search strategy for the full review of literature; and

full review of theory in the literature (*[35, 39] Figure 2.1). I have labelled each of these stages as A-E, starting with 'A' review of national policy documents and reports.



*[35, 39] Figure 2.1 Flowchart of Rapid Realist Review (RRR) Process

2.4.1 A: Review of National Policy Documents and Reports (Figure 2.1)

This work first sought to highlight how a community antenatal programme 'ought' to work, including the original ideas and intentions behind it. In line with the recommended ways of building a realist approach, this included looking at descriptions of programmes and categorising expected outcomes to explore how community based antenatal provision can be

designed. This helped the process of considering resources of a programme and anticipated reactions or responses that could spur specific results. Key literature were identified by BSB management staff in initial discussions about the PhD and in the meeting with the Reference Group. These included grey literature, specifically key UK policy documents and reports that discussed expectations of programmes, including why and how women and their partners might be involved in these. Documents were sourced and scanned for content related to suggested resources and expected outcomes. Relevant text was then recorded in my notes.

2.4.2 B: Observations of Antenatal Pathway Meetings (Figure 2.1)

To assist with obtaining an initial understanding of how women access provision locally, I attended internal process meetings within BSB. Three antenatal pathway meetings at BSB were observed, including participants from the Hub as well as health practitioners, to discuss women's routes into the relevant projects and referral processes. These observations were used to clarify understanding of how delivery was intended to happen and potential issues faced in encouraging take up. My attendance was organised with BSB staff whom had explained the study to those attending and the potential value of the meetings in shaping my initial theorising, again helping to steer the focus of the research.

2.4.3 C: Development of Initial Programme Theories (IPTs) (Figure 2.1)

Data from the policy documents and observations of internal meetings were used to develop Initial Programme Theories (IPTs). This work enabled me to construct initial theories [31] to explore what may impact on the take up of antenatal programmes, to serve as a framework for the Review. Referred to by Brown et al (2018)[30] as the 'explanatory framework', the IPTs could then be tested and refined through a fuller review of literature (papers, grey literature) (section 2.4.5). IPTs were formulated into a list of 'If...Then...Because' statements, drafted from interpretation of how access to antenatal programmes can be affected. The statements were planned to include 'because' to help ensure there was adequate detail on potential mechanisms. Each statement was checked for whether the outcome had been fully identified, by re-reading it and making a judgment as to whether it was a resulting 'effect' [35] that was related to take up of BSB's projects. I then worked 'backwards to what causes the outcome, then backwards from that to the circumstances in which that cause works (or doesn't)' [56]. Statements were written out and redrafted several times, using a process of reflecting back on the initial review of policy and considering how a programme theory should be constructed. The resulting draft of statements was also reviewed and discussed with the Review Reference Group, including my supervisors.

2.4.4 D: Reference Group Review of IPTs and Search Strategy for Full Review of Literature (Figure 2.1)

As described earlier, the purpose of the group was to agree and validate the focus of the Review and the accuracy and relevance of the draft programme theories. At this point, the group met face-to-face and was informed of the focus of the meeting, with information to support their participation (e.g.: definitions; aims and objectives; first draft of programme theories; proposed search terms).

Areas of discussion covered:

- Agree focus of the RRR (aim and objectives)[31, 46]
- Agree definition of “community antenatal”
- Discuss draft ‘If...Then...Because’ statements, which resonated, what changes were required and if anything was missing
- Request recommendations from the Group for key reports, policy documents and papers of relevance to the study focus
- Discuss eligibility criteria and appropriate search terms for the full review of theory in the literature

A revised search strategy and updated statements were circulated to the group after the meeting via email, to allow for any further comments.

2.4.5 E: Full Review of Literature (Figure 2.1)

The next step was to test the explanatory framework that had been developed[31]. A Rapid Realist Review of relevant literature was conducted, including both quantitative and qualitative data, using a detailed search strategy (see 2.4.5.2 for an exemplar, the full strategy is listed in Appendix B) and search terms already verified by the Reference Group.

The work aimed to identify information that related to enabling or facilitating take up of community antenatal programmes, as well as barriers to this. In contrast to a scoping study[57], which would help to ‘describe the architecture of interventions (and their outcomes generally)’, the review aimed to go further than this, to map relevant narrative against a set of draft programme theories and help to advance understanding of where elements may be ‘generating causal impact’ [58].

It was intended that additional or ‘new’ theory would be captured as these emerged via the Review process. Literature were reviewed, to ascertain how each ‘component’ of community antenatal provision was working in reality, according to existing evidence [53]. This method did not intend to capture every available paper or report linked with access to programmes, but rather to collect detail that linked to existing theory or generated new key theories.

2.4.5.1 Eligibility Criteria

Inclusion Criteria (includes grey literature and BSB programme documentation)

Design

- Review papers
- Opinion pieces
- Discussion papers
- Editorial, letters
- Systematic Reviews
- Evaluations
- Qualitative studies
- Protocols
- Conference abstracts and presentations
- Policy strategies and implementation plans
- Evaluations and qualitative case study reports (publicly available)
- Newspapers, magazine articles
- Websites, blogs, commentary in posts on social media (eg: Twitter)
- BSBIH Project evaluation reports
- BiBBS cohort data on attendance at various community antenatal projects

Population

- Studies on women and their partners who are expecting a baby or have had a baby in the previous 24 months AND
- Studies that cover access to antenatal programmes in high income countries

Data

- Describe how community antenatal programmes are intended to work, including theoretical frameworks, as well as critiques OR
- Describe how and why community antenatal programmes are accessed by women from different cultural and ethnic backgrounds, as well as their partners OR
- Provide stakeholder (health practitioners, programme design and delivery staff, women and families) accounts or opinions of how community antenatal programmes work/do not work, how and why they are accessed/are not accessed by certain groups of women, partners and/or other categories (population, gender, social class) OR
- Provide stakeholder (health practitioners, programme design and delivery staff, women and families) accounts or opinions of how and why universal antenatal services are accessed/are not accessed by certain groups of women, partners and/or other categories (population, gender, social class) OR

- Outline, discuss or review potential unintended consequences of delivering or using community antenatal programmes OR
- Discuss the need for community antenatal programmes
- English language papers

Exclusion criteria

Design

- Randomised Controlled Trials with no contextual information (e.g.: only reporting quantitative data, for example % attending) or reporting difficulty recruiting with no commentary on why)
- One Group Pre and Post Intervention Studies with no contextual information

Population

- Based on studies in middle and low income countries, because of different health systems and resource levels

Data

- Studies solely evaluating or describing content, delivery and experiences of universal antenatal clinical monitoring and screening appointments, with referrals to other clinical care (e.g. from GPs)
- Studies describing content and delivery of home visitation programmes (e.g.: home visits for vulnerable women) or postnatal breastfeeding interventions
- Studies describing perceptions of pregnancy and its meaning to research subjects
- Papers not written in English

2.4.5.2 Searching Process

Indexed Databases

Databases were searched from 1990 to April 2020. A review by Schrader MacMillan et al (2009) including evidence of antenatal education[59] which had informed development of new UK policy agendas such as 'Preparation for Birth and Beyond'[28] also used 1990 as a starting point. This report explored the changing context of parent education, including the move towards a focus on the transition to parenthood rather than just on preparing for birth and labour. This shift towards relationships and bonding was seen to be focused on more recent changes, so it was important that this review incorporated those timings. As a starting point, a search strategy was developed for concepts and synonyms (where relevant) using population, intervention, comparison, outcomes (PICO) search strategy[60]: for population AND engagement activity AND evaluation AND outcome (combining MESH and key words with OR, within each category). These are summarised in Table 2.2 Initial PICO Search StrategyTable 2.2.

Table 2.2 Initial PICO Search Strategy

<u>Population</u>	<u>AND</u>	<u>Engagement Strategies</u>	<u>AND</u>	<u>Evaluation</u>	<u>AND</u>	<u>Outcome</u>
<p>Family (eg: family, mothers, expectant mums, fathers, expectant fathers, single parents, other family members, ethnic minorities. Refugee, asylum seeker, Roma)</p> <p>Antenatal (eg: antenatal, prenatal, pregnancy, antenatal care, prenatal care, plus “Community antenatal”, parent education, “parentcraft”, group pregnancy care, parenting)</p>		<p>“What works”, “best practice”</p> <p>Take up, participation</p>		<p>Programme evaluation, evaluation¹⁷, qualitative, quantitative, case studies, research design, critical analysis, quasi experimental, randomized controlled trials, non-randomized controlled trials</p>		<p>Inequality, equality, access, inequity, equity, engagement, effective delivery, improved engagement, improve parental engagement, impact service users</p>

An initial run of the searches was trialled on Ovid Medline (1946-current database), to explore the relevance of resulting papers (including review papers, opinion pieces, discussion papers, editorials, systematic reviews). A Faculty Librarian at the University of Leeds, assisted with a review of this strategy and recommended use of a theory search within each search variation, using the Booth & Carroll theory search filter, to assist with the ‘systematic identification of theory’[61]. It was also decided that searches would incorporate the DeJean qualitative ‘hybrid’ filter to enhance sensitivity as it is designed to specifically capture qualitative studies within medical databases, using a combination of filters[62].

The final search strategy then followed the same ‘cascade’ process: each type of research design was first linked to the categories of Family AND Antenatal listed in the table above; and

¹⁷ May include programme, process, formative, summative etc...

then outcome terms¹⁸; and the two specific search filters. Engagement terms¹⁹ were sometimes also added, where there was scope within the results to do so (where there was a number of results, defined as more than five) and where appropriate. This used database subject headings for study design (using Medline as an exemplar), conducting a search for each design type, until all had been included (eg: observation; ethnography; focus group). Once established in the exemplar database, the strategy was adapted for use in other databases selected for their inclusion of existing research in biomedicine and healthcare, including nursing practice and midwifery: Ovid Embase; Ovid PsycINFO; EBSCO CINAHL; PubMed; Web of Science; and Cochrane Database of Systematic Reviews.

Subject headings varied slightly according to different categories assigned by each database e.g.: Medline headings were slightly different to those provided by CINAHL. A judgement was made on an appropriate alternative term, by looking under headings within the index tree to see what was included. Headings were 'exploded' in cases where relevant additional terms had been included within these categories. Boolean searches, including truncation were used and adjacency searches were employed for specific terms (e.g.: "community antenatal").

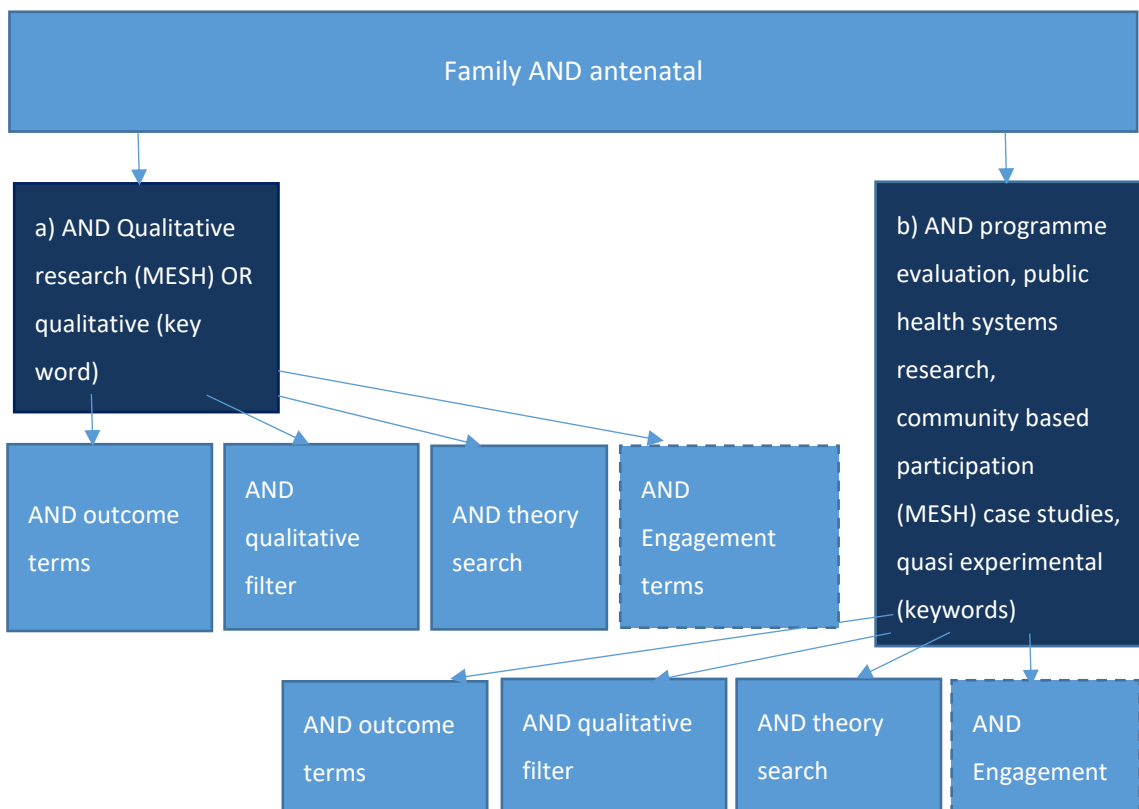


Figure 2.2 Example of Search (using Medline subject headings for study design as an exemplar)

¹⁸ Health equity, socioeconomic factors, culturally competent care (MESH), access, inequity, equity, inequality, equality (key words).

¹⁹ Take up, service utilisation, improved parental engagement, improved engagement, father involvement, effective delivery, impact service users (key words).

This search strategy can be found in Appendix B.

Study design terms included (as variations within this cascade search), using Medline subject headings:

- Qualitative (MESH), qualitative (key word)
- Program evaluation, public health systems research, community based participatory research (MESH), case studies, quasi-experimental (key words)
- Observation, observational study (MESH), observation, ethnography (key words)
- Focus groups (MESH), focus group (key words)
- Surveys and questionnaires (MESH), quantitative (key word)
- Clinical trial protocol, randomized controlled trial, twin study, validation studies (MESH), randomised controlled trial, non-randomized controlled trial (key words)
- Meta-analysis, Systematic Review (MESH), meta-analysis, systematic review (key words)
- Program evaluation, evaluation studies (MESH), evaluation, research design, critical analysis (key words)

Widening the Search: Google Scholar and Google

Google Scholar was used to search for literature that may not have been picked up by indexed databases, including published papers and books. In addition, the main Google search engine was used to identify grey literature such as reports, website articles, training materials and practitioner guidance that had not been identified via other sources.

Searches on Google Scholar and Google (March and April 2020) were conducted as follows:

- Family + antenatal²⁰ + qualitative
- Family + antenatal + theory
- “Community antenatal”
- Access + community antenatal
- Take up + community antenatal

The first ten pages of search results for each search on Google Scholar, totalling 100 initial results, were initially screened for relevance. These searches were then repeated using the main Google search engine, again covering the first ten pages each time. Relevant papers and grey literature found via these sources were exported into literature management software (Endnote) alongside literature obtained from the searches of indexed databases.

²⁰ Substitutes for antenatal such as prenatal, pregnancy were not applied, but all variations were included in the searches of indexed databases.

Title and Abstract Screening

After removal of duplicates, the titles, abstracts and key words in the papers and reports were reviewed for relevance. Endnote was used to conduct the screening. My main supervisor conducted a secondary review of 10% of these literature to independently review the studies that had been included, against the agreed inclusion criteria.

Amendment to Search Strategy

Initially, inclusion criteria covered literature focussed on specific community antenatal interventions that were over and above standard monitoring appointments (e.g.: parenting programmes for target groups such as overweight or vulnerable parents; provision for Dads; peer support initiatives). During the screening process, it became apparent that only a small proportion of the literature reported findings for these types of programmes. Many others were about access to standard provision, including remodelled or outreach variations of clinical sessions (e.g.: group prenatal care model²¹). Some papers looked at socio-economic and socio-cultural reasons as to why women may not attend standard appointments or come into the system as 'late' bookings²². The decision was made to include studies from both categories of intervention (including non-community) as it was possible they would share reported factors that had influenced access and attendance.

Some literature were still included at this initial screening stage because it was not immediately obvious whether they contained relevant information, such as barriers or perceptions of the value of antenatal care. These included studies that presented parents' perspectives on how they had benefited from antenatal education and views on appropriateness and satisfaction with content. Theory papers or reports, using identity theory or transition theory on how to involve fathers in parenting activities were also kept aside for full text review. In addition, I included papers that discussed the role of the midwife in offering information and choices about social and practical support, within the wider context of clinical appointments

Full Text Review

Each paper or report was reviewed using web-based literature review software (Covidence²³). All text identified that appeared to support a programme theory in terms of potential context, mechanism or outcome was highlighted and included as a set of online notes for each publication. A random sample of 10% of these literature (generated by a randomisation tool in

²¹ Combines clinical monitoring with some childbirth education⁶³. Thielen, K., *Exploring the group prenatal care model: a critical review of the literature*. The Journal of perinatal education, 2012. **21**(4): p. 209-218.

²² Studies that discussed women and their partners' experiences of standard antenatal appointments and the role of the midwife in offering clinical care or the success of the continuity of carer agenda within this context were excluded at this stage.

²³ <https://app.covidence.org>

Excel) were then checked by the same second reviewer using the same software, to assess validity and similarity (repetition) of identified programme theories. Additional searches were conducted for papers selected for full text review that could not be accessed via the University library, using the British Library website. Specific requests were also made through the University's document request service. Those that were screened out were sorted into different categories, according to the reasons for their exclusion (e.g.: focus on content of intervention, satisfaction, outcomes only). Many were focussed on the content of the antenatal service or programme and did not reflect on how women and partners discovered the provision, nor why they engaged with it. Rather, they looked at experiences of what had been delivered and their perspectives as to how this could be made to be more appropriate to their needs, to improve health outcomes.

Citation Searches

Forward and backwards citation searches were conducted on key literature, with the aim of identifying additional studies and potentially additional data on theories that are not possible to find using standard topic searches. This study replicated Saul et al's (2013) approach of only focussing citation searches on key documents from the review, as outlined by RAMESES publication guidance: 'realist reviews need to be focused based on the time and resources provided as well as the questions that need to be answered' [31]. Literature collated via searches of indexed databases, Google search engines and BSB programme and research staff were prioritised according to relevance to the draft IPTs. Eight papers were selected that were most relevant to the draft IPTs and most recently published, going back to 2017. Forwards citation searches were conducted on each of these papers using the 'cited by' function in Google Scholar, to identify more recent literature that had referenced these works. Backwards searches were carried out using Scopus to interrogate reference lists for each paper. Title and abstract screening was then carried out in Endnote and potentially useful literature were imported into Covidence for full text review.

2.4.5.3 Extraction of Data for Corresponding Programme Theories

Literature extracted included: systematic reviews and meta-syntheses; single studies; and grey literature. Relevant text was extracted into a study-specific data extraction form (Appendix C). Information was then entered into an Excel spreadsheet, to provide a searchable system, where text could be explored in more detail. This included data on the IPTs in addition to theories emerging from the literature. The unstructured free text part of the form asked for suggested programme theories of "community antenatal" within the document or paper description of what is working, how, for whom, in what circumstances. This was intended to cover descriptions of the context of these and any issues faced by specific groups.

Commentary can also directly identify apparent mechanisms, which could result in attendance or lack of engagement. Once the review was fully completed, the updated programme theories

were shared with the Reference Group 'to ensure validity and consistency in the inferences made'[30]. Comments and resulting amendments were then recorded.

2.5 Results

The results of the RRR are presented in the chronological order of the work undertaken (*[35, 39] Figure 2.1), incorporating: national policy and reports reviewed; comments from the observations of antenatal meetings; draft Initial Programme Theories (IPTs) developed; meeting with the Reference Group; and results from the review of theory in the literature, using indexed databases; Google, with accompanying flowchart (initially 2,195 papers and documents were retrieved, of which 101 were included in the full review).

2.5.1 Review of National Policy Documents and Reports

National policy documents reviewed at the beginning of the study, indicated the value of providing standard antenatal services in the community itself rather than within hospital settings, as well as the significance of repeated contact with the same practitioner. These included UK national maternity and antenatal care strategies. Those reviewed are highlighted in the following table:

Table 2.3 National Policy and Reports

Citation	Policy/Report	Study design	Summary
Department of Health (2012)[28]	'Preparation for Birth and Beyond: a resource pack for leaders of community groups and activities'	In part based on a review of evidence on antenatal education conducted by Schrader McMillan et al in 2009[59], as well as consultations with key stakeholders, including parents	Provided a set of guidance for community groups to deliver their own antenatal support for local populations.
NHS England (2016)[64]	'Better Births: National Maternity Review'	Face-to-face and online consultations with key stakeholders, including families, clinicians and commissioners	Outlined the 'Continuity of Carer' agenda[65], with the aim to provide more personalised care in midwifery and therefore a more developed relationship with pregnant women. These documents highlighted expectations of antenatal programmes, in terms of how the

			content should be planned and delivered.
Early Intervention Foundation (2019)[27]	'Engaging Disadvantaged and Vulnerable Parents: an evidence review'	Rapid evidence assessment and qualitative evidence synthesis, including consultations with academics, practitioners and providers	Suggested that parents in these groups face a number of difficulties, including in accepting that support may help them and in accessing venues at particular times, or when cost becomes an issue.

Overall, the architecture of access to community antenatal programmes initially appeared to include a number of key elements:

- Consistency in seeing the same practitioner several times (especially the midwife) can help to develop a relationship and enables a feeling of trust on behalf of the expectant woman
- Parents are attracted to programmes by including:
 - Content that is relevant to Dads
 - Cultural sensitivity (and the opportunity for parents to explore how information relates to 'their own cultural and faith attitudes and beliefs' [28])

2.5.2 Observations of Antenatal Pathway Meetings

A range of 6-8 people attended each antenatal pathway meeting. Observation of these meetings suggested that a number of practical barriers existed to facilitating referrals. The availability of time in midwife appointments was discussed as an issue to be addressed, including time for midwives to mention what BSB projects were on offer at that time. Discussions also focussed on the value of clear language used in the scripts given to Perinatal Coordinators to introduce the projects to women, as well as updates to details of what was being delivered. These Coordinators also provided feedback on the types of reasons pregnant women had provided for why they had not engaged with a project. Changes in project eligibility were also talked about, including how to best convey this to staff informing women about the offer.

2.5.3 Development of Initial Programme Theories (IPTs)

All of the information captured from the review of national policy documents and reports and the observations of antenatal pathway meetings were combined to generate a list of draft statements (listed in Table 2.4). These included:

- *Marketing of programmes*

- How the programmes are explained in written material, references to content of the interventions, accessibility of printed or online information
- *Contact with practitioners*
 - How women are contacted and initially told about the available programmes, at which points in their pregnancy
 - Information provided about the programmes to enable women to decide if they would like to find out more, including active referrals
 - Attributes of the practitioners in encouraging take up
- *Accessibility of programme sites*
 - Logistical considerations

These IPTs were also reviewed and validated by the Reference Group. Table 2.4 outlines the resulting draft statements.

Table 2.4 Draft ‘If, Then, Because’ Statements (generated from review of policy documents, co-production workshop and antenatal pathway meetings)

<p>Key</p> <p><u>Context</u> – background, environment</p> <p><u>Resource</u> – opportunity to do something</p> <p><u>Response</u> (falls within below three categories)</p> <p><i>Response (cognitive/practical)</i></p> <p><i>Reasoning (judgement)</i></p> <p><i>Reaction (emotional)</i></p> <p><u>Outcome</u> – the resulting effect[35]</p>
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<u>Initial Statements</u>		<u>Source</u>
<u>Marketing of programmes</u>		
1. <u>Marketing to Dads</u>		
<i>‘If the text of the marketing materials explicitly invites fathers to join the project and outlines project content and activities focusing on/including Dads (resource)</i>	<i>...then the Dads may feel more willing to engage (reasoning), or more likely to attend (outcome)...because they expect that more Dads will be present and they will be more willing to share their experiences and learn from each other (reaction)’.</i>	Preparation for Birth and Beyond: a resource pack for leaders of community groups and activities (2016), Schrader McMillan et al review of evidence on antenatal education (2009)

2. <u>Marketing to Include Specific Ethnic Groups</u>		
a) <i>'If the text of the marketing materials (is in a specific language or) explicitly states that different languages can be understood and that conversations are possible using these languages (resource)</i>	... then parents with English as a Second Language may feel that their needs will be understood (reasoning)... because the programme facilitator and other parents in the programme will be fully aware of their experiences and/or concerns and may be able to offer their own response and reassurances to answer these (outcome)'.	Preparation for Birth and Beyond: a resource pack for leaders of community groups and activities (2016), EIF engaging disadvantaged and vulnerable parents: an evidence review (2019)
b) <i>'If the text of the marketing materials explicitly states that project content will be inclusive/sensitive to the needs of specific faiths and cultures (resource)</i>	... then people in these cultures may feel more willing to engage (reasoning), or more likely to attend (outcome)... because they expect that more parents from these faiths and cultures will attend (reasoning)'.	Preparation for Birth and Beyond: a resource pack for leaders of community groups and activities (2016)
Contact with practitioners		
3. <u>Contact Process</u>		
a) <i>'If expectant mothers are contacted via telephone (resource)</i>	... then this allows for an initial discussion of their needs and the needs of their families (resource) and an opportunity for them to consider why an antenatal programme may be helpful (reasoning) and make them more likely to try out a session of a programme (outcome) because it gives them knowledge about what is available and how the provision may meet these needs (resource)'.	Observations of antenatal pathway meetings

<p>b) <i>'If expectant mothers are contacted by telephone or face-to-face discussion to be offered information on the different programmes available to them (resource)</i></p>	<p><i>...then this provides an opportunity to discuss their needs and the needs of their families (resource) and they may be more aware of what is on offer (outcome) and more likely to agree to attend an initial programme session (outcome)</i></p> <p><i>because there is 'space' to introduce the focus of programmes and the impact these could have (resource) and they can consider what may be helpful for them (reasoning)'.</i></p>	<p>Observations of antenatal pathway meetings</p>
<p>4. <u>Signposting and Referrals</u></p>		
<p>a) <i>'If midwives have available to them the information on the range of community antenatal programmes available for expectant parents and how they are focussed (resource)</i></p>	<p><i>...then appropriate signposting will take place and referrals will be made that are in line with the priority needs of those parents/families (outcome), because midwives are able to recognise what action or support would be most beneficial in these instances (response)'.</i></p>	<p>Observations of antenatal pathway meetings</p>
<p>b) <i>'If midwives have received training on the importance of covering each of these programmes where relevant to the parents' needs (resource), AND they have the time within an antenatal appointment to do this (context)</i></p>	<p><i>...then appropriate signposting will take place and referrals will be made that are in line with the priority needs of those parents/families (outcome), because midwives are able to recognise what action or support would be most beneficial in these instances (response)'.</i></p>	<p>Observations of antenatal pathway meetings</p>
<p>c) <i>'If midwives are unable to recognise what action or support would be most beneficial for expectant parents (context),</i> <i>[reverse programme theory to above]</i></p>	<p><i>...then appropriate signposting and referrals would not take place or may not be appropriate for that individual or families' needs (outcome), because midwives do not have a full range of information or the training to understand what is on offer to help support different needs (resource)'.</i></p>	<p>Observations of antenatal pathway meetings</p>

<p>d) <i>'If certain programmes are aimed at women within a specific stage of pregnancy, covering a certain gestational window (resource),</i></p>	<p><i>...then midwives and programme practitioners can check women's' eligibility and signpost or refer them to this programme if this is appropriate and the gestational timings fit (response), because they are aware of whether they are eligible for this (reasoning)'.</i></p>	<p>Observations of antenatal pathway meetings</p>
<p>e) <i>'If certain programmes are aimed at women within a specific stage of pregnancy, covering a certain gestational window (resource) and practitioners are not aware of these restrictions (context),</i></p>	<p><i>...then women can be signposted or referred when they are not eligible (response), causing lower levels of uptake (outcome) because women are then not included in the intervention (outcome - unintended)'.</i></p>	<p>Observations of antenatal pathway meetings</p>
<p>f) <i>' If women are eligible for a range of community antenatal programmes at specific stages in their pregnancy (resource),</i> <i>[negative programme theory]</i></p>	<p><i>...then the midwife, practitioner or woman is required to prioritise which would be most advantageous for the woman and her family (reasoning) because enrolling onto one programme may use up all available time to attend activities (response)'.</i></p>	<p>Observations of antenatal pathway meetings</p>
<p>g) <i>'If a longer period of time is available for individual-practitioner communication when compared to standard antenatal appointments in hospital/GP settings (resource)</i></p>	<p><i>...then parents may feel more valued (reaction) and be more likely to attend a recommended programme session (outcome), because they have had a longer time window to discuss their individual circumstances (resource) and therefore feel the practitioner has recommended something they felt was beneficial to them as individuals, considering their individual needs (reasoning)'.</i></p>	<p>Better Births; continuity of carer agenda (2017)</p>

5. <u>Role of/Attributes of Practitioner</u>		
a) <i>'If compassion and respect are employed by the practitioner (resource),</i>	<i>...then this can create a feeling of trust on behalf of the parent (reaction), leading to clear individual-practitioner communication, improved satisfaction with the process and an increased likelihood to attend a programme (outcome), because they feel that their feelings needs and concerns have been listened to (reaction)'.</i>	EIF: engaging disadvantaged and vulnerable parents: an evidence review (2019)
b) <i>'If practitioners with similar experiences to the target population, such as speaking the same language and same gender are recruited to programmes (resource),</i>	<i>...then this can help parents feel their queries and concerns will be heard (reaction), because they feel they will be able to effectively communicate their own needs (outcome as well as reaction). They may also feel 'safer', as they feel these needs will be effectively listened to (outcome as well as a reaction)'. In response, to this they may be more open with their feelings and be more likely ask for help (outcome)'.</i>	EIF: engaging disadvantaged and vulnerable parents: an evidence review (2019)
<u>Accessibility of programme sites</u>		
6. <u>Project Logistics</u>		
a) <i>'If the programme is delivered at a venue that is easily accessible by public transport (context),</i>	<i>...then parents may feel that it would be easy to get there (reasoning) and be likely to attend (outcome), because they can get there and back home quickly and efficiently (response, reasoning)'.</i>	Observations of antenatal pathway meetings

<p>b) <i>'If the project session is offered at times of day outside of school 'drop off' and 'pick up' times for older children (resource),</i></p>	<p><i>...then parents may feel less concerned about meeting the needs of other family members (reaction) and be more likely to attend the session (outcome), because they are more 'free' to think about this (outcome)'.</i></p>	<p>Observations of antenatal pathway meetings</p>
<p>c) <i>'If childcare is offered 'on site' for the duration of programme sessions (resource),</i></p>	<p><i>...then parents may feel less concerned about meeting the needs of other family members (reaction) and be more likely to attend the session (outcome), because other children's needs are being met (reasoning) and they are more 'free' to think about this (outcome)'.</i></p>	<p>Observations of antenatal pathway meetings</p>

2.5.4 Reference Group Review of IPTs and Search Strategy for Full Review of Literature

Feedback from the initial meeting with the evaluation Reference Group suggested that objectives should be about accessing provision and not about whether individuals had ‘failed’ to access projects. Otherwise, this implied that all women had the skills and capacity to participate in projects but had used their agency to decide against it. The Group felt this was a complex topic, with a myriad of reasons why a pregnant woman might not be able to take up provision, even if she had wanted to. Academic and community experts advised the different cultures that are present in the BSB area may have different attitudes towards the value of antenatal care, that may impact on whether they feel community antenatal provision is needed or useful. Members also suggested that the different contact points women have with information about BSB’s projects could be key to understanding mechanisms impacting on take up. The Group also suggested including searches for literature regarding Westernised countries, with high incomes, to allow relevance to the UK.

2.5.5 Full Review of Literature

After removal of duplicates, 2,195 papers and reports were included at the abstract screening stage. A total of 101 papers and grey literature considered potentially relevant were obtained in full. 41 papers and 1 grey literature report were selected for data extraction. An additional 6 papers were included from citation searches (see Figure 2.3 Search Flow Chart).

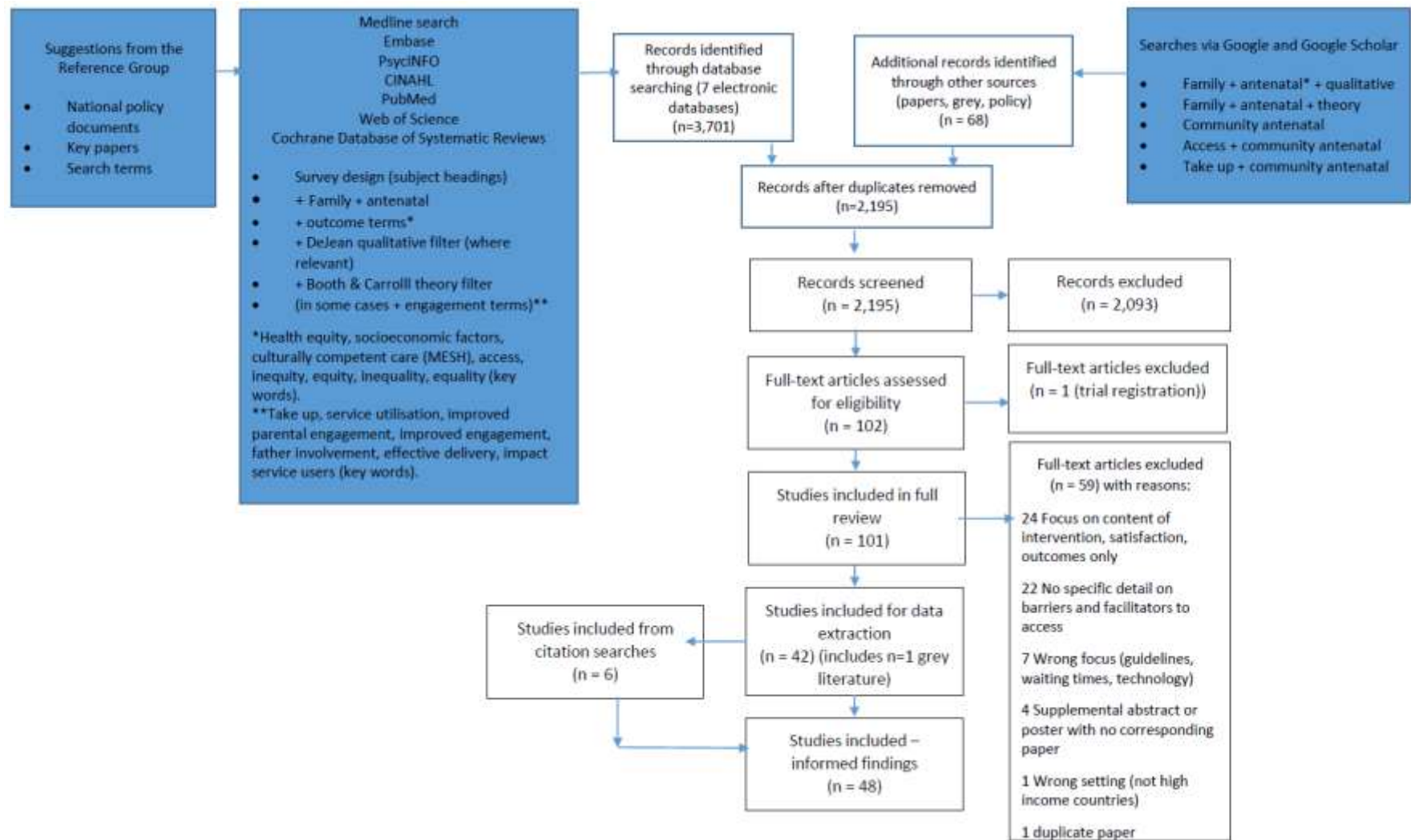


Figure 2.3 Search Flow Chart

I considered the evidence from systematic reviews and meta-syntheses, single studies and grey literature. Much of the literature described why and when antenatal appointments and specific antenatal programmes had been accessed by women in terms of: a) different ethnic backgrounds; b) cultural heritage; and c) other socio economic factors such as deprivation; and d) other 'vulnerable' groups, such as women with antenatal anxiety and/or depression and young parents.

Eight papers were selected for citation searches. From these searches, 81 additional studies and reports were identified for full text review. Six of these were extracted and are included within the full results (Table 2.5). Papers that repeated information already collected about experiences of expectant families were excluded (e.g.: the importance of cultural sensitivity; discrimination and the use of compassion in antenatal appointments; experiences of refugees and dispersed people; complex lived experiences).

Some of the included studies used theoretical and conceptual frameworks to help support their interpretation of access to healthcare or pregnant women's use of antenatal provision. Several of these were concerned with individual behaviours and how these can be influenced by beliefs about their own health, as well as candidacy to receive care. These comprised: Azjen's (1991) theory of planned behaviour, whereby thoughts about the intended behaviour and 'perceived control' over this can inform decisions[66]; Janz & Becker's (1984) review of the health belief model which outlines perceptions of the importance of seeking treatment for a condition, potential benefits as well as negative impacts[67]; Bluestein & Rutledge's (1993) theoretical framework for determinants of late prenatal care, using this health belief model[68]; and Dixon-Wood's (2006) candidacy concept, which argues that access is not a fixed concept, but rather is influenced by individuals' changing ideas of what they should seek care for and what health providers shifting definitions as what is on offer[69].

Others focussed specifically on the wider context of accessing healthcare, including: Gulliford et al's (2002) theory of access to care relevant to the supply and demand of services and includes the notion of horizontal equity ('access for groups with equivalent needs') and vertical equity ('the unequal treatment of unequals')[3]; Cooper et al's (2002) barriers to equitable healthcare care for racial and ethnic groups model, with recommendations for designing interventions with consideration of individual and structural barriers and cultural competence of 'mediators' and venues[70]; Andersen's (1995) model of healthcare use, considering environment and characteristics of the population, as well as behaviour as influences on outcomes[71]; and Thaddeus & Maine's (1994) three delays to care theoretical framework, that suggests a wide range of factors (including contextual) that can create a postponement of the reasoning to seek care, arriving at provision (accessibility) and in actually receiving appropriate health care[72].

Table 2.5 Summary of All Included Literature²⁴²⁵

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
<i>Systematic, literature and realist reviews and meta-syntheses</i>						
Balaam et al (2013)[74]	Qualitative systematic review	16 studies	Migrant women's perceptions of their needs and experiences <i>Range of settings</i>	-Refugees and asylum seekers require childcare and travel support and some accommodation is restrictive (e.g.: fixed mealtimes) -A lack of cultural appreciation and a sufficient interpretation service is a barrier to access	UK	5b) Practitioners with similar experiences and background to target population
Bennett et al (2017)[75]	Realist synthesis	27 studies	Social connectivity interventions during transition to parenthood <i>Community (includes online)</i>	-Fathers respond positively to the opportunity to link with other Dads, including programmes they can engage with alongside their children -Assumption that antenatal activity will be focussed on the mother and not them	Canada	1. Marketing to Dads

²⁴ Format inspired by 73. Gilmer, C., et al., *Parent education interventions designed to support the transition to parenthood: A realist review*. International Journal of Nursing Studies, 2016. 59: p. 118-133.

²⁵ Literature shaded grey in this table represents studies based on, or reviewing specific models of antenatal programme, including pilot programmes.

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Chin et al (2011)[76]	Meta-synthesis	6 studies	Fathers' experiences of their transition to fatherhood <i>Range of settings</i>	-Men sometimes were excluded from antenatal sessions because they had to be in work -A choice of different times would provide more options for attending and increase the likelihood of both parents being there	UK	6b) Project sessions offered at different times of day
Downe et al (2019)[77]	Evidence synthesis (Cochrane)	85 studies (41 countries, 8 were high income)	Provision and uptake of routine antenatal services <i>Range of settings</i>	-Women want to feel they have the time available to talk about 'various aspects of their pregnancy without feeling rushed' (p.7) -Group model of antenatal care allows for a larger amount of contact time	UK	4g) Longer time period available for individual-practitioner communication
Downe et al (2009)[78]	Meta-synthesis	8 studies	Barriers to antenatal care for marginalised women in high income countries <i>Range of settings</i>	-Costs of providing 'interpreters, translators or advocates' may not be sustainable - It can be difficult for families to locate information in a 'relevant and understandable format' (p.524)	UK	2a) Marketing states different languages can be understood Add. (prioritisation of other needs above mother and baby) ²⁶

²⁶ Some additional IPTs were developed in the light of the literature reviewed, these are labelled with 'Add.'.

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Higginbottom et al (2019)[79]	Narrative synthesis systematic review	40 studies	Experience of and access to maternity care in UK by immigrant women <i>Range of settings</i>	-Lack of availability of information in different languages, leads to lack of understanding of what is available -Low levels of language comprehension could impact on amount of agency established in a practitioner-woman contact	UK	2a) Marketing states different languages can be understood 5b) Practitioners with similar experiences and background to target population
Hollowell et al (2012)[80]²⁷ Report, National Perinatal Epidemiology Unit	Systematic review and mixed methods synthesis	21 studies met minimum quality criteria	Women's views on early initiation of antenatal care by Black and Minority Ethnic Women <i>Range of settings</i>	-Practitioners not always allowing women time to ask questions or assisting them in doing this -Women are not always provided with the opportunities to have an interpreter, over-reliance on family members	UK	2a) Marketing states different languages can be understood
McKnight et al (2019)[81]	Systematic review and thematic synthesis (qualitative)	6 studies	Asylum-seeking women's views and experiences of UK maternity care <i>Range of settings</i>	-Asylum-seeking women can struggle to pay to travel to a venue, due to receiving 'cashless benefits' (p.21) -Women would benefit from support from bilingual support workers and interpreters	UK	6a) venue easily accessible 5b) Practitioners with similar experiences and background to target population

²⁷ Public report, rather than a published paper, as with Oakley et al (2009) (not clear if these were peer reviewed).

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
<p>Oakley et al (2009)[82]</p> <p>Report, National Perinatal Epidemiology Unit</p>	Systematic review	16 studies	<p>Effectiveness of interventions to increase early initiation of antenatal care in socially disadvantaged and vulnerable women</p> <p><i>Range of settings</i></p>	<p>to help address confusion over language and role of practitioners</p> <p>-Use of 'lay women' to help encourage women to use programmes, while reassuring that these can reflect cultural beliefs and practices (p.30)</p> <p>-Through attending a session, women could also be losing earnings, while also having to pay for childcare and travel</p>	UK	<p>5b) Practitioners with similar experiences and background to target population</p> <p>6a) venue easily accessible</p>
<p>Rayment-Jones et al (2019)[83]</p>	Realist synthesis	22 papers	<p>Women with social risk factors and their experiences of UK maternity care</p> <p><i>Range of settings</i></p>	<p>-stereotypes are sometimes reinforced by practitioners, this requires more time to be spent in local communities to understand local cultures (p.466)</p> <p>-Antenatal care is sometimes seen as a way to be controlled or checked on</p>	UK	<p>5b) Practitioners with similar experiences and background to target population</p> <p>Add. (considered candidacy for antenatal care)</p>

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Protocols						
Finlayson et al (2016)[15] (protocol for Downe et al 2019)	Protocol for qualitative evidence synthesis	(see Downe et al, 2019)	Factors that influence the uptake of routine antenatal services by pregnant women <i>Range of settings</i>	-Lack of available transport can prevent women attending, this can include cultural backgrounds ‘where women do not have the autonomy to decide to attend, or to pay for transportation, or both’ (p.2) -Prioritisation of attending an antenatal session may depend on perceptions of what contributions these would make to women’s lives	UK	6a) venue easily accessible Add. (considered candidacy for antenatal care)
Single Studies (eg: qualitative, mixed methods, RCT)						
Aquino et al (2015)[84]	Qualitative	20 midwives, semi-structured interviews	Pregnancy as an ideal time for intervention to address the complex needs of black and minority ethnic women <i>Hospital, Community</i>	-Difficulty in understanding the woman due to poor English can impact on quality of care received and women may have different expectations of maternity care from different countries -‘Cultural training’ needs to be further researched and improved and should be expanded to all midwives (p.377)	UK	5a) Compassion and respect help to facilitate individual-practitioner communication Add. (prioritisation of other needs above mother and baby)

				-Complexity of lives of women from ethnic minorities include housing , immigration, mental health need to be addressed		
Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Atkinson et al (2017)[85]	Qualitative	23 midwives, focus groups and interviews	Midwives' experiences of referring obese women to a weight management service <i>Community</i>	-Participants had limited information about the programme and different interpretations of what it was aiming to achieve -Some midwives felt there were too many other things to cover in an appointment and 'were other areas to discuss that had a higher priority' (p.105)	UK	4a) Information available to midwives on potential programmes and time to introduce these
Bradbury-Jones et al (2015)[86]	Qualitative	5 women, interviews	Disabled women's experiences of accessing and utilising maternity services <i>Community</i>	-Women expected to be judged by practitioners and 'approached services tentatively' as a result (p.6)	UK	5a) Compassion and respect help to facilitate individual-practitioner communication

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Breustedt & Puckering (2013)[87]	Qualitative	4 women, programme participants, unstructured interviews	Women's experiences of the Mellow Bumps antenatal intervention <i>Community</i>	-Venues in some settings causes concern of being judged (seen as 'stigmatising') -Need for 'greater promotion of and referral to the Mellow Bumps groups among health professionals' (p.187) midwives not always aware it exists	UK	Add.(negative connotations of venue)
Bulman & McCourt(2002)[88]	Qualitative case study	12 women, interviews and focus groups, health professionals	Somali refugee women's experiences of maternity care <i>Hospital, Community</i>	-Midwives had different perspectives of what constituted a need for a professional interpreter -Need to use family members to interpret during appointments as language support was not available -Only full language support can help to ensure equal access	UK	2a) Marketing states different languages can be understood
deMontigny et al (2020)[89]	Qualitative	36 health professionals, semi-structured	Impact of an interdisciplinary programme supporting father involvement <i>Community</i>	-Fathers sometimes feel like 'second class parents' (p.1007) -Practitioner environments can feel very gendered and skewed towards women's needs -The programme helped practitioners be more aware of fathers' perspectives	Canada	Add. (stereotypes about fathers' roles)

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Douglas (2012)[90]	Pilot intervention (no control group)	Women and staff (numbers not given), Pre and post questionnaires (women) End interviews (women, staff)	Breastfeeding home-based antenatal pilot for South Asian families <i>Community</i>	-‘Intensive’ contact from health visitors and children’s centre staff created a feeling of trust amongst women (p.30) -Availability of the intervention at times to suit the family can help, otherwise expectations of the intervention to fit within certain times can impact on attendance	UK	4g) Longer time period available for individual-practitioner communication 6b) Project sessions offered at different times of day
Filby et al (2020)[91]	Qualitative	10 women, semi-structured interviews	User’s perspectives of specialist migrant maternity service, <i>Community</i>	-Women would not necessarily expect the midwife to be able to help with issues outside of clinical monitoring -leaflets in their own language would be useful, otherwise English worded documents are ‘of limited use or ignored altogether’ (p.656)	UK	2a) Marketing states different languages can be understood

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Goodwin et al (2018)[92]	Qualitative (ethno)	9 women, 11 midwives, semi-structured interviews, observations	The midwife-woman relationship in a South Wales community <i>Community</i>	-Women sometimes feel antenatal provision is 'unnecessary as they were not unwell' (p.353). -Differences in beliefs about what is acceptable in terms of cultural practices in pregnancy and with a newborn, can cause tension in the midwife-woman relationship	UK	Add. (capacity/candidacy of women) 5a) Compassion and respect help to facilitate individual-practitioner communication
Hadrill et al (2014)[93]	Qualitative	27 women, attending booking 'late', semi-structured	Understanding delayed access to antenatal care <i>Hospital, Community</i>	-Number of factors influence 'late' bookings -Beliefs that antenatal care was only needed if there was a problem -Need to feel 'safe' and settled in a local area first (p.7) -Antenatal care seen as a socially acceptable thing to do, rather than because women need it	UK	Add. (capacity/candidacy of women)

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Hatherall et al (2016)[94]	Qualitative	21 women, interviews, 32 women from four different communities, 26 health service staff members, focus groups	Timing of the initiation of antenatal care <i>Hospital, Community</i>	-Attendance at a booking appointment can be delayed because of 'competing demands and responsibilities', including 'housing, education, employment and caring responsibilities' (p.5) -Previous pregnancies may have been straightforward and women may not have accessed antenatal care in a home country, influencing whether women in some communities feel there is anything useful in UK antenatal care	UK	Add. (prioritisation of other needs above mother and baby) Add. (capacity/candidacy of women)

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Hesselink & Harting (2011)[95]	Mixed methods (ethno, interviews, surveys)	119 women, semi-structured interviews, focus groups, observations, questionnaire	Multiple risk factor perinatal programme for a hard to reach minority group <i>Community</i>	-Use of a Turkish community worker helped to overcome 'cultural and language barriers' (p.2026) -These staff were more effective in recruiting women to the intervention as they could explain this 'in their own language' (p.2031)	The Netherlands	5b) Practitioners with similar experiences and background to target population
Humbert et al (2009)[96]	Qualitative	143 women, focus groups	The value of a learner's stance, lessons learned from pregnant and parenting women <i>Hospital, Community</i>	-Importance of the role played by all staff in influencing the perception of how effective a service is in displaying 'cultural competence' (p.594) -Understand that cultural beliefs are based on a wish to do a good job in being a parent	U.S.A.	5b) Practitioners with similar experiences and background to target population

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Laws et al (2016)[97]	Quasi-experimental (control group)	37 practitioners, survey, including 4 interviews	Recruitment methods for an mHealth intervention targeting mothers <i>Hospital, Digital</i>	-Practitioners cited lack of time as the main barrier to referring women to the intervention, as there were a number of other tasks that had to be achieved first -Recommendations to further promote the programme through leaflets in information packs given out to parents	Australia	4a) Information available to midwives on potential programmes and time to introduce these
Levy (2006)[98]	Qualitative	12 midwives, observations, interviews	Processes by which midwives facilitate informed choices during pregnancy <i>Hospital, Community</i>	-Midwives were time pressured and this impacted on the range of topics covered during booking appointments -The likelihood of a subject being introduced by the midwife was affected by how important the midwife considered it to be and the time available (p.119)	UK	4a) Information available to midwives on potential programmes and time to introduce these

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Luyben et al (2005)[99]	Qualitative	23 women, interviews	Women's needs from antenatal care in three European countries <i>Hospital, Community</i>	-Women felt responsible for becoming a mother and wanted to build their confidence by finding out new information	Switzerland	Add. (capacity/candidacy of women)
McCalman et al (2015)[100]	Qualitative	7 women, 3 family members, 18 healthcare workers, focus groups	Implementation of the Cape York Baby Basket programme <i>Community</i>	-Indigenous health workers can help create a feeling of safety, through referring to 'Murri way' (way of talking about health issues, p.7) and using specific language terms -Can help to demonstrate respect for valued cultural practices	Australia	2b) Marketing states that content will be inclusive of faiths and cultures 5b) Practitioners with similar experiences and background to target population

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
McLeish (2005)[101]	Qualitative	33 women, semi-structured interviews	Maternity experiences of asylum seekers, <i>Community</i>	-Midwives provided 'unhelpful or even undermining advice' as they did not fully understand poor quality living conditions and financial circumstances (p.783)	UK	5a) Compassion and respect help to facilitate individual-practitioner communication
Meyer et al (2016)[102]	Qualitative	24 women, shortage and non-shortage obstetric care service areas, semi-structured	Prenatal care for women in rural and peri-urban areas of Georgia <i>Hospital, Community</i>	-Women felt like 'passive recipients of care' (p.1364) and had low self-worth, combined with poor communication and a lack of continuity of contact with a provider	U.S.A.	Add. (capacity/candidacy of women)
Mkandawire-Valhmu et al (2018)[103]	Qualitative (ethno, interviews)	13 women, 4 older women (peer support), interviews, observations	Creating supportive spaces for pregnant African American women living in Milwaukee	-Role of older African American women in providing peer support, enabled pregnant women to feel a 'sense of belonging' and reduced concerns about how they would be treated (p.1801) -This format also allowed the sharing of similar life experiences	U.S.A.	5b) Practitioners with similar experiences and background to target population

			<i>Community</i>			
Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Moreau et al (2015)[104]	Mixed methods (surveys, interviews)	97 women, 91 men, questionnaire, semi-structured interviews	Perception of Franco-Ontarian parental couples in the Ottawa region <i>Hospital, Community</i>	-Parents find it difficult to attend sessions if timings clash with work commitments -‘Time, duration and place of meetings’ are often barriers to the involvement of fathers (p.39)	Canada	6b) Project sessions offered at different times of day
Nash (2018)[105]	Qualitative	25 men about to become fathers, semi-structured	Father-only antenatal preparation classes <i>Hospital Community</i>	-Programme marketed as a space to discuss their concerns as a man, ‘away from women’ (p.303) -Programme participants valued the opportunity to meet other fathers and to have their questions answered by a male facilitator	Australia	1. Marketing to Dads

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Nypaver & Shambley-Ebron[106] (2016)	Qualitative (participatory research)	11 women, community-based participatory research using photovoice	Meaningful prenatal care among African American women <i>Hospital</i>	-Even use of the bus can be a barrier to getting to venues to access provision, because it is too expensive -Provision of an 'adequate' amount of time in appointments with practitioners is important to allow sharing of information and the building of relationships 'where information exchange is trustworthy' (p.562)	U.S.A.	6a) venue easily accessible 4g) Longer time period available for individual-practitioner communication
Olander & Atkinson (2013)[107]	Qualitative	16 women (obese), semi-structured phone interviews	Women's reasons for not attending a weight management service, <i>Community</i>	-Time of day can impact on availability to attend, evening or weekend sessions would avoid difficult discussions with employers about taking time off work each week (p.1229) -Complex health issues may mean additional clinical appointments which also require time away from work	UK	6b) Project sessions offered at different times of day

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Parry et al (2019)[108]	Qualitative	16 fathers, 6 service provider staff, interviews, focus groups	Fathers' and programme facilitator's experiences of a community-based programme (Antenatal Dads and First Year Families) <i>Community</i>	-Dads tend not to be aware of what antenatal services are available to them or how to get involved with these -Connections were made with other fathers 'that, without attendance at the program, would not have occurred' (p.6) -Having their own meetings with other Dads allowed for expression of feelings and emotions	Australia	Add. (considered candidacy for antenatal care) 5b) Practitioners with similar experiences and background to target population
Phillimore (2016)[109]	Qualitative	82 women, semi-structured questionnaire, interviews	'New' migrant women's perspectives on access to antenatal care <i>Community</i>	-Practitioners have not been given details about the issues and barriers faced by migrant women, to help enable them to 'develop their own health cultural capital' (p.158) -Women were focused on tackling 'immediate crises' or talking with their solicitor and this took priority over attending appointments (p.157)	UK	5a) Compassion and respect help to facilitate individual-practitioner communication Add. (prioritisation of other needs)

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
						above mother and baby)
Quintanilha et al (2018)[110]	Qualitative (ethnography)	28 women, focus groups, 8 programme providers, observations	Community-based perinatal programme while facing difficult life circumstances <i>Community</i>	-Issues of accessibility are significant in rural areas, especially cost to travel to attend prenatal appointments while also not being able to be at work -‘Women tried to be agents of their own health but coped with structures posted by difficult life circumstances’ (p.7)	Canada	6a) venue easily accessible Add. (considered candidacy for antenatal care)
Randall (2019)[111]	Pilot intervention (no control group)	Sample and method not stated	SAPlings project, alternative antenatal care pathway <i>Community</i>	-Concern that women will find some venues ‘off-putting’, due to some of these including social work departments (p.734)	UK	Add.(negative connotations of venue)

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Riggs et al (2017)[112]	Qualitative	19 women, focus groups	Refugee women attending group pregnancy care <i>Community</i>	-Programme was designed to be 'culturally appropriate' (p.146) -Included content delivered in relevant languages by a bicultural worker -Geographic location of sessions worked well as located near-by and easy to walk to, also familiar to women and partners	Australia	5b) Practitioners with similar experiences and background to target population 6a) venue easily accessible
Teate et al (2011)[113]	Mixed methods descriptive study	33 women, clinical information, antenatal and postnatal questionnaires	Women's experiences of group antenatal care, <i>Hospital</i>	-Midwives were not clear on why group care would be useful for women, which contributed to a lack of promotion of the model (p.144) -Women prefer to have their partners present during antenatal sessions, absence of partners can be a negative for them	Australia	4a) Information available to midwives on potential programmes and time to introduce these 4b) Midwives unable to recognise what action or support would be most beneficial. Add. (stereotypes

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Thomson et al (2013)[114]	Qualitative	92 women (18 focus groups, 6 semi-structured interviews)	Women's experiences of antenatal care <i>Hospital</i> <i>Community</i>	-families ('wider family networks') can influence whether or not antenatal care is seen as necessary (p.214) -local community venues provided 'easy access to services and the opportunities to develop relationships with health professionals'	UK	about fathers' roles) Add. (capacity/candidacy of women) 6a) venue easily accessible
Utne et al (2020)[115]	Qualitative	8 women, semi-structured interviews	Somali women's experiences of antenatal care, <i>Community</i>	-Women felt unsure of asking questions in appointments if practitioners made assumptions about their background (p.3)	Norway	5b) Practitioners with similar experiences and background to target population

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
Widarsson et al (2012)[116]	Qualitative	22 women, 10 men, focus groups, interviews	Support needs of expectant mothers and fathers <i>Hospital</i> <i>Community</i>	-Fathers need the opportunity to be with other fathers and some had attended specific groups, which allowed them to 'share their needs and experiences' (p.42)	Sweden	5b) Practitioners with similar experiences and background to target population
Winn et al (2018)[117]	Qualitative	10 practitioners, interviews	Pregnant refugee women in a turbulent policy landscape <i>Hospital</i>	-Practitioners experience difficulties in ensuring refugee women understand content of information sufficiently to act on it.	Canada	5a) Compassion and respect help to facilitate individual-practitioner communication

Citation	Study design	Sample	Focus, Setting	Summary of findings	Country	Informed findings (IPT number)
<i>Dissertations</i>						
Begum (2011)[118]	Mixed methods (literature review, interviews)	10 women, interviews	Pregnancy related experiences of Bangladeshi immigrant women Hospital	-Lack of a private vehicle meant that women struggled to get to appointments and could take an hour to get there on public transport -Other difficulties included 'uncertainty over unemployment, underemployment, unfavorable living condition' (p.157)	U.S.A.	6a) venue easily accessible Add. (capacity/candidacy of women)
Zachary (2016)[119]	Mixed methods (literature review, surveys)	9 studies, 7 women	Designing, implementing and evaluating a community-based antenatal education programme <i>Community</i>	-Design of a community antenatal programme needs to include a venue that is in the middle of the local community and 'on or near the bus route' (p.56) -Inclusion of paid for private transport (taxis) can increase attendance	U.S.A.	6a) venue easily accessible

<i>Grey literature</i>						
The Department of Health Parents' views on the maternity journey and early parenthood (2009)[120]	Qualitative report	3 qualitative studies, 10 women, 4 men (for one project), journey mapping, interviews, focus groups	Perceptions of the maternity journey <i>Hospital</i> <i>Community</i>	-Repeated contact with the same practitioner contributes to satisfaction in women and professionals -It is difficult for midwives to make time to answer queries during short appointment slots -Some are unsure about group sessions, including partner and groups for women from ethnic minorities and 'need to be reassured that they will 'fit in' and that there will be other people like them there' (p.14)	UK (covers England)	4g) Longer time period available for individual-practitioner communication

2.5.5.1 Results by Programme Theory

This review of relevant literature suggested that a number of factors can impact on whether women access the antenatal support that is available to them. These findings are outlined below, by each area of relevant draft programme theory (IPT statements). As highlighted in the summary of included literature, some additional theories emerged from this process. These are clearly labelled in the following section:

- Marketing of programmes
 - Inclusion of fathers in programme communication (IPT 1.)
 - Marketing that different languages can be understood (IPT 2a)
 - Stated inclusivity of programme content incorporating different faiths, cultures (IPT 2b)
 - Perceived candidacy to receive antenatal care (additional theory)
 - Prioritisation of other needs above mother and baby (additional theory)
- Contact with practitioners
 - Information available to midwives on potential programmes and time to introduce these (IPT 4a and 4b)
 - Allowances of time for individual-practitioner communication (IPT 4g)
 - Attributes of the practitioner-compassion, sensitivity and the asking of questions (IPT 5a)
 - Enhancing cultural safety via use of practitioners from the same backgrounds (IPT 5b)
 - Availability of language support (IPT 5b)
 - Stereotypes about fathers' roles (additional theory)
- Accessibility of programme sites
 - Venue that is easily accessible on foot or via low-cost transport (IPT 6a)
 - Scheduling programmes at different times of day (IPT 6b)
 - Negative connotations of venue (additional theory)

Marketing of programmes

Inclusion of fathers in programme communication (IPT 1.)

Only a small number of studies reported on the value of marketing towards Dads or expressing that antenatal content will specifically be tailored to them. According to these, future fathers appeared to have looked favourably on the idea of Dads-only provision and suggested that the delivery and/or the environment would enable connection with other men. This may also have made them more likely to ask their own questions about preparing for fatherhood (Nash, 2018[105], Bennett et al, 2017[75]).

Marketing that different languages can be understood (IPT 2a.)

The reviewed literature suggested there would be some usefulness of marketing or availability of information in different languages (Filby[91], 2020, Higginbottom, 2019[79]). A few mentioned that flyers were created but didn't explain the content of these, which languages they were available in (apart from Douglas et al, 2012[90], where the intervention sent out letters to prospective participants in Bengal, Urdu) or if they influenced attendance. It was not clear whether there was any potential value in conveying that different languages could be used and understood in antenatal appointments or within an intervention. Literature tended to express how other methods such as word of mouth in a relevant language were effective in encouraging take up e.g.: via a bicultural worker based at a refugee settlement for the target population of Karen women in Australia, in Riggs et al, 2017[112]; and Turkish community workers recruiting first and second generation Turkish women to a multiple risk factor perinatal programme in The Netherlands, in Hesselink & Harting, 2011[95].

Stated inclusivity of programme content incorporating different faiths, cultures (IPT 2b.)

Studies on specific interventions aimed at ethnic minorities (e.g.: Somali refugee; migrant Pakistani; African American) and indigenous groups, tended to focus on its design and perceptions of impact, rather on how they were described to women and their partners.

Perceived candidacy to receive antenatal care (additional programme theory)

An individual's 'candidacy' for an intervention can depend on whether they consider themselves to be experiencing the relevant 'illnesses and conditions' and therefore requiring such a service [121]. Goodwin et al's (2018) ethnographic study with migrant Pakistani women in a South Wales community reported midwives' frustrations with women not attending appointments because they were not seen as important if they were not 'unwell' [92]. This existing level of perceived need could impact on whether marketing of a programme resonates with women and their partners.

Haddrill et al's (2014)[93] qualitative study on understanding delayed access to antenatal care, suggested that acceptance of the pregnancy, from the perspective of the woman and also the family could affect take up. Accessing care is a public demonstration of this and suggests an 'inevitability' about the pregnancy[93]. Attitudes and cultural norms of the wider family can impact on what is perceived to be an appropriate intervention, including their ideas about the value of antenatal provision (Thomson et al, 2013[114]). This isn't necessarily restricted to the start of a woman's journey in accessing support. A lack of information on what is available and disrupted care from different providers can cause women to feel disengaged and unworthy of the process, as highlighted in Meyer et al's (2016) study of women's access to prenatal care in different areas of Georgia[102]. Review of these literature resulted in a new IPT statement (Table 2.6).

Table 2.6 New IPT Statement for Women's Perceived Candidacy to Receive Antenatal Care

Women's perceived candidacy to receive antenatal care	
<i>'If women are not clear on whether a pregnancy warrants clinical care and why (context)</i>	<i>...then they may feel that any provision offered to them is not necessary (reasoning)...because they feel there are no identified needs to be met (reasoning)'. </i>

Prioritisation of other needs above mother and baby (additional programme theory)

A few studies mentioned the complexities of daily living and how these had created a variety of demands on the expectant woman and her partner that had to be addressed on a regular basis, especially for those who might be classed as vulnerable or marginalised. These included specific issues connected with housing, immigration and also caring responsibilities and physical and mental health. Midwives had reported concerns over having to deal with these issues within their remit of offering antenatal care, as outlined in Aquino et al's (2015) research on complex needs faced by women from ethnic minorities[84]. These issues were perceived by women to be valid reasons for delaying access²⁸ to standard antenatal care (Hatherall et al, 2016[94]). This was also an emerging finding for Downe et al's (2009) meta-synthesis of barriers to antenatal care for marginalised women in high-income countries[78]. Table 2.7 presents the new IPT statement, incorporating these findings.

Table 2.7 New IPT Statement for Prioritisation of Other Needs Above Mother and Baby

Prioritisation of other needs above mother and baby	
<i>'If women are overwhelmed with specific needs related to the safety or survival of their family (context)</i>	<i>...then they may not consider the provision of antenatal care as being of priority (reasoning, reaction)...because they are focussed on addressing immediate needs instead of this (outcome) '.</i>

Contact with practitioners

Information available to midwives on potential programmes and time to introduce these (IPT 4a. and 4b.) AND Allowances of time for individual-practitioner communication (IPT 4g.)

At times, women felt rushed and unable to ask questions because of the restrictions of a standardised time slot in midwifery appointments for conducting clinical monitoring (Downe et al, 2019[77]) and this also made it difficult for midwives to answer queries (The Department of Health, 2009[120]). Levy's 2006[98]) work observed the dynamics between the midwife and woman during the booking appointment and reported on the influence of stereotypes and

²⁸ In the literature, delayed access is usually defined as attendance at the 'booking' appointment with a midwife, beyond the preferred first 12 weeks of pregnancy.

assumptions made about what women needed to know, paired with time constraints, which created tension.

'Time in particular was often at a premium and the midwife needed to limit the amount of time she could spend with a woman, whilst trying to appear not to do so'.(Levy, 2006[98])

Downe et al (2019) highlighted the importance of allowing time within an appointment to discuss the woman's individual life and her needs for support[77]. A Department of Health (2009) publication that outlined parents' perspectives of maternity care in England[120], discussed the value of a longer time for appointments with a midwife, in terms of satisfaction with care. Lack of time forces the practitioner to prioritise other checks and questioning and the discussion of other programmes that may be of interest and referrals is much further down the list (Atkinson et al, 2017[85]). Feedback from practitioners (nurses and midwives) involved in a pregnancy and early years trial for a mobile phone app intervention, stated that the time available for introducing the programme was a main barrier in encouraging involvement (Laws et al, 2016[122]). Briefing practitioners on the details of programmes is also important. If only a limited set of information about an available service has been given, this can lead to difficulties in effectively conveying the content and benefits to women. In turn, this could lead to women refusing to be referred[85]. Teate et al's (2011) study suggested that midwives are unable to fully promote programmes if they are unclear of its value[113].

Attributes of the practitioner - compassion, sensitivity and the asking of questions (IPT 5a.)

A number of papers and policy reports identified the value of compassion and respect displayed by health practitioners (especially midwives), in helping to encourage access to health information (Winn et al, 2018[117]). However, a lack of sensitivity around a woman's needs could result in a negative experience and a lack of confidence in asking questions. This may also be informed by difficult previous contacts with maternity services and expectations that they will be treated badly, as reported by disabled women accessing appointments (Bradbury-Jones et al, 2015). There were reports of patronising advice that ignored appreciation of the poverty asylum seekers may be experiencing (McLeish, 2005[101]). Papers focussing on improving health outcomes for marginalised groups talked about the importance of referring back to cultural beliefs and practices and points of heritage relating to antenatal experiences, to improve relationships and trust within communities. Offering reassurances to women that their views are respected enhances a sense of cultural safety. To feel that the practitioner understands their cultural heritage and beliefs (Withers et al, 2018[123], Humbert et al, 2009[96]), encourages women to feel comfortable in expressing these.

Enhancing cultural safety via use of practitioners from same backgrounds (IPT 5b.)

Women from ethnic minorities, asylum seekers and refugees expressed concern and apprehension about attending appointments as they expected to be judged and this was one reason given for attending a booking appointment 'late'. There was an anticipation that their cultural beliefs and practices in pregnancy and with a newborn wouldn't be recognised (Goodwin et al, 2018[92]) or assumptions were made about what their beliefs may be (Utne et al, 2020[115]). As highlighted by Downe et al (2019)[77]:

'The mismatch between the theoretical assumptions of routine antenatal care by those who design and deliver it, and those of the cultural context in which it is set, is beginning to be understood as an important barrier to the uptake of antenatal care'[77, p.16].

Papers highlighted that contact with practitioners from the same background can go a long way in helping to enhance a feeling of cultural safety and indeed was the focus of some specific antenatal interventions. A few (three) papers reflected on the successes of antenatal programmes in integrating cultural beliefs and practices using this approach. For example, the Cape York Baby Basket programme in Australia, offered the Aboriginal community an opportunity to stay true to their heritage in terms of preparing for their babies, with practitioners from the same backgrounds, while also meeting targets for clinical monitoring (McCalman et al, 2015[124]). The involvement of women from the same communities as peer support in pregnancy programmes can also be very supportive for pregnant women. For example, the 'Little Sisters' in the Milwaukee Birthing Project in Wisconsin, being supported by 'Sister Friends' from the same African American communities, a programme that aimed to improve birth outcomes and tackle racialized experiences in pregnancy (Mkandawire-Valhmu et al, 2018[103]).

Availability of language support (IPT 5b.)

There was a strong body of qualitative evidence on the 'disempowering' effect of not being given enough opportunities to ask questions or to fully understand clinical discussions during antenatal care, emerging from two meta-syntheses of reported views from women. This was mainly attributed to poor use of interpreters or translators or lack of resources for these. Some weren't able to locate or access provision at all due to a lack of comprehension of English (Hollowell et al, 2012[80], Downe et al, 2009[78]). The intricacies of the misunderstandings about language needs on the ground was detailed in a study with Somali women that suggested gaps in provision of language support, with inconsistencies on what is perceived to be a poor enough level of English to warrant assistance (Bulman & McCourt, 2002[88]). Use of community workers that speak the same language can help to overcome this barrier (Hesselink & Harting, 2011[95]).

Stereotypes about fathers' roles (additional programme theory)

There was evidence that the involvement of partner and woman within the same antenatal sessions is beneficial to the woman (Teate et al, 2011[113]). However, combined groups are not always appropriate, such as for observant Muslims (Higginbottom, 2019[79]). There was also a reported need for practitioners to be aware of their assumptions about what needs fathers have and of the potentially negative effect of a female-centric environment during standard appointments (deMontigny et al, 2020[89]). Men do not often ask the midwife questions during appointments (Nash 2018[105]). Because of this, the impact of Dad's only provision, such as group meetings with a male facilitator can be significant, in terms of providing a safe space to discuss sensitive issues, including mental health (Parry et al, 2019[108]). There was a dearth of information on how to effectively include 'birth partners' within provision, as a wider definition, beyond fathers (eg: same sex partner; other family member; friend). This resulted in a new IPT statement (Table 2.8).

Table 2.8 New IPT Statement for Stereotypes about Father's Roles

Stereotypes about fathers' roles	
<i>'If fathers/Dads are not included in discussions with the midwife about their partner's care (resource)</i>	<i>...then they may be less willing to attend any additional provision (outcome)...because they may feel excluded and of less importance to the pregnancy (reaction)'.</i>

Accessibility of programme sites

Venue that is easily accessible on foot or via low-cost transport (IPT 6a.)

Interventions need to incorporate venues that are easy to walk to and feel 'local' to the community or populations they are aiming to reach. Even where healthcare is essentially 'free' as in the UK, there are still hidden costs of attending provision and transport is one of these. The cost of travel, by bus or taxi to a venue has been mentioned in papers as a well-known practical barrier to antenatal care (e.g.: Finlayson et al, 2016[15], Nypaver & Shambley-Ebron, 2016[106]). Venues need to be close to public transport routes, to provide a relatively cheap journey there and back (as outlined in Zachary, 2016[119]).

Scheduling programmes at different times of day (IPT 6b.)

Timings and duration of sessions need to be flexible to meet with the work commitments of parents, as outlined by Moreau et al' (2015) [104] in terms of parents' perceptions of the usefulness of prenatal classes (also Douglas, 2012[90]). Childcare is always a consideration for parents that needs to be addressed. Chin et al's (2011)[76] meta synthesis on fathers' experiences of their transition to fatherhood also outlined the importance of different options of times over a range of different days, to encourage Dads to attend[76].

Negative connotations of venue (additional programme theory)

Community-based interventions included in this review (see Appendix D) comprised of specifically designed formats that aimed to support parents through tailored content and delivery of groups in different environments, to create feelings of security and reassurance (eg: pregnancy group centred care model in community settings to avoid a clinical environment; meetings with Dads in pubs, to offer a separate context away from women-focussed appointments and consulting rooms). However, such approaches can also bring about negative associations if the use of certain sites is not initially discussed with the community. For example, Breustedt & Puckering's (2013)[87] qualitative evaluation of women's experiences of the *Mellow Bumps* antenatal intervention mentioned difficulties in asking women to attend sessions at family hubs if social services were based in the same building. This was due to a fear of being judged on their parenting skills. Also, Randall (2019)[111] reported on the same issue for the *SAPlings project*. Table 2.9 outlines the new statement developed to reflect these findings.

Table 2.9 New IPT Statement for Negative Connotations of Venue

Negative connotations of venue	
<i>'If families have had previous negative experiences with a venue or see this as connected to statutory services (such as social services) (resource)</i>	<i>...then they may be fearful of attending sessions at this venue (outcome)...because they see a possibility that they could be judged (reasoning)'.</i>

2.6 Discussion

This theory elicitation and development process involved the construction of IPTs, informed by a review of national policy documents and observations of meetings, as well as input from the evaluation Reference Group. The aim of the subsequent Rapid Realist Review was to identify evidence in the literature that supported these draft IPTs (produced at the initial stages of this process) about what how, why and in what contexts parents-to-be access community based antenatal programmes in high income countries. It was also intended that the review would highlight additional theory, where suggested in the available literature. Overall, this approach was expected to produce a basis of theory that could be further explored and tested via subsequent data collection with key stakeholders, including women and practitioners involved the delivery of such programmes within the BSB areas. A relatively large number of papers and reports (48) were identified as eligible for data extraction. However, many of these were focussed on reporting data for access to standard antenatal care and only 16 papers specifically looked at funded community interventions (including the group pregnancy model) that were offering support above the standard required provision.

Some of the literature included in the full text review did not produce a rich enough set of evidence that could be matched against a full IPT, suggesting further data collection was needed to develop, refine and then test these theories. This may be because these theories had not been researched in detail previously. A lot of the mechanisms could not be found in the literature, mainly because many of the studies provided background to the area under study but the responses and reasoning resulting from interventions had not been fully examined. For example, those that referred to the importance of providing sessions at different times of the day or venues that are easy to travel to, did not necessarily offer insight as to why that might make a difference and for whom. In addition, a few mechanisms were suggested but by only one or two studies, making it difficult to make a judgement as to how significant these might be. These included references to the importance of a venue that doesn't have links with agencies such as social services, which might create negativity.

Mechanisms could be most clearly identified in three areas: availability of time in practitioner appointments with women; the importance of providing a sense of cultural safety (including language support); and the potential value of group sessions to offer a feeling of belonging with others from the same backgrounds. This principle also applied to Dads. Evidence suggested that a sufficient allocation of time to get to know women, during their contact with health practitioners can be crucial to satisfaction with the service and experiences and expectations for the remainder of their pregnancy (Douglas, 2012[90], Npaver & Shambley-Ebron, 2016[125], The Department of Health, 2009[120]). Cultural safety is a theme running through the review and is clearly a complex area that needs to be fully appreciated, in terms of helping women to feel connected with others and less apprehensive about sharing their views (Phillimore, 2016[109], Humbert et al, 2009[96], Aquino et al, 2015[84]). The potential value of specific group sessions/interventions for one particular category of parent (eg: dads or birth partners, women who are seeking asylum or are refugees; indigenous populations) appeared to reflect a need to be with others 'like them' contributing to a feeling that their needs would be understood, respected and they wouldn't be judged (Oakley et al, 2009[82], Hesselink & Harting, 2011[95], McCalman et al, 2015[124], Mkandawire-Valhmu et al, 2018[103], Parry et al, 2019[108], Riggs et al, 2017[112]).

The literature tended to focus on the design of the programmes rather than how they had been marketed, or refraining from saying if any attempts at marketing had worked. There was a clear gap in information on the process of making contact with a woman to tell her about what was on offer and referring into these. This is important, to understand to what extent lack of attendance is due to structural issues and points of access, rather than simply agentic factors.

A large proportion of the literature referred to the barriers faced by ethnic minorities and indigenous groups and those considered vulnerable, including those who were refugees or

seeking asylum, these being important groups that need to be better considered within antenatal care, due to evidenced links with maternal and infant mortality. There was an absence of data on more general issues faced by the whole population, including those from a White background. There was also a lack of data on Eastern European populations who form a large part of the community in the BSB area. The review did not identify much information relating to disabled people or people with impairments. A lot of the studies on barriers to engagement in antenatal care were based on discussions with women who had attended antenatal programmes or booking appointments (even if this was a late attendance). This is perhaps because it is a straightforward time point to study as every woman has a midwifery booking appointment and usually knows what they are. There appeared to be less evidence-based recommendations sourced from those who hadn't been engaging at all.

Specific Citations; Lead authors; Unpublished material; Scholar searches; Theories; Early examples; Related projects (CLUSTER) searches are considered useful methods for realist review, involving identification of literature 'with a shared context within which interventions are delivered' as well as additional theory searches[54]. Apart from citation searches, these methods were beyond the scope of this project. Within the boundaries of the study, the RRR aimed to identify literature that were most relevant to the topic and to establish key theories. Unlike a full realist review, it was not the intention to conduct detailed iterative searches of linked literature and related material in order to reach theory saturation. This was a student study and the use of the Reference Group enabled input of knowledge users, experts and practitioners to highlight key literature and to help ensure as much as possible that these were not missed.

2.6.1 Strengths and Limitations

This review followed the principles outlined the RAMESES publication guidance. The creation of the Reference Group helped to inform access to key literature early on in the process and guided development of the IPTs. This provided stakeholder input and validation of the potential issues impacting on take up. A wide range of sources were accessed for the review, including grey literature. Abstract screening and the full text review were checked by a second reviewer (10% checked). Limited literature were available on access to community antenatal programmes specifically, necessitating the broadening of search terms to include standard antenatal care. Many of the qualitative papers reported the perspectives of the potential population. Some also looked at the views of health practitioners and this helped deepen understanding of any disconnect about what provision was appropriate for women and why. The widening of the focus to include standard appointments, allowed the review to gather a richer evidence base, relating to expectations and experiences of this initial 'booking' appointment with a midwife, the importance of the relationship that can be developed between them and the significance of this in impacting on the degree to which women and

their partners may be made aware of what is on offer and this includes community antenatal programmes.

There were minimal quantitative data on factors that can influence take up of community antenatal programmes. The large amount of qualitative information on the issues experienced is to be expected, given the topic and the relevance to experiences, attitudes and behaviours. Although some papers reported on strategies for improving engagement, few reported benefits or effectiveness of these. Quantitative data could signpost where a particular intervention may have resulted in a measure of effectiveness, linked to a specific outcome for an IPT. However, it would not have included description or narrative as to why. Feedback on what worked well as recruitment methods for trials (e.g.: pilot intervention) also tended to be qualitative, to express potential barriers and motivations of the population. Quantitative information may have been useful to help further understand the relative importance of certain contexts and mechanisms. However, the focus of the evaluation was on the level of detail within this, rather than frequency or significance. A Rapid Realist Review does not aim to cover every single relevant piece of literature that is available. Rather, it aims to uncover quality information that relates to programme theory. Because of this, it is possible that some papers will have been missed. Another researcher working to the same objectives may have found others and may even have identified different theory. This is the nature of realist evaluation[126].

2.7 Implications for Practitioners and Researchers

Many of the published studies (including in the UK) focussed on inequalities brought about by late bookings amongst ethnic minorities and marginalised communities and these will also relate to issues faced by populations living in the BSB wards.

- Women may be unsure of the purpose of appointments and how important these are to the safety of mum and baby
- Women are reportedly not sure whether they will be understood (language) or listened to
- Presence of staff from similar cultural heritage or trained in their beliefs and practices may help women and their partners feel more comfortable
- Design of programmes will need to consider the appropriate incorporation of adequate contact time and assurances for cultural safety
- (for all prospective parents) Timings and location (accessibility) is important, where women may be more receptive to the idea of attending sessions that are walking distance from their home. Partners may struggle to attend sessions if there is not the flexibility of offering evening sessions

2.8 Implications for Future Research

- There is a need for further research on the engagement of pregnant women from White and Eastern European backgrounds in the UK, particularly reporting on the design and implementation of community antenatal programmes for these specific groups
- Literature on the needs of other birth partners (e.g.: same sex couples; grandparents; peer support) and any specific barriers to their engagement would also contribute to the field

2.9 Conclusion

This review found several barriers and enablers to engagement in community antenatal programmes, such as: the understanding and support displayed by health practitioners and community workers; cultural safety in sessions (will there be people 'like me' there?); and accessibility of venue. However, there was limited evidence of the perceived value of different approaches to maximising take up. Clear gaps in knowledge appeared to be: the usefulness of marketing; access through referral pathways and how this could be improved; and issues faced by those not already engaging in the antenatal system (those who weren't attending sessions or standard antenatal appointments). There was a great deal of information on the crucial role of practitioners, especially midwives, in supporting women to feel assured and perhaps more able to participate in other provision as a result. However, the available data included here did not refer extensively to how that role could also facilitate transfer of information about programmes or enhance actual attendance.

The next Chapter (Chapter 3) outlines the use of these systems mapping methods to establish a picture of access to BSB's community antenatal projects specifically.

Chapter 3 Theory Elicitation and Development: A Systems Approach to Understanding Engagement in Better Start Bradford's Antenatal Projects (Study 2)

3.1 Introduction

Primary data was captured through my PhD on why women and their partners would attend BSB's community antenatal projects and why they might not, according to a range of stakeholder groups who had been involved in design and delivery of these interventions, as well as those who may or may not have been accessing them. This chapter explains how, working with these stakeholders, systems thinking was applied to help understand factors affecting take up and to elicit and support the development of related programme theory. It describes the mapping of these factors, including how they were considered to be connected.

3.2 Background

The general context within which BSB's projects were being delivered had changed over time, as described in Chapter 1. The range of antenatal projects themselves (Baby Buddy; Baby Steps; Bradford Doulas; ESOL for Pregnancy; HAPPY; Welcome To The World) had also been subject to amendments since their inception, in terms of their focus, content and format. Within these changes, there were a range of lessons learned by staff who design and deliver the projects, about who the provision was working for, why, in what circumstances and how. Further amendments were made in response to the pandemic, especially in terms of the decision to move some sessions from targeted to universal (e.g. HAPPY, which was initially a healthy eating project for pregnant women with a BMI greater than 25, became available to all women online).

3.3 Systems Thinking

Systems thinking is an increasingly popular methodology for understanding the determinants of public health problems and the potential impact of related interventions. It is based on the idea that a number of variables impact on individual actions and reactions, influenced by various structures and overall contexts. Within a system, there can be stronger links between some variables than others and mapping of this system can help to highlight why these systems can be very resistant to change (e.g.: when trying to introduce mechanisms for modifying behaviour). Importantly, it shows how the context in which programmes are situated can impact on outcomes. As highlighted by Maani & Cavana (2007)[127], a system is an overall representation of all of the different elements that contribute to an outcome and the result of how these different elements have worked together. It would not be the same system if any one of the 'essential properties' were to be removed. Systems mapping enables

visualisation of how elements of an intervention and its various influencing factors, including its environment, are connected[128].

3.3.1 Systems Mapping

Systems thinking enables collation of the views of different stakeholders and how they need to communicate ‘within and across organisational boundaries’ to help improve delivery of a programme [129]. As with any project or intervention, issues with operational implementation, personnel and project beneficiaries can arise, producing barriers to achieving impacts. This thinking can be channelled into a map, to demonstrate what is happening, representing an interconnected suite of elements that together create outcomes[51, 127, 128]. ‘Softer’ indicators that can have an impact on how a system operates, such as ‘morale’ and ‘commitment’ of staff for example can be included as background elements [127]. See Appendix E for examples of systems maps.

3.4 Aims and Objectives

Aim

To further develop existing candidate programme theories (see Chapter 2) and elicit new theories associated with how, why and in what contexts parents-to-be access BSB community based antenatal projects.

Objectives

1. To determine what factors are most significant in encouraging involvement in BSB’s community-based antenatal projects, versus those that are forming barriers to access.
2. To determine how these factors may vary from the perspectives of different stakeholders, namely: midwives; BSB programme staff; third-party organisations delivering the projects; women and their partners who have accessed these services; and those who have not engaged with these BSB projects.
3. To explore what actions may help to encourage women and their partners to attend and complete more BSB project sessions.

3.5 Design

3.5.1 Justification of Approach

Systems maps can incorporate the ecology of multi-level interventions, taking into account impacts on the motivations and behaviours of an individual, as well as community level influence[130]. They can identify what may be the most effective places or ‘leverage points’ to intervene in a system, to produce more lasting outcomes and indicate where system adaptation is likely[50, 51]. They can illustrate how different variables can affect take up and which variables may have the most impact, including how these connect with other elements

in the system. This methodology is a facilitative tool for realist evaluation as it indicates *how* the local community may be benefiting or not. It contributes to an understanding about the programme architecture, including what is meant to be delivered, how this is meant to work and its expected results. This forms the foundation for collating data to support the ‘how, what and why’ focus of the realist approach[131]. Systems maps enable understanding of the complexity of interventions, illustrating the role of different stakeholders within the context, especially in terms of opinion as to why an intervention could or should work. They can add transparency to a realist evaluation and a ‘systematic approach’ for working with different practitioners [132], in developing and refining programme theories.

The application of systems thinking to realist evaluation is an innovative approach. This is an emerging field, with only a few papers published in this area to date (Dalkin et al, 2016, 2018[132, 133], Renmans et al, 2020[134]).

An additional benefit of using a systems approach is that it helps to illustrate the ‘resilience’ and ‘adaptability’ of the interventions, especially in understanding their ability to ‘evolve in response to external pressures’ [135]. This is key for identifying where additional resources may be directed, to improve or to maintain an intervention effect. This approach also recognises that outcomes are not just the result of a direct, linear action but rather there are different influences that can be delicate and can change over time, sometimes providing unintended affects, resulting in positive and negative feedback loops. A systems map can enhance the visibility of these issues, to identify whether the ‘structure of a problem is dictated by multiple feedback loops which can create unintended consequences’ [136]. A systems map can be revisited and amended over time[137], to show changes in adaptability and also areas of resilience (positive or negative).

A systems map sketches out what is working well and why in the delivery of services. Maps are also able to show how different variables can affect take up, uncovering issues that may be influencing a specific problem and highlighting ‘levers for change’[138]. They also allow the identification of the series of interactions resulting from an intervention that then provides results (the mechanisms)[139]. The way in which these mechanisms interact with the local context and the resulting outcomes, can also be visually placed onto a map in the relevant areas[134]. This is able to assist with the refinement and testing of the ideas and theories associated with the intervention under study.

3.5.2 Incorporating Middle Range Theory

Within realist evaluation, the researcher is tasked with making sense of ‘fragments’[140] of information to move them forward in explaining what is happening on the ground.

Understanding the ‘social architecture’ [39] of the programme being delivered is key to developing and testing programme theories. This can include organisational structures and societal assumptions and in the case of BSB’s community antenatal projects, the steps taken to provide favourable outcomes for local families. However, it is also useful to bring in existing

ideas about what could influence the issue under study (in this case: access). Realist approaches often incorporate the use of existing published theory ‘about human psychology or sociology that introduces concepts to help explain how programmes work’ [35], to help uncover the ‘underlying logic of programs’ [141]. These theories are then used to help further build a foundation to the Initial Programme Theories (IPTs) that have been developed, especially when analysing data collected against them, to enable them to be refined. As Wong [142] describes, they are a way of expressing ‘how and why the context limits and influences mechanisms’, which adds more detail and further develops a realist programme theory. Understanding of this context is enhanced by mapping access as a system, illustrating how different variables appear to be connected and how they are influencing these issues, creating different outcomes.

3.6 Methods

This study involved systems mapping with a range of stakeholders, via focus groups or interviews with: midwives; BSB management and delivery staff; project delivery staff (contracted providers); and pregnant women and their partners. Focus groups allow for a structured discussion on a particular topic, with the inclusion of different views, while also capturing examples of shared understanding [143]. Each set of groups were homogeneous to facilitate the extraction of ‘collective’ experiences [144] and included individuals involved in particular roles, such as practitioners informing women about the projects, or those designing and delivering them. Pregnant women and their partners were also invited to their own groups, to discuss their opinions and experiences. This allowed development of maps that were specific to those perspectives. Discussions took place face-to-face and online and involved use of Behaviour over Time (BOT) graphs to facilitate discussions and ‘live’ mapping, using specific software (STICKE). These methods were piloted during previous work that developed the overall systems map for the BSB programme (Chapter 1). This enabled the development of the protocol for this work, to map access to BSB’s community antenatal projects specifically.

3.6.1 Sampling

The sampling framework sought to involve a range of stakeholders in the systems mapping interviews and focus groups. The below table outlines the sampling framework for this study, by participant role. I intended to target two different BSB projects for discussions with pregnant women and their partners. These were: Welcome To The World, because of reportedly lower than expected numbers of enrolments in to that particular project; and a well-attended project such as Baby Steps. It was estimated that approximately six to eight participants would be purposively sampled for each focus group, except in the case of the group with BSB staff (focus group 1), where more would be involved.

Table 3.1 Planned Sampling Framework for Systems Mapping Interviews and Focus Groups

	2 x paired/triad group interviews	Focus Group 1	Focus Group 2	Focus Groups 3, 4*	Focus Groups 5, 6
Participant role	Midwives	BSB management, plus BSB project delivery staff	Project delivery staff (contracted providers)	Pregnant women and partners, those who have accessed different BSB antenatal projects	Pregnant women, mothers with babies attending parent and baby groups
Sample	Six midwives delivering continuity of carer (personalised midwifery via the Clover delivery team), those delivering standard care AND specialist midwives employed by BSB	Eight to ten BSB staff, covering programme director, programme management staff, project facilitators and the community engagement team	Six to eight project staff from third party providers, involved in management and delivery of the commissioned community antenatal projects	Six to eight parents accessing BSB community projects x2 with representation from Asian (Pakistani), White British and White Other ethnic groups ²⁹	Six to eight parents attending parent and baby groups in the target area, with a <i>mix of ethnicity where possible</i> x2
Venues	BSB offices	BSB offices	BSB offices	Project locations in community (e.g.: Family Hub, delivering WTTW)	Locations in community (e.g.: community centres) or BSB offices

*I planned to cover two specific BSB community antenatal projects, organising groups after pre-organised sessions.

²⁹ This was not intended to be accurate purposive sampling as I was working with the women who were already attending certain groups, at certain venues, on certain dates.

Eligibility

Staff

Inclusion criteria:

- Midwives who referred expectant parents into BSB projects and/or helped to deliver BSB projects (paired/triad group interviews)
- All BSB employed staff who planned projects or assisted with delivery, as well as administrative staff (focus group 1)
- Third party provider staff who planned and/or delivered BSB's community antenatal projects (focus group 2)

Exclusion Criteria:

- Third party provider staff who were not involved in planning or delivery of BSB's community antenatal projects

Service Users

Inclusion criteria:

- Women living in the BSB programme area who were expecting a baby (at any stage of pregnancy) or had a baby in the previous 24 months, this included women with complex pregnancies and was not restricted to nulliparous pregnancies
- Pregnant women, mothers with babies who had accessed at least one BSB community antenatal project within the past three months (focus groups 3, 4)
- Pregnant women, mothers with babies who had not recently accessed a BSB community antenatal project within the past three months (focus groups 5, 6)
- Partners of women living in the BSB programme area who met the above criteria
- Women and partners with a basic level of comprehension of English if an interpreter is not already available/in place due to an existing need for those already attending sessions

Exclusion Criteria:

- Women and their partners who were no longer pregnant because they had suffered pregnancy loss
- Women and their partners who lived outside of the BSB programme area (defined by postcode boundary)

3.6.2 Recruitment

Midwives

Recruitment of midwives³⁰ was undertaken via liaison with the Born in Bradford (BiB) research midwife, who sent emails to potential contacts on my behalf and notified me of those who were happy to be approached. I then contacted these midwives directly and made plans to attend team meetings to introduce myself and the purpose of the interviews, to circulate the Participant Information Sheet and consent form and give them the opportunity to ask questions.

BSB Staff and Project Delivery Staff (contracted providers)

BSB staff were already aware of the research and its focus because of engagement activities (including regular presence in their office and providing informal study updates). Participant Information Sheets, including the consent form, were distributed directly, using face-to-face where possible. I also sent an email out to the team, confirming the purpose of the focus group and its voluntary nature, attaching the relevant information and explaining they could ask questions about the research. BSB management staff assisted in approaching providers via email. Once I had received confirmation that they were happy to be contacted, I emailed them and explained the study, attaching the Participant Information Sheet (including consent form) and my contact details. The group with third party providers was planned to take place at BSB's offices.

Expectant Parents

To recruit for focus groups with parents, I planned a number of pre-recruitment engagement activities, including asking BSB staff to make contact with local BSB-funded projects to explain my research and my plan to visit to tell them about the focus groups, attaching the Participant Information Sheet in these communications. I spoke with community engagement staff at BSB to identify non-funded local parent and baby groups, such as stay and play provision where women and their partners could be approached and informed about the aims of the research and where there would be space for them to ask questions. BSB staff acted as gatekeepers to facilitate contacts with local projects and groups to explain this. These were friendly environments, already familiar to the participants. It was expected that I would be introduced by trusted facilitators who were running the sessions. Information Sheets were to be circulated at these initial meetings. Project and community delivery staff were asked to identify any language issues and to ensure that those who agreed to participate were able to comprehend a good level of English or that an interpreter would already be in place at the group.

Informed consent was collected from participants, via the signed consent form. Completed consent forms were collected before discussions began. Individuals were informed that their

³⁰ Midwives employed to deliver personalised midwifery, those delivering standard community care, specialist midwives.

involvement was voluntary, that they could withdraw from the research at any time and without having to give a reason and that all collected data would be anonymised. Withdrawal could be made by contacting the researcher via email or telephone. Participants were informed that if withdrawal was requested (including during or after a focus group discussion) the existing data that they had provided up to the date of withdrawal, would remain on file and would be included in the final study analysis.

Incentives were given to pregnant women at the end of the face-to-face focus group as a 'thank you' for their participation and to recognise the time they had given to the research. This was a £25 high street voucher, funded by the BSB programme.

Ethical Considerations

This study received ethical approval from the Faculty of Medicine and Health University Review Committee at the University of Leeds (MREC 19-014). Parents attending antenatal projects and community parent and baby groups were given opportunity to hear about the research and to ask questions. As participants were asked to describe what they felt were important elements in encouraging involvement in antenatal sessions, it was expected that this may have led to discussions about issues they were facing in their personal lives. I planned to respond to any participant distress by offering to stop the discussion or have a break. A list of support services, including statutory and other funded projects³¹ was agreed in advance with BSB and included in a thank you for taking part' note.

Impact of COVID on Fieldwork

The onset of social distancing restrictions in March 2020, due to the first COVID-19 national lockdown, meant that continuation of face-to-face fieldwork with stakeholders was no longer possible within the planned timeframes. This type of research activity was ceased for all postgraduate researchers based at the University of Leeds. Because of this, planned visits to midwifery team meetings and subsequent face-to-face interviews did not take place. This was also the case for some of the planned visits and focus groups with BSB and non-BSB antenatal projects and pregnant women.

Once the option of face-to-face research was removed, the decision was made to make some changes to the sample. By this point, I had already conducted a focus group with BSB programme staff and a group with expectant mothers who were accessing one of BSB's community antenatal projects. Dates had been discussed for the group discussions with midwives and programme deliverers and I had already liaised with BSB regarding the involvement of pregnant women and their families living in the local community, but not participating in their projects (e.g.: may be participating in other community groups). I decided to remove the planned discussions with community midwives and women and partners not

³¹ This is a booklet regularly given out by the Born in Bradford research team and includes details for local and national support agencies.

accessing BSB's community antenatal projects. Community midwives were incredibly busy dealing with antenatal monitoring appointments and covering extra workloads due to the pandemic, including requests to work within the Maternity Unit at the Bradford Royal Infirmary (BRI). Therefore, it would have been very difficult to find midwives who had the time to commit to an interview. There was also uncertainty at the time, as to whether any online provision would be offered by local non-BSB community groups. These community groups were the main planned route for recruiting women not participating in BSB's projects and online would have been the only viable way to interact with them at that point in time.

Some amendments were made to the methods to allow for the completion of fieldwork. I obtained approval for an amendment from the University's Faculty Review Committee (MREC), to involve the remaining stakeholders in individual telephone interviews or online video calling, depending on the preference of the interviewee. This amendment was later updated, to also include an online focus group with women and partners who were accessing one of BSB's community antenatal projects via online sessions. The recruitment process employed was exactly the same as that planned for face-to-face fieldwork. The relevant Participant Information Sheet and consent forms were amended to show these changes. Expectant women attending an online focus group on Zoom, were given £15 in high street vouchers to say 'thank you' for their time and to cover internet costs.

An additional data collection exercise was conducted online with BSB staff who were attending a pre-arranged internal team meeting via Microsoft Teams. This was conducted eight months after the face-to-face group and allowed for those who had attended the previous group to revisit and comment on the draft systems map that had been developed after analysis ('pre COVID' map) as well as factors impacting on take up since COVID. This is described in the data collection section.

As interviews and groups were conducted remotely, consent was collected via an audio recorded verbal confirmation. At the beginning of each interview, participants were asked to read out each statement within the consent form and state 'I agree' for each one. Audio files were stored separately to other fieldwork data. These proposed changes were also reviewed by the Regulatory and Governance Affairs Officer based within CTRU.

3.6.3 Data Collection

Face-to-face groups were held in a specific comfortable meeting space (separate meeting room for BSB staff, away from their normal work environment; expectant women were involved in a familiar room, where they had just received an antenatal session). Refreshments were provided. First, participants were reminded of the aims of the study, including the agenda for the group, length of discussion, anonymity, audio recording and data protection. These sessions were 90 minutes in length for BSB staff and one hour for pregnant women. Discussions were guided around a semi-structured discussion guide (topic guides are

appended in Appendix F and G). I supported discussion with prompts based on my understanding of the literature. Discussions covered:

- Participant's opinions and experiences of the intervention projects and their understanding of what BSB's community antenatal projects were aiming to achieve
- Explanation of what a system is, Behaviour Over Time (BOT) graphs exercise
- What are the common factors impacting on uptake of antenatal projects?
- Which factors or variables have the most common relationships?
- How does the system change if statutory services and interventions are removed or edited?
- Who benefits less or more from the system³²?
- Where can programmes intervene within the system to create an impact?
- What are the leverage points that are likely to have the greatest impact, including those which are perhaps considered to be 'quick wins' – small changes to produce good results³³?
- Discussion of emerging variables, including the testing of initial candidate programme theories, written out as 'If, Then, Because' statements, within this discussion
- Live mapping of variables (onto online systems mapping software (STICKE), or by hand on flipchart paper)

Behaviour Over Time (BOT) Graphs

'Behaviour Over Time' (BOT) graphs are often used as a consultation tool to support these methods. By thinking about the extent to which different elements impacting on attendance may change over time, these graphs allow for a specific focus on which of these may be minor and which could become more of an issue. As well as comparing views on the most significant variables, they help to demonstrate 'the behavior of the system over time' [145]. BOT graph templates were placed on the table – enough for six graphs per participant (x2 per page). The graphs were annotated with 'audience' on the y axis and 'time' on the x axis and printed on plain paper. An example slide, showing a completed BOT Graph was projected at the front of the room so that all participants can see this and they were given an explanation as to how the graph should be considered and how to annotate it. This example is shown below in Figure 3.1.

³² This can be practitioners as well as parents.

³³ For example, equalising access in terms of information or resources, such as promotion of projects, timings, locations, childcare.

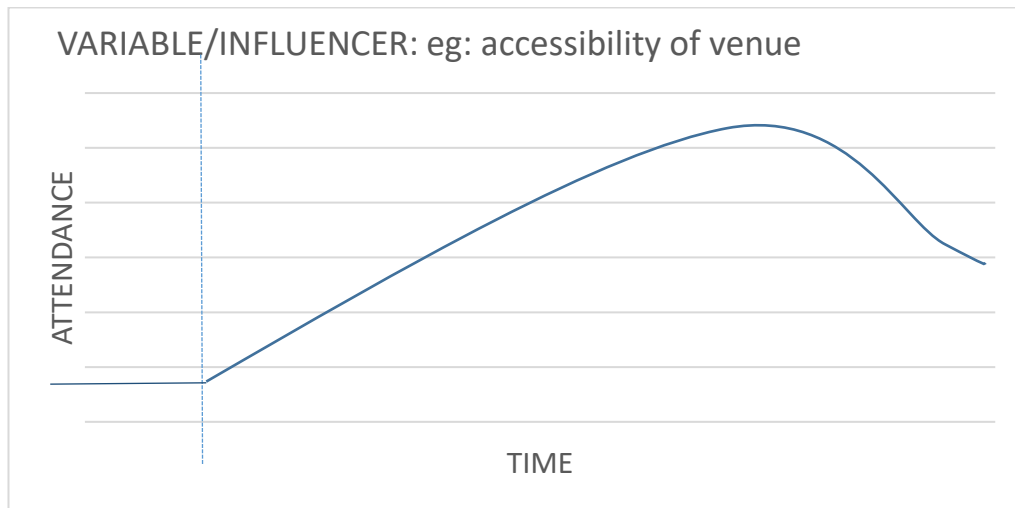


Figure 3.1 Behaviour Over Time (BOT) Graph Template

Participants were asked to spend ten minutes thinking on their own about influencers on access to BSB's community antenatal projects e.g.: accessibility of venue and to populate as many graphs as they could. One graph was completed for each variable and the template included a space for them to write in the variable they were considering for that particular graph. During this time, I checked that participants were happy with the task and understood it, answering any questions. After ten minutes they were then asked to share their graphs with the rest of the table and talk about which variables or influencers they had selected and why. Participants then discussed these with the whole group, explaining what they had included and why, why they were of interest to take up of the projects and possible links between them.

Testing of Initial Programme Theories (IPTs) as 'If...Then...Because' Statements

Each variable was discussed with the group in turn, including why they were considered to be important. As variables were being discussed, I introduced a list of pre-prepared 'If...Then...Because' statements (See Chapter 2), to explain how access to community antenatal projects may be happening or not happening in practice. This list was used as a way of framing the discussions about variables and how the system may be functioning.

Live Mapping

Variables identified by participants were then entered into STICKE using a laptop. This software allows for the entering of individual variables and then adding positive or negative connections between each one. Via the projector, all participants could see the variables being added and potential relationships between them, as suggested by the feedback provided. A hand-drawn approach to the mapping was used during the group with pregnant women, on flipchart paper at the front of the room, where participants could see what was being added. Each group was asked to comment on: the connections between each variable; the strength of each connection; and potential positive and negative feedback loops. The draft systems map was then gradually built up during the remainder of the discussion time, through the adding of variables and connectors.

Changes in How Stakeholders Were Consulted

For online interviews and groups, the same approach was taken during discussions, following the same topic guide and these were the same length as most of the face-to-face sessions (lasted one hour). Participants were provided with clear written instructions as to how to access meetings on Microsoft Teams (or Zoom if accessing a meeting set up by a BSB project) and the process of recording the interview. To protect their identities, they were asked to turn off their cameras before recording began. Although recording in Teams produces a video recording, this was immediately exported into an audio file only and the original video file was permanently deleted. Key variables mentioned were listed on a word document that was 'shared' with the participant(s), using the share function. Live mapping was conducted using the STICKE software in exactly the same way as planned, again by sharing the screen.

Incorporation of Impact of COVID-19 in Discussions

For the online discussions, I made the decision to incorporate time within these to discuss the most important variables affecting take up, both before and during the pandemic. Qualitative research was viewed as an important means of understanding the impact of COVID-19, enabling researchers to 'capture and understand how people make meaning and sense of health and illness'[146]. All interviews and groups were focussed on statutory and community infrastructure and how programmes had been best able to serve the health and social needs of women and their families 'pre-COVID'. Fieldwork conducted after the shift to remote data collection retained the same focus in terms of barriers and facilitators from the perspective of interviewees, but asked for the key variables both before the pandemic and since its onset. Although there were no draft IPTs to support this work, I was open for some to emerge from the data collection. These are discussed in the results.

For the additional online group with BSB staff, participants were asked to add further information or confirmation for the draft map informed by the original face-to-face group, especially with regard to connections between stated variables where it had been initially difficult to decipher how a few of these were connected. They were then asked to discuss factors impacting on take up since COVID-19, so that these could be integrated within the revised map.

Confidentiality

All information collected during the course of the study was kept strictly confidential. Information was held securely on paper (process data only) and electronically (all other data) at the Clinical Trials Research Unit (CTRU). All field notes and audio recordings were transferred to the CTRU's secure network straight after collection using a secure virtual private network connection. Once transferred, recordings were erased from the recording device.

Developing Stakeholder Maps

One map was produced for each stakeholder group, using the STICKE software: midwives; BSB staff; providers of BSB services; and expectant women and partners.

3.6.4 Analysis

Refining the Resulting Maps

An iterative process was taken to analysis of these data, with each stage building onto the next. I performed qualitative analysis of the discussions that helped to build the maps, using thematic analysis. This is described below.

The same steps for data collation, analysis and map refinement were undertaken for each group or interview. For each, brief field notes were made directly afterwards to highlight the key themes discussed. Completed BOT graph templates were also reviewed and any specific comments on variables that had been written on these were also included in the field notes. An initial digital 'snapshot' was taken of the live map that had been created during the discussion. This was saved as the original file on the STICKE mapping software (*original map*). The group with pregnant women resulted in a hand-drawn map which was also entered into the software, after a review of the paper map and the flipchart variables. Audio recordings were then transcribed, using full sentence transcription. Quotes and specific comments, including those on the draft programme theories, were transcribed verbatim. These were then read and re-read and grouped into themes that had I had created from my interpretation of the emerging data and potential patterns in what had been described by the participants. This also included reviewing themes and further defining them [147] when all data had been analysed. Four theories which apply to healthcare were used to support this analysis (middle range theories), namely: theory of access [3]; candidacy theory [121] [148]; Maslow's Hierarchy of Needs [149]; and Smithman et al [150] and also Levesques' [151] accessibility framework]. Theory of access and candidacy theory both recognise the significance of understanding the starting point of an individual in their own world. Access theory focuses on how individuals are able to gain access to a health service or intervention. It has four core components and primary data collected were scrutinised in terms of: service availability; utilisation of services and barriers to access; relevance effectiveness and access; and equity and access [3]. Candidacy theory aims to interrogate whether individuals feel they are eligible for a health issue or to be in receipt of support in response to this issue, whether a person considers themselves to be a 'candidate' for care [121]. These were used to help theorise when reviewing data collected, to explore what was really happening in the decision making process, when women and their partners were made aware of the community antenatal projects available, covering potential physical and mental barriers.

An updated version of the original map was created, including additional variables mentioned in the discussions where there had not been time to capture these during the live mapping

exercise. Connections and strengths of links between variables mentioned in the interviews and groups were incorporated into the map, taking into account findings about the degrees of influence of different variables and the connections between them. Any negative or positive feedback loops mentioned in the interviews or groups were specifically added to the map. The transcript was then checked once more, to ensure that all relevant variables had been incorporated and this version of the map was then saved in the software (*transcribed analysis map*). The final version of the map was then created, which included additional links between variables added by the researcher after interpretation of the data, to help 'finalise' the map (*interpretive map*). Final maps for each stakeholder group were then combined, creating an overall map for each (midwives; BSB staff; providers of BSB services; and expectant women and partners). These also incorporated themes identified across groups and interviews.

I reviewed the maps to identify the common variables and how they tended to link, in order to create an overall map to reflect the take up of community antenatal projects as a system. This was conducted using a comparative approach, reviewing the existing maps against each other, which provided an overview of recurring themes. Analysis focussed on: a) common variables; b) size or importance of these variables; c) how these variables connected with other variables; and d) the strength of connections between them.

I did not conduct quantitative analysis of the maps because the purpose of the systems mapping fieldwork was to inform development of the IPTs and identify any emerging theory through collation of granular data, rather than to measure the potential significance of certain variables or connections.

3.7 Results

This section describes the fieldwork conducted and outlines the main thematic findings. It then presents the resulting systems maps for each stakeholder group.

I undertook two face-to-face focus groups (one with BSB programme staff and one with expectant parents). In addition, I carried out two online interviews with midwives and three with programme deliverers. I also conducted two online groups, including a session with BSB staff and a focus group with expectant parents (Table 3.2).

Table 3.2 Number of Study Participants Representing Each Stakeholder Group³⁴

Key stakeholder group	Data sources		Total
	Face-to- face focus group	Online Interview/group	
1.Midwives	0	2	2
2.BSB programme staff (<i>six of these were included in a second group, conducted online</i>)	11	(6) ³⁵	11
3.Programme deliverers (managers/coordinators of programme sessions)	0	3	3
4.Expectant parents	2	2	4
Total number of stakeholders	13	7	20

3.7.1 Employment of the Systems Approach: Key Themes and Relevance to Draft IPTs

A number of themes and sub-themes emerged from the systems mapping consultations that further enhanced understanding of the context and the drawing out of mechanisms, building on data collected through the rapid review of literature (Chapter 2). These link to the draft IPTs and are described in the following sections..

Section 3.7.1.3 presents individual systems maps, for each stakeholder group and section 3.7.1.4 presents two maps to illustrate different overarching concepts within the overall, combined system.

3.7.1.1 Theme: Initial transactions of information: needs ‘readiness’ and complexity in motivations

- Sub theme: Women’s ‘starting points’ and their influence on take up of the intervention, especially their dictated priorities for daily living

Women and their families were not always able to respond to the offer of community antenatal programmes. This was because other, apparently more fundamental needs were not being met. Stakeholders involved in this study reported that these requirements and the drive to address them would always trump other options.

Many staff (project deliverers; midwives) reported that women and their families living in the BSB area experienced a range of different pressures that demanded their daily attention.

³⁴ All fieldwork was completed by April 2021.

³⁵ Six of the 11 staff who had participated in the initial face-to-face group were involved in a second group, conducted online, that followed the same topic guide.

Issues that constantly needed to be addressed included: organising benefits claims; reporting to the Home Office about residential status; buying food; and looking after other members of the family (including caring for those experiencing ill health and general childcare). These priorities relate to very basic human needs, as described Maslow's hierarchy of needs and dynamic theory of human motivation, whereby physiological needs such as food, water and shelter need to be secured, before any sense of individual safety and security can be reached[152]. For these women, attendance at an antenatal course was simply not a priority. Rather, it tended to be perceived as a luxury. For some, it was already ruled out.

“There is a lot going on in your life when you're pregnant and what you want, you want kindness, want to be relatively comfortable, want to have good health care, you have these aspirations. But they are in a different order because the basics in life aren't already there”. (Stakeholder)

Links to: Prioritisation of other needs above mother and baby (additional programme theory)

A general uncertainty spurred by the COVID-19 pandemic emerged as another key driver that added to this daily struggle. This included the 'not knowing' how their lives would be affected in the future, as well as what the statutory support structures would be and what additional community support may be available. This added to the sense of chaos and a more fragile or difficult life context, especially where looking after other family members during national lockdowns.

The role of the midwife or other practitioner (e.g.: neighbourhood worker; project facilitator) appeared to assist pregnant women by: a) addressing these specific issues where possible, to free up more mental energy (creating a 'tipping point'), to consider the potential value of a community antenatal project; and b) utilising their knowledge and understanding of that families' circumstances to explain how such a project could make a difference to them personally. Many of the variables highlighted during the systems mapping groups and interviews were linked with this understanding of what may help them in their circumstances. This was seen as more important than the practicalities of the contact process, including the amount of time available to introduce the projects on offer. Although these elements did also feature, discussions were focussed more on the 'why' families would access the provision, rather than the 'how'.

Framing of information needs to be situated within these individual priorities. The benefits of the intervention needed to be clearly framed within the context of parent's own lives and also address the 'so what' factor for women; what is it? Why should I do that when I could be doing something else?

“We need to be clear to the woman about why it would be valuable to her. Why it would be worth investing her time in coming. Choice offer. Women making choices and decisions for themselves and the importance of getting really good, quality information out to women. We want to make sure she understands that it will help her to make some choices for herself”. (Stakeholder)

“It needs to be acceptable to the woman, do I need it, what will I learn? You think I need it, but what am I actually going to get out of it?”. (Stakeholder)

According to stakeholders including project providers, women didn't necessarily seek out information for themselves as they didn't have the time or possess the skills and understanding about where to go for help. On a more basic level, the stakeholders felt that this may also have been because they had not received adequate information about reproductive health and childbirth when they were younger and therefore found it difficult to see the value of birth education when they were pregnant. In some cases, they consulted with their families after hearing about provision available and tended to be quite heavily influenced by their opinions.

“It is this readiness thing isn't it. If you don't know it exists and you don't know what it is then you are much less likely to do it than if you do know what it is and think it's a good thing and think it will benefit you”. (Stakeholder)

“Understanding, like “do I really need to attend this”? ...Its' community readiness, you know. Do families really have a dialogue around “do I need to attend an antenatal class?” What the knowledge is already, perhaps they have previous pregnancy experiences or it's a first time, just looking at their current situation. To what extent do women talk to their partner or family member and say “what would I benefit from an antenatal programme?” So it's that element about their understanding”. (Stakeholder)

Links to: Perceived candidacy to receive antenatal care (additional programme theory)

There were different motivations for agreeing to try out a programme once it had been offered to them. These included anxiety about their ability to look after a newborn baby, a desire to make friends and something to do.

“My midwife told me about it. Because I needed something to do as well because I was going on maternity leave. I'm going to be home so I might as well do something that I can get something out of. She recommended this course. My midwife, yeah”. (Pregnant woman).

“I just wanted some more information [practical tips] so that I don't like, go wrong. We didn't know, like babies aren't meant to be in the middle of the parents [in bed], on one side. I thought they would be safer in the middle but apparently not”. (Pregnant woman)

There were opportunities for women to connect with each other and to help partners to feel welcome. Stakeholders reported that some expectant women enjoyed the opportunity to connect with others in group sessions, to make new friends and to be able to share anxieties and hopes about their pregnancies. Rather than COVID-19 and the lack of face-to-face contact reducing uptake, some providers actually reported an increase in the numbers of women signing up to online versions of programme sessions, including general parent education. According to them, women were facing periods of isolation, loneliness and wanted to see others online. Once they had signed up, messaging technologies such as WhatsApp allowed women to share information, tips and advice and to support each other. However, in some instances, the reliance of online may have excluded individuals from taking part as some may

not have had access to smartphones or communications platforms such as WhatsApp, Zoom. Stakeholders also reported that some families were uncomfortable with the idea of being on camera and participating in online conversation, so wouldn't sign up to the provision.

There were also discussions about the value of meeting with women in similar situations and of similar backgrounds. Practitioners had previously delivered some specific group antenatal provision for refugees and asylum seekers which appeared to be well received and allowed them to 'pair up' with others if they had arrived in the UK on their own for example. This also extended to how welcome birth partners would feel when programmes were introduced to them.

"Get to know the other women expecting babies. You get mum friends as well. If she has her baby first, I can ask her how it went, what not to do, tips and stuff. Labour and tips on yeah". (Pregnant woman)

"We're really happy for others to come, for them to bring anybody. Lots of asylum seeker and refugee mums here on their own. Make links with other women and they come along together. I think we need to think a bit about that, how we invite women to come along and in the marketing materials". (Stakeholder)

Links to: Enhancing cultural safety via use of practitioners from the same backgrounds (IPT 5b)

It was not always clear that partners were welcome or that antenatal provision would also incorporate their needs. Sometimes it was not practical for them to attend e.g.: if antenatal sessions were run in the day when they were working.

"My partner thinks it's just for women. I think he'd think he'd be the only Dad that would come". (Pregnant woman)

"They might think it's just for the mums to go to. He's at work so he can't. But I said to him that if you're off them days then we can go together, but we've not had the time off." (Pregnant woman)

"We don't treat men as family ... Partners tend to be very interested in attending. It's not interest that's a problem, it's the practicalities... But the fact that it's presented as a women-only thing makes them feel awkward". (Stakeholder)

Links to: Inclusion of fathers in communication about programmes (IPT 1)

Links to: Scheduling programmes at different times of day (IPT 6b)

- Sub theme: Depth of relationship and trust developed with the practitioner informing them about the services on offer

The role of the midwife is perceived to be important as it offers a 'frontline' and regular means of communicating with a woman about her health and wellbeing. In some cultures and societies, the midwife is seen to be a person of professionalism, who will look after them and their needs, being able to respond to clinical issues where required. Providers of the BSB projects commented that the mention of a midwife's involvement in sessions helped to encourage interest and attendance from women and their partners. Midwives also hold a certain amount of respect as they are deemed to have a degree of expertise and training and

seen as 'worthy' of listening to. If they suggested attending, then it must be useful. Some may also agree to please their midwife, if they are seen as a figure of authority.

"There is something about trust here, face to face contact with midwife, a clinical professional so people are more trusting in that relationship I think". (Stakeholder)

"Who is referring? Do I trust the person who has told me this is a really good idea? Is it my midwife who I trust or some randomer when I'm sat at a parent and toddler group, sees I'm pregnant or someone ringing me up on the phone?". (Stakeholder)

"If midwife says they need to do it, they think "Oh I'd better do it then". The trusted relationship does have an influence on whether people think they should be doing it". (Stakeholder)

Links to: Perception of health professionals as trustworthy, reliable (additional theory)

Links to: Perception of midwife as a figure of authority (additional theory)

Project facilitators and other community staff such as BSB's Neighbourhood Workers also played an important role in spreading the word verbally about what was available. Stakeholders commented that such staff can and do develop relationships with women and their families through repeated contact. And it is that which made the difference, rather than sporadic contact or 'going in cold'. Above all, it provided the opportunity for women to have a trusted space where they had time to think about and carefully consider information they were given and how this related to their perceived needs.

"Neighbourhood workers do engagement as well so that's not just health professionals. I think that is a trusted relationship thing. You are building on an existing relationship. Those out speaking to those in the community could be telling them about the projects. It's part of a community group they are already involved in". (Stakeholder)

"If it's a trusted or known person who invites the woman and her partner along, I think you've got a much better chance of her turning up. And anecdotally we've seen how that works on various things that we offer". (Stakeholder)

Links to: Allowances of time for individual-practitioner communication (IPT 4g)

Marketing of projects was specifically brought up within discussions to allow for the review of relevant draft IPTs. From the comments received, it was clear that without this developed trust and knowledge of that woman's life circumstances, the distribution of printed marketing about the projects was seen as an ineffective approach. The giving out of leaflets was not even considered as a transaction as that implied that the woman got something back or gave something in the first place. Some stakeholders reported that women received a lot of written material in pregnancy. Even if a leaflet was provided by someone they trusted, women would not necessarily read it usually, but rather it could be used to support what had already been said or explained. Project leaflets were sometimes provided in other languages, where budgets allowed. However, stakeholders reported that literacy levels could be poor and that the most important factor was first conveying what it involves verbally, where possible.

“People have much more connection with a person. They might read a leaflet, if you give a leaflet to someone they can’t read both sides of a leaflet and understand it unless they take it home, unless they lose it or bin it. They don’t care, they want a conversation I think”. (Stakeholder)

Links to: Marketing that different languages can be understood (IPT 2a)

Links to: Time for midwives to introduce potential programmes (IPT 4b)

- Sub theme: Demands on practitioners to deliver information, while working in a pressurised environment

Although practitioners played an important part in encouraging attendance and perhaps spurring an interest, they did not always know everything about all of the programmes available to women or have up to date information about what was on offer. There were also competing commitments. Training and availability (both time wise and mentally) was an important consideration when looking at how best to improve engagement. Feedback from stakeholders suggested that midwives’ time tended to be limited during booking appointments (which was often only 15 minutes in length) and other follow-up appointments. Their first priority was to attend to clinical monitoring, then to discuss general welfare if time allowed. Some of BSB’s projects tended to be mentioned only if other prioritised areas had already been covered. In the case of Baby Steps, midwives were prompted by a ‘flag’ on the Medway information system on their computer. This needed to be ticked to confirm whether this provision had been discussed, which helped to remind practitioners to raise it during appointments.

During the first national lockdown, midwives had to restrict the amount of time spent with women face-to-face, conducting appointments with low risk women over the telephone. This meant that women might not have been given the same level of information about BSB’s projects. However, this also meant that some would request to attend or say yes to community antenatal provision so they could talk with a midwife and ask basic questions relating to their care, about pregnancy and childbirth that perhaps they hadn’t yet had the opportunity to ask. In this respect, projects were now deemed more worth their time, because of the chance to elicit information and advice from a health professional.

“Midwife contact is so small, you know, the appointments are quite short, contact and appointments with midwives are really quite restricted and so the opportunities for interactions between the mum and her support person or people and the service, through the midwife, is really restricted”. (Stakeholder)

“Women pitch up and they don’t know things, really basic things, like where can I have my baby? Who can be with me?”. (Stakeholder)

Links to: Information available to midwives on potential programmes and time to introduce these (IPT 4a and 4b)

3.7.1.2 Theme: Actually getting there: common justifications for not attending

A number of practical, logistical issues were raised by stakeholders as potentially impacting on women's engagement with community antenatal projects. Some of these were the 'usual suspects', related to the accessibility of a venue where project sessions may be held. There was an expectation that venues should be close enough to be walking distance to help minimise the extent to which it would be seen as a hassle, removing the mental barrier of working out how to get there. Without car ownership, the prospect of having to get two buses for example would potentially put people off attending. Reliance on friends and family to provide lifts or the use of taxis could not always be guaranteed. Financial resources were also factored in, with stakeholders implying that attendance could be disrupted if they couldn't afford to get a bus or taxi. Timing of sessions was also seen to be an important factor. Provision offered during the day could work well in engaging with women with other children in school (when within school times), but could exclude women and their partners who usually are at work at these times. Sometimes the timings were dictated by the availability of community sites and this certain amount of inflexibility could make it harder to appeal to women with different commitments.

"I get buses, but luckily my Mum drops me off in the morning, otherwise I'd have to get up extra early to get here". [starts at 9.30am]. (Pregnant woman).

"Time of day is really important. I tried to run a session...that didn't happen, where women really wanted an afternoon time but the room was booked for the morning and it was all set for the morning. From the delivery point of view...it has to be the morning, because that is when the room is booked. And it is also about staffing, part-time staff. It's daft. "We're only going to give you that, we're not going to listen to the mums so we won't run it and no one's gonna come"". (Stakeholder)

[Links to: Venue that is easily accessible on foot or via low-cost transport \(IPT 6a\)](#)

[Links to: Scheduling programmes at different times of day \(IPT 6b\)](#)

Familiarity with the venue was seen to be a potential issue, particularly for projects that invited people who lived outside of the immediate area of the venue. Various other factors could then come into play, such as whether the local area was seen as safe. It was also mentioned that some venues had some underlying negative associations, such as those that are also used by social services to conduct meetings with vulnerable families. Staff felt that this could have the unfortunate effect of making the antenatal project feel more like a statutory service in which families could fail and could have consequences for them.

"Variance on venue, some about getting to place but some of it is just how feel going through the door. Some places also family centres where can have a check up with social services, so it stigmatises the place". (Stakeholder)

[Links to: Negative connotations of venue \(additional theory\)](#)

Factors discussed within this theme reflect elements of Smithman et al (2020)[150] and Levesque's (2013)[151] conceptual framework of access to health care, which highlights the role of health care seeking and health care reaching behaviour. For example, geographic location, accommodation and opening hours impacts on the availability of provision. An individual's ability to reach projects can also be affected by living environments and transport[151].

3.7.1.3 Systems Maps by Stakeholder Group

Systems maps are presented here for each stakeholder group: BSB programme staff; Providers of BSB projects; Midwives; and pregnant women. Each systems map includes data on variables which stakeholders felt impacted on take up since the onset of COVID-19. These were reflected in areas such as accessibility of the online offer and availability of health practitioners. Rather than displaying these changes separately, they have been incorporated within the dynamics of the existing system, to see how these may have strengthened existing issues or provided additional barriers. Each map is annotated with explanation of 'key variables'. These variables were discussed as being of particular importance by participants in that specific stakeholder group. The overall, combined map is also provided. The maps are 'flat' in that they are not hierarchal and focus on the interactions between the variables rather than the importance of each one (this type of map is used in Moore et al's 2019[153] study on a community level intervention to address food insecurity, see Appendix E).

Key:

Green – skills, knowledge, awareness

Pink – attitudes, assumptions, behavioural – whether they feel they 'should' be doing something, what they think is the case

Orange – contact, relationships, trust, respect (with midwives, other practitioners, other women and families)

Red – timing

Blue – information provided

Purple – cultural

Dark blue – supporting services (e.g.: interpreters)

Dark yellow – infrastructure, delivery of services (who is delivering, where, content)

Dark green – outcome

Grey – credibility of practitioner (midwife or other)

Dark grey - financial, work commitments, childcare

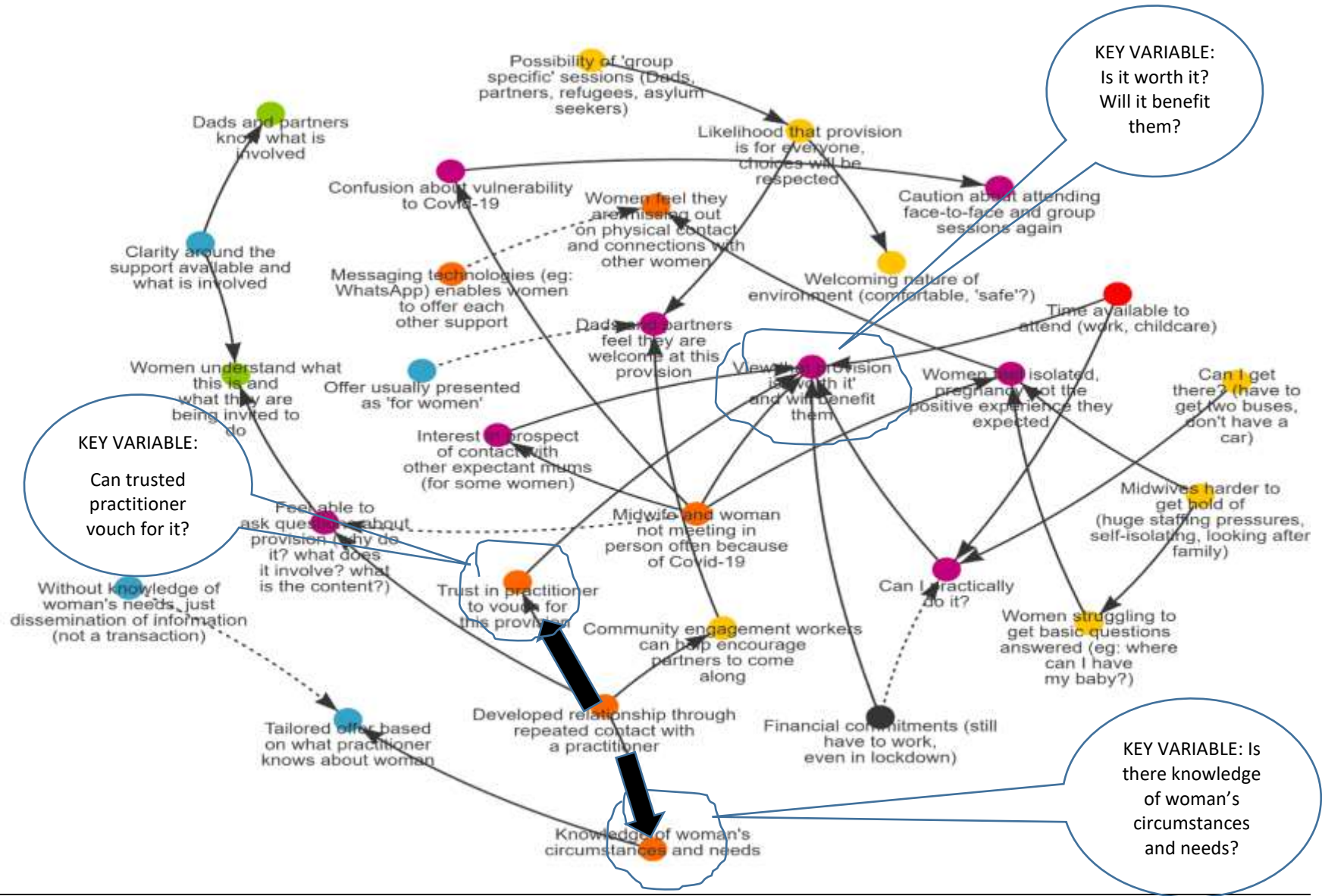


Figure 3.2 Systems Map: Midwives (interviews)

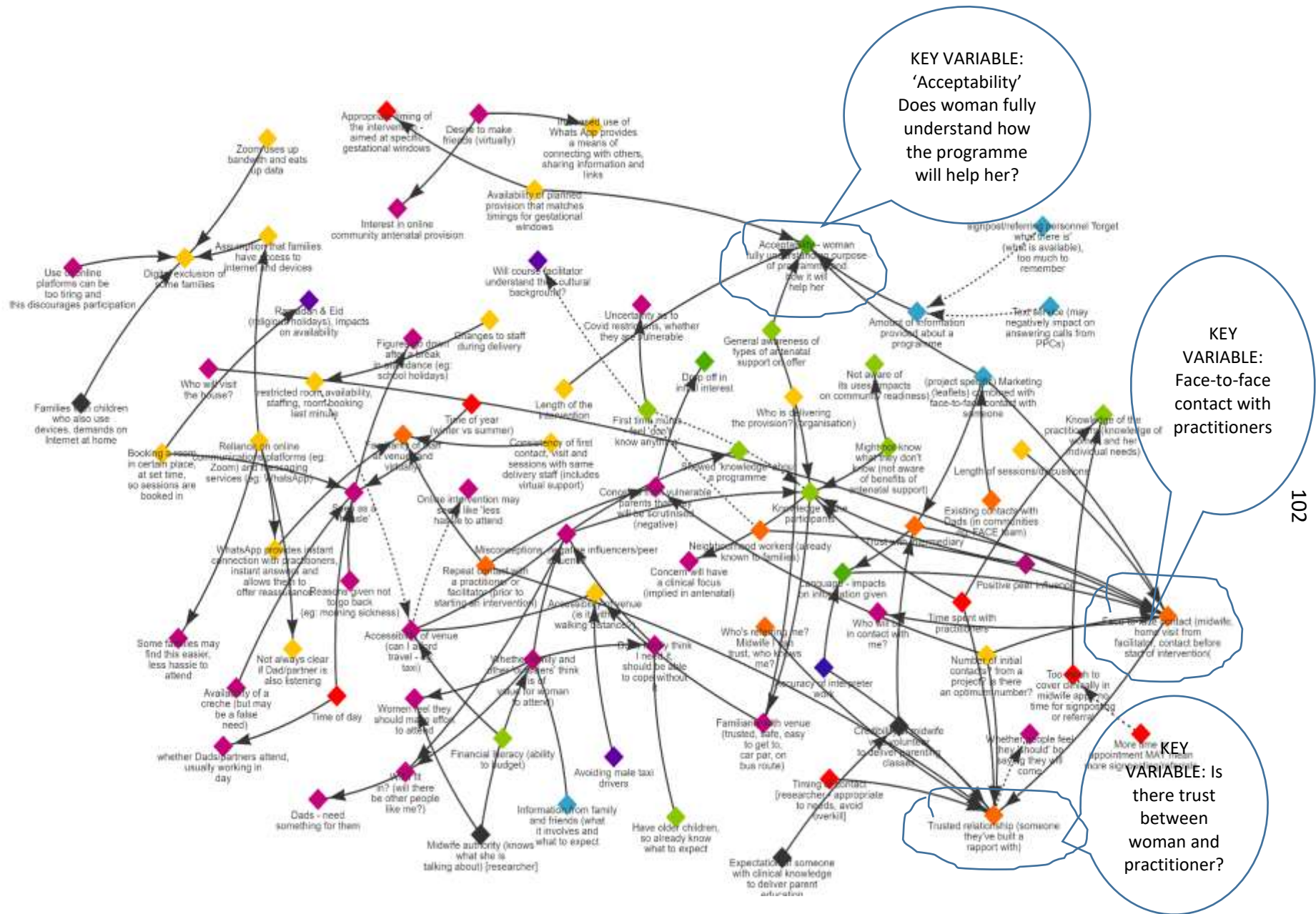


Figure 3.3 Systems Map: BSB Management and BSB Delivery Staff (focus group 1)

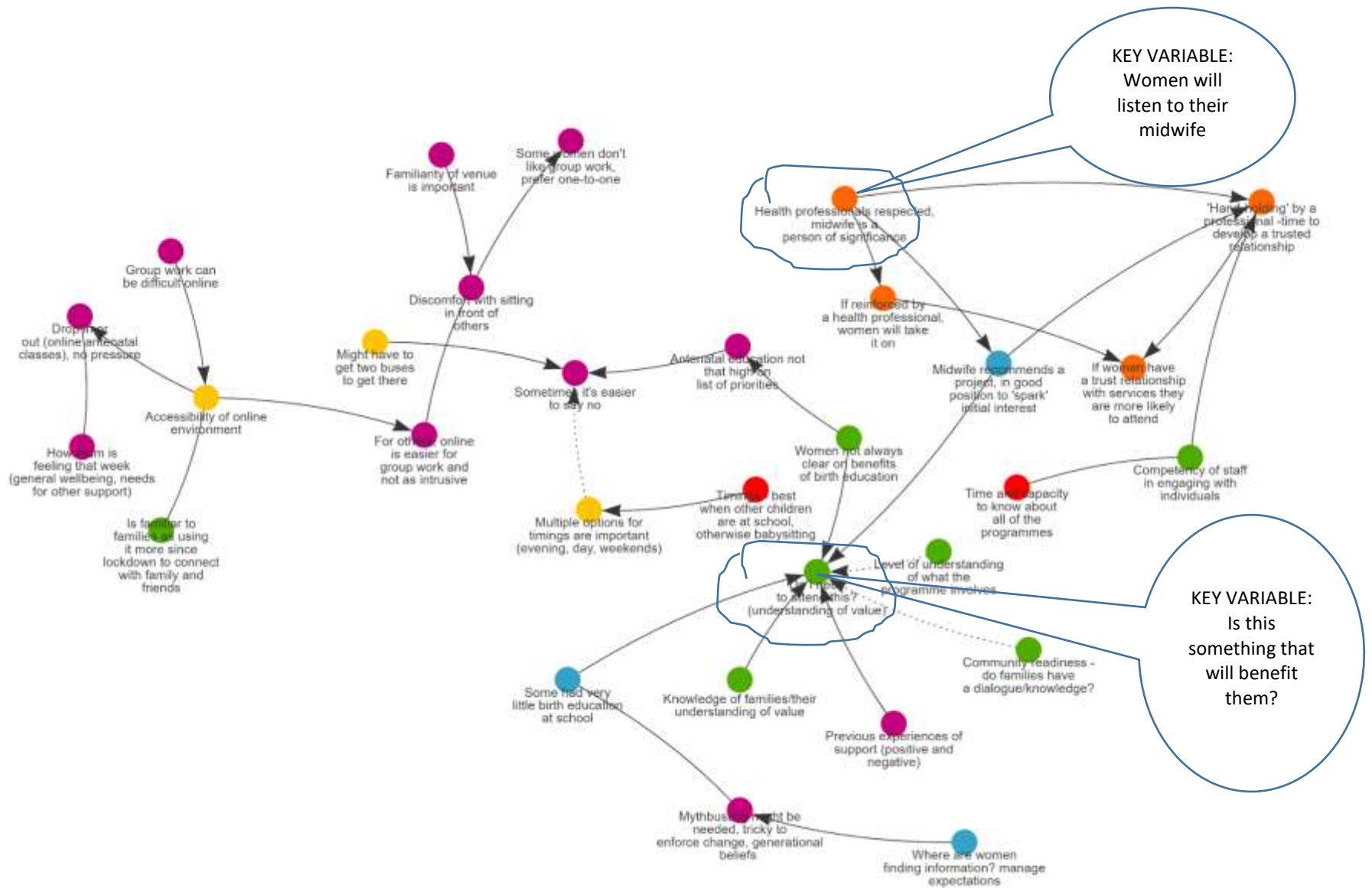


Figure 3.4 Systems Map: Project Delivery Staff (contracted providers) (focus group/interviews group 2)

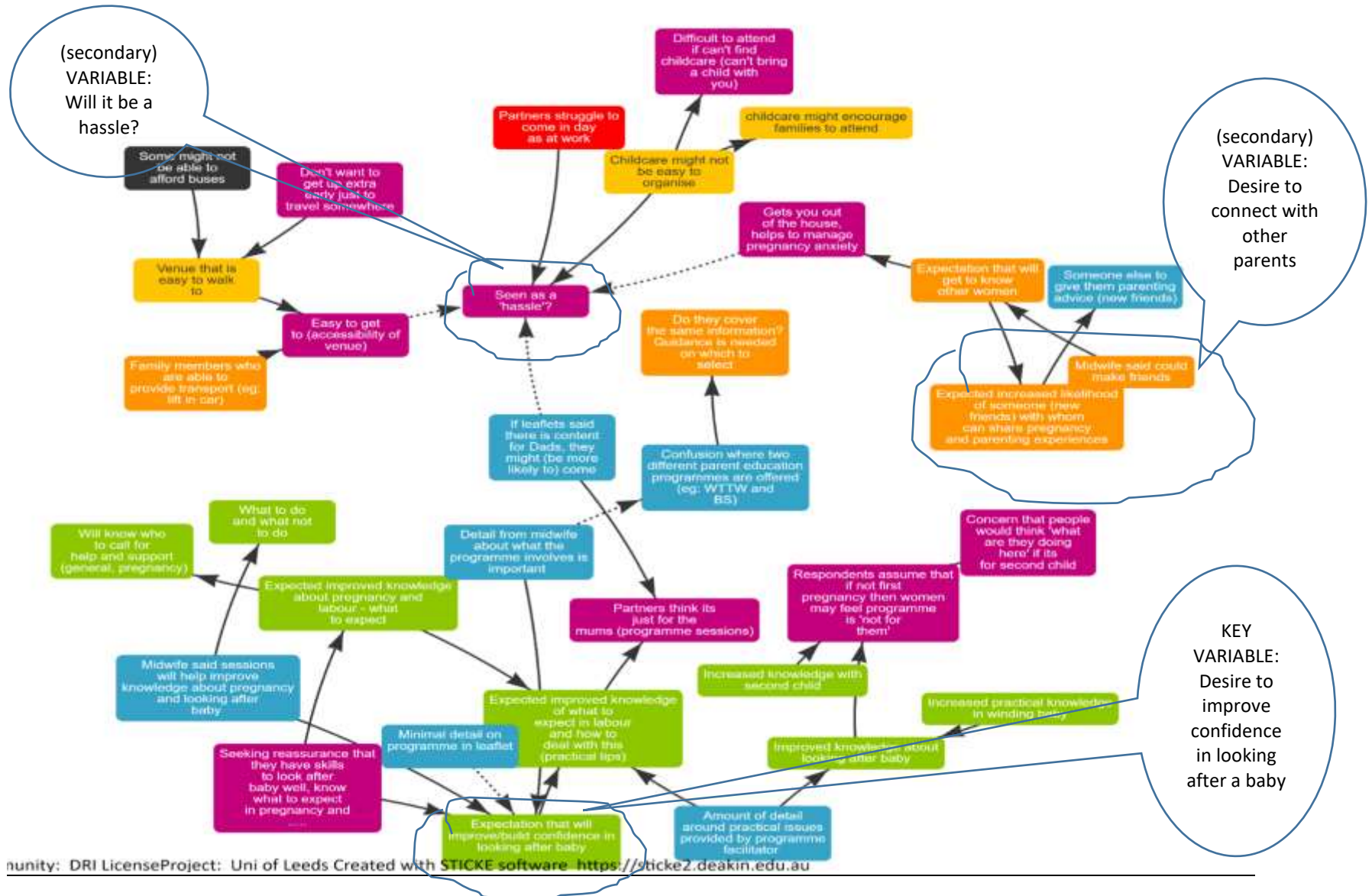


Figure 3.5 Systems Map: Pregnant Women (focus groups 3,4)

3.7.1.4 Overall Map of Access to Community Antenatal Projects

Two overarching concepts linked with the middle range theories (candidacy theory and theory of access) appeared to be particularly important with regard to take up of BSB's community antenatal projects as demonstrated by the main themes on 1). Acceptability: Initial transactions of information; needs 'readiness' and complexity in motivations; and 2). Accessibility: Actually getting there; common justifications in not attending.

1). Acceptability

Although women had been informed that provision was available and would be of benefit to them, the data collected suggested that they needed to consider themselves as candidates to receive this provision in the first place. Certain other barriers may need to be addressed first, to enable them to get to this point. Simply the provision of information about an intervention was not that effective without real buy in from the expectant woman or her partner. Facilitation of a decision to attend, by a midwife, other practitioner (e.g.: neighbourhood worker; project facilitator) was key, but it was also important to understand: to what extent had this idea been potentially imposed on them without an understanding of the benefits and would that affect whether they actually attended? In terms of access theory and barriers to access, projects may not be perceived as 'for them', because of influences from family or previous experiences. These findings also fit with the suggestion in Gulliford et al (2002) that it is about '...providing the right service at the right time, in the right place' [3], linking in with the importance of presenting information at booking appointments, to allow time for women to think about what is on offer and to benefit from the antenatal interventions.

The overall systems map that looks at acceptability (Figure 3.7), illustrates the significance of the practitioner-woman relationship in terms of creating space to learn more about her life and her family and to be able to use this knowledge to present relevant BSB projects in a way that fits with priorities and needs. Here, the data suggested a positive feedback loop, where the provision of useful information that was relevant to the woman's priorities and her needs encouraged a willingness to try provision and promoted a positive experience of engagement with a programme. This then contributed to an understanding of why such provision is helpful and an even stronger relationship of trust with that practitioner or worker.

On the inverse, this could also be translated into a negative feedback loop, where limited or time constrained contact between the worker and or woman led to low awareness of the needs of the woman and her family (the context of her lived experiences and therefore what would help her). Therefore, the result of this was merely a broadcast of information about programmes available to her or programmes were not mentioned at all. Because of this, the woman was unsure of the value of the programmes (they did not pass the 'is it worth it' test) and she did not attend programme or there was poor engagement. There was a lack of interest or trust in the relationship.

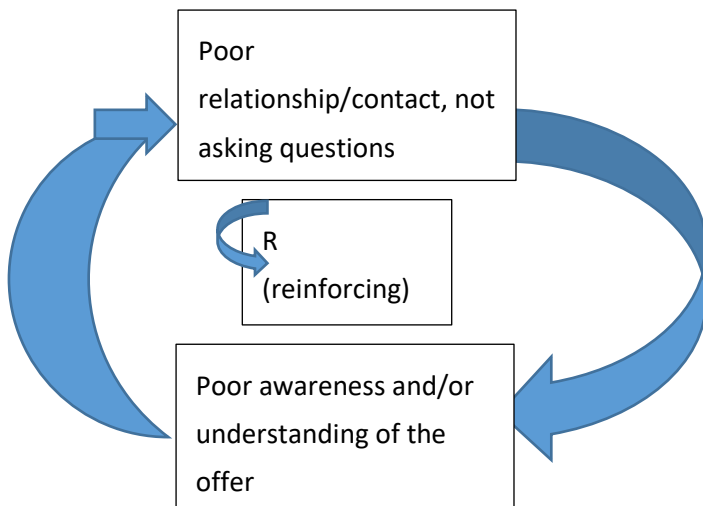


Figure 3.6 Negative Feedback Loop for Practitioner Contact

2). Accessibility

Figure 3.8 outlines key areas regarding accessibility that had been considered by stakeholders (including pregnant women) within the mapping exercises. It was seen as important to appreciate feelings of comfort with what they were being asked to do e.g.: where they were being asked to travel to or which online services they needed to be competent in; potential costs; and likelihood of feeling safe in various ways. This map also suggested a potential CMO configuration that could be tested in the subsequent stage of the research: communicating that there will be others 'like me' attending, which could be related to cultural background, use of same languages or same position in family (e.g.: Dad or birth partner). This could then lead to an assumption that they will be treated with respect by others, rather than judged. They may then decide that the programme sessions are 'for them' as a result.

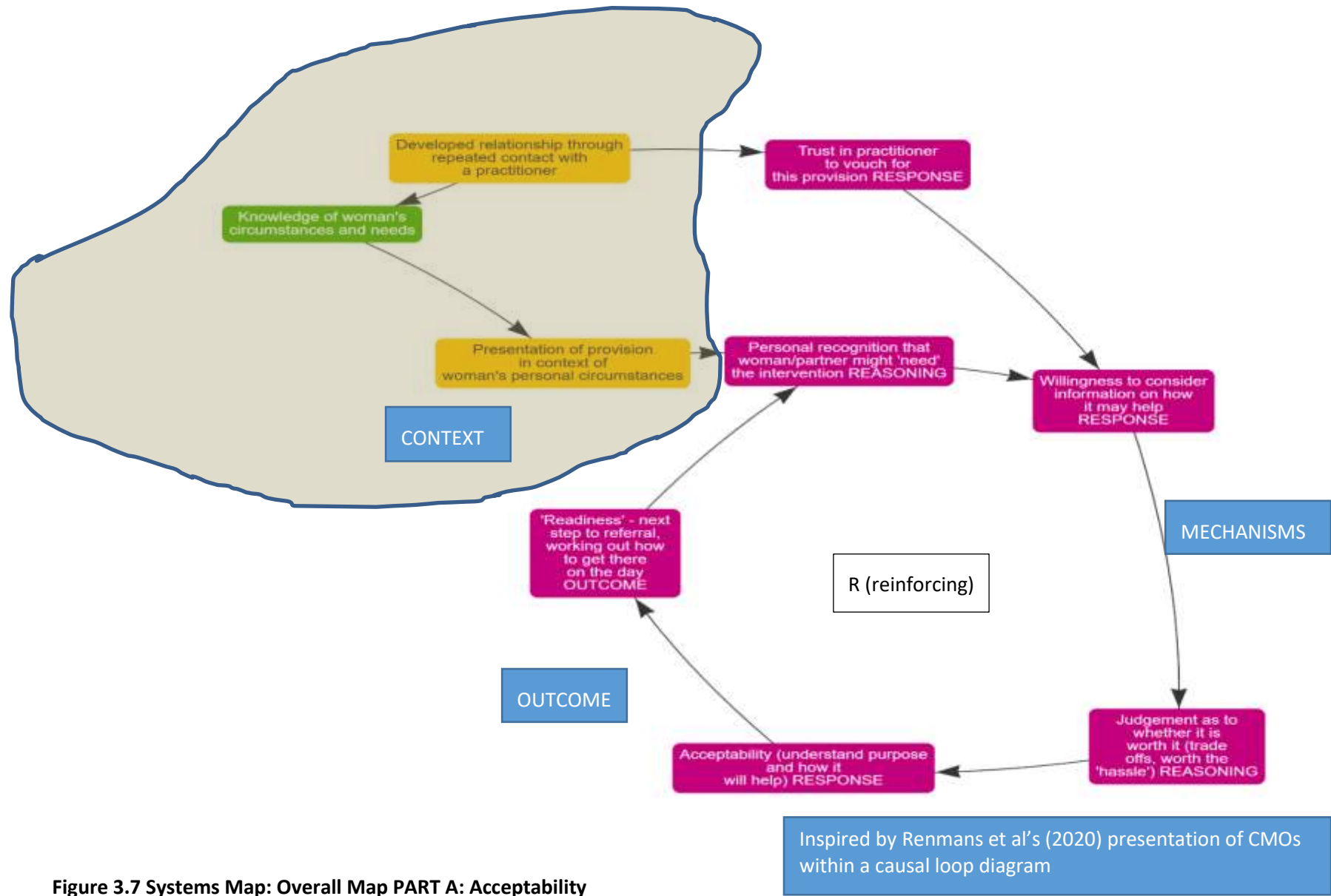


Figure 3.7 Systems Map: Overall Map PART A: Acceptability

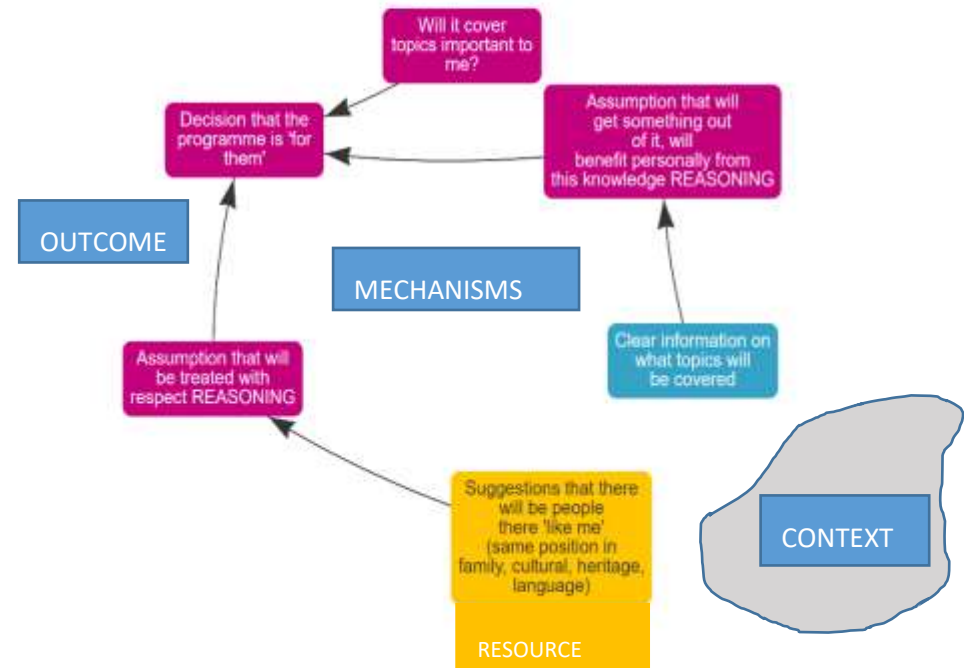
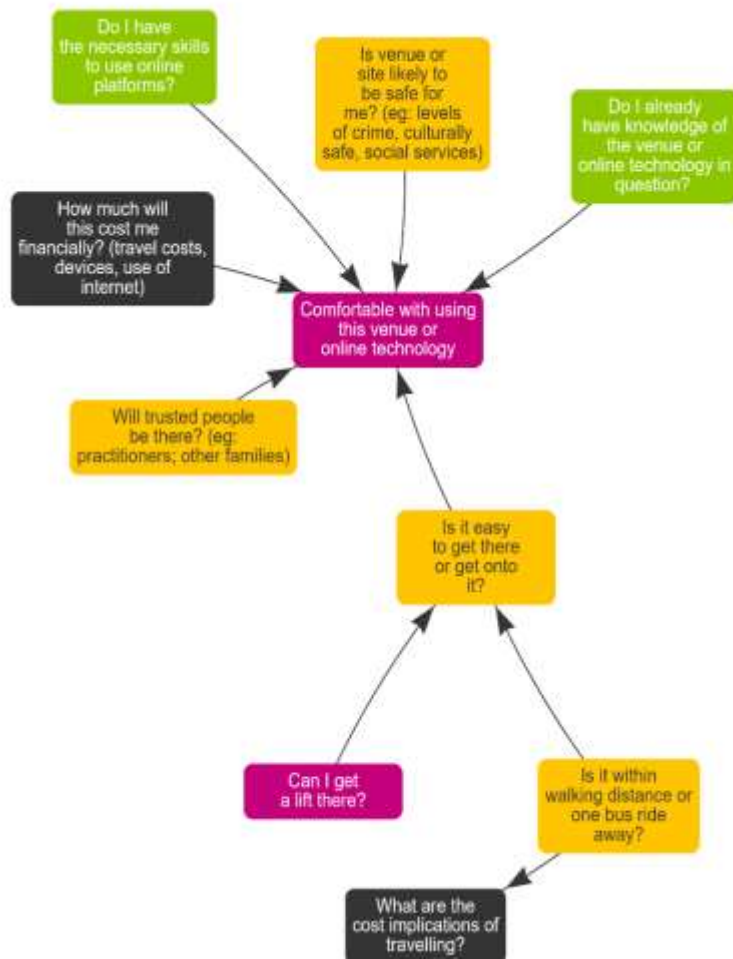


Figure 3.8 Systems Map: Overall Map PART B: Accessibility

Inspired by Renmans et al's (2020) presentation of CMOs within a causal loop diagram

3.8 Discussion

The systems mapping fieldwork collected data related to the draft IPTs. It also served as a means of eliciting potential new theory. Maps showed how variables such as venues, staff, populations, activities and access to childcare for example, all influenced uptake. This included barriers and facilitators and how these could affect local outcomes[154]. The findings highlighted the importance of practitioners making time available to build a relationship with expectant women and to really understand the context of their lives, within which appropriate elements of available community antenatal provision could be framed. They outlined the complex practical barriers inherent in attending a session in person, including the value of provision that was easily accessible or walking distance to avoid travel costs and flexibility of timings. All of these factors had been reported in the existing literature.

The level and quality of interaction that women had with information about these projects and their motivations for attending were influenced by their own personal starting point: the background of their daily lives and their lived experiences; paired with the degree of a relationship and trust that had been built with the practitioner informing them about the services on offer. This supports previous findings about the sharing of information within a trusted exchange (e.g.: Nypaver & Shambley-Ebron, 2016[106]). Mapping of the system suggested a strong connection between a more developed relationship and engagement. Sporadic contact with a number of different practitioners simply did not generate the same impact, in terms of encouraging take up. There was also a need to appreciate that where certain basic needs were not met adequately or on a consistent basis (as according to Maslow's hierarchy of needs[155]) e.g.: housing or benefit claims, parents prioritised these over accessing additional antenatal support (Hatherall et al, 2016[94], Begum, 2011[118], Phillimore, 2016[109]). Indeed, this theorizing of behaviour supported understanding of what might have been preventing involvement with projects. Levesque's (2013) accessibility framework also provided a grounding for deciphering how certain elements such as local community, use of venues and timings are key components of access.

Of utmost importance was whether they were assisted in being able to see the relevance of these projects to their everyday lives (as described in Finlayson et al, 2016[15]). Although this has been mentioned in other studies, the results of this research has built on what is known by suggesting that this decision process is not straightforward. The notion of 'take up' is embedded within a number of different assumptions. To 'take' something implies action. To 'take up' is a positive phrase that conjures the idea of a conscious decision to select a service or activity, to pick it up and try it out. According to stakeholders, many women went through a significant and often complex, multi-layered process when receiving information and deciphering whether it was of relevance to them and their lives. Some of this process may have been unconscious as it was so ingrained within daily thought processes and based on their lived experiences. A number of checks could have been considered, which might not have

been explicitly expressed: How will this help me? Will it make a difference to my life and my current circumstances? How?

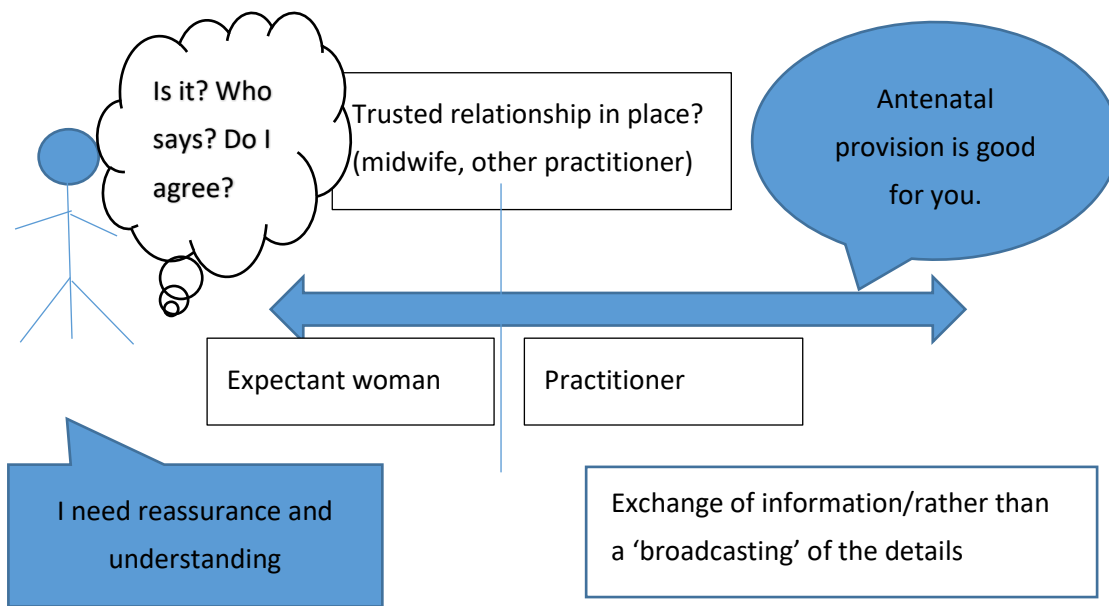


Figure 3.9 Theorizing a Typical Woman-Practitioner Interaction

Potential attendance was also influenced by the views of others and specific personal anxieties: whether they felt 'expected' to attend or not attend, by a health professional or family member; a desire to alleviate a worry (e.g.: coping with labour and birth, keeping baby safe); to make friends (where felt socially isolated); where other services had been reduced or diminished (e.g.: since COVID-19 and the sudden uncertainty and removal of some standard assurances that everyone was used to, such as being able to identify and speak to a healthcare professional when needed); something else had triggered a need that wasn't there before and as a result this option seemed more worthwhile (something had tipped the scales); boredom, a need to fill the time; an opportunity to connect with other like-minded people, who understood their beliefs and experiences (e.g.: specific groups with Dads or birth partners; asylum seekers, refugees, groups that may traditionally have felt excluded from antenatal provision, as outlined in Parry et al, 2019[108], McCalman et al, 2015[156]).

One example of positive resilience since the onset of the pandemic was the importance of the level of trust established between the woman and a health care practitioner or other community worker. This was important in helping to encourage women to access projects, even though a greater proportion of other negative motivations had also come into play such as anxieties about having a baby during a pandemic. The additional economic and domestic impact of lockdown (financial, domestic violence) strengthened some barriers associated with basic survival needs.

The infrastructure of signposting processes appeared to work well, regardless of the pressures of a changing context. Although levels of referrals and self-referrals were changeable, the dynamics of this appeared to have remained in place. The significance of intergenerational

support and cultural beliefs within communities also appeared to withstand the pressures of COVID-19, with stakeholders reporting on the continued importance of the perspectives of others within the family, especially in terms of whether antenatal education should have been a priority for the woman or not.

Many practical barriers were also discussed. Although simple, these could have been a 'deal breaker' as to whether women and their partners actually turned up. The 'nearby' location of a session and importance of timings of sessions emerged strongly. Some stakeholders expressed frustration as to why some provision was only available during the day, when women were working or when partners would have found it difficult to attend. The familiarity of a local venue could be considered further, including whether it had positive or negative connotations for some families or local communities.

The system was able to adapt to large changes. In some respects, the shift to online provision appeared to have actually increased take up or the likelihood of this happening, because sessions were easier to access from home. Adaptations had indirectly removed some existing barriers to attendance such as the requirement to travel and the expected financial implications of this.

3.8.1 Reliability and Reflexivity

The systems mapping methodology is a tool that allows researchers to identify factors impacting on the delivery of an intervention, while facilitating a specific discussion about why these variables are important. Although constructivist in its approach and therefore a fairly open and iterative way of collecting data, it also has the potential to provide focused perspectives and analysis of very specific areas of interest. It allows zoning in, to assess the influence of a certain variable, through visualising how this may be connected to others and generally how it interacts with the rest of the system.

Reliability

The systems mapping method employed for this study generated a large amount of insightful, detailed qualitative data. Each interviewee or set of focus group participants resulted in many suggested variables. It was not possible to finalise maps within the time frame of the interview or focus group. Therefore, the process of finalising draft maps afterwards involved a certain degree of interpretation. I made judgements on where the strongest link existed between variables and how these affected each other, using my recent knowledge of the content of the interview or group and the context within which the perceived issues had been discussed. Resulting draft maps were discussed with the supervisory team (where I explained my decisions) before these were finalised.

The stakeholder map developed with BSB staff was validated through a second focus group with these participants. This allowed attendees to review the existing findings and add information. It was not expected that the change in form of contact with interviewees would

impact on the quality of data collected. The purpose of this work was to have a general discussion about their experiences and perspectives as to why expectant women and their partners may or may not access community antenatal projects. This type of conversation could be achieved via online calling (using Microsoft Teams, Zoom). Although for project deliverers and midwives, these interviews were changed to individual, rather than group discussions, this was still a viable and useful approach for collecting detailed qualitative and contextual information[157]. The strength and frequency of key themes that arose from the analysis suggested that the fieldwork did allow the study to develop a representative picture of the most common themes and related theory.

Reflexivity

The topic of engagement with community antenatal projects is one which stakeholders tended to feel passionately about and had specific opinions. Some of these were based on anecdotal feedback or their experiences with interventions over a period of many years. Over time, I was able to develop my skills in focusing the discussions on specific variables that needed further attention and generally in managing the flow of the sessions. In particular, there was a need to press participants as to how variables linked into each other and why this was important. Incorporation of my IPTs into the discussions was sometimes quite challenging and I had to learn how best to frame these ideas within the context of what was being discussed, without this jarring with the rest of the conversation. I used my moderating skills to redirect comments that were going off point and in asking participants to go back over elements that may have seemed obvious or intuitive for those working with the projects on a day-to-day basis.

The findings from this systems mapping exercise suggested that there were different 'levels' in terms of how stakeholders responded to questions (the depth and type of explanation provided) about what was impacting on take up. This ontological factor appeared to be linked with the availability or the easiness of answers to give out to an enquiry about why a person would not take up an offer of something that may help them. This could have been about what responses were at the forefront, the most disposable reasons to give. Within an interview or focus group, it was perhaps easier for them to first describe the obvious ones that were already well-known and easy to see (such as location, venue). Part of my role was to allow these comments to arise, to recognise and record these and then create space for discussions that were deeper and more reflective and informed, where other variables could emerge.

During analysis, it was important to ensure that the narratives provided were accepted as part of the overall viewpoints made by that individual and from their own context, rather than within the wider scheme of what I considered to be the key themes and what should be important. I had to regularly check my own assumptions about what was being said by reminding myself of that person's role and place these experiences within what was happening locally, rather than at an overall level.

3.8.2 Strengths and Limitations

The systems mapping approach provided a useful means of gathering detailed data on the complexity of the context within which community antenatal projects were being delivered. It illustrated the levels of interaction between individuals, structures and different projects, while also being able to incorporate thought systems, such as cultural beliefs, attitudes, as well as skills and capital. The process of asking participants to talk about the most important variables from their perspective and how these connect with others, allowed them to consider a deeper and more intricate picture of the situation, compared to if they had simply been asked to report on the main barriers and enablers to engagement. As argued by Knai et al (2018)[135], research in public health tends to look at isolated factors, rather than connections between them. This study has identified the dynamic nature of the system and potential causal loops. Conceptualising these variables as an overall system during data collection also allowed participants to visualise what was being discussed and to feed back on what they could see, enabling stakeholder groups to communicate with each other about which actions may influence trends (Calancie et al, 2018[145]).

The simplicity of this method also meant that it was adaptable to different types of interview and helped to ensure consistency in the necessary move from face-to-face to online, allowing the same process of data collection and integrity of the work. Participants could respond in the same way and within the same parameters as they would have done previously. This also helped to improve the likelihood that fieldwork would be completed, after the original disruption caused by the first national lockdown and subsequent lengthy periods of social distancing. After receiving approval for an amendment to ethical approval, it was straightforward to set up fieldwork again in the same way. Systems thinking was a useful way of considering the potential impact of COVID-19, as it highlighted who and what was adapting to these unprecedented challenges and how this had impacted on other factors, underpinning routes to engagement with health interventions. As a method for identifying context, this mapping exercise had the potential to situate the research within a certain time point and allowed consideration for how the pandemic had impacted on an already shifting environment and general systems changes and how this may affect future experiences of the projects.

Previous experience using BOT graphs with stakeholders had provided valuable feedback on the amount of time required for completing the graphs and discussing the variables with the group. This also enabled me to understand how much time to allocate for the live mapping, using the STICKE software within a group. This also informed my thinking (in terms of focus, timings) when constructing the topic guide for my main systems mapping consultations, conducted with a range of stakeholders, specifically about access to these projects.

Sense checking the IPTs in the groups and interviews allowed emerging discussions to confirm, question or discard certain theories. It also facilitated priority setting to inform the theories to be tested in subsequent stages of the research. I had originally planned to go through each one

in a list while the interviewee(s) discussed key variables. However it became easier in practice to incorporate programme theories in discussions about variables, rather than specifically reading them out separately. For example, parts of the relevant theory were fed into common discussions around the level of trust between the woman and the practitioner. Because of this, not all IPTs were covered in each discussion. In these cases I referred back to comments made that linked in with these theories, to help me to understand how relevant they had been to those perspectives and which elements of them appeared to have worked or not worked. The need to introduce draft theories also meant that at times I had to bring elements into the discussion that hadn't naturally emerged. Marketing was one of the key examples of this, where although it tended to not be mentioned by participants, it was necessary to probe around the importance of written materials, including how provision for Dads and partners may have been explained to women.

Staff were asked to share their experiences of delivering the programmes. It was felt that BSB staff in particular may be motivated to play down the influence of certain factors that had impacted on the success of the projects, where they were in control of or leading on delivery of these factors. However, the sampling framework involved a range of additional stakeholders, such as third party deliverers and parents, to help to counter any bias. It is worth noting that deeper comments about women experiencing services from within the context of their own backgrounds, expectations and previous interactions with statutory and community services tended to come from those who were designing and delivering projects rather than the women themselves. Although I conducted two focus groups with pregnant women, the focus of the systems mapping methodology didn't involve deep probing into the context of their own lives and their own personal motivations. More detailed conversations with women took place during the subsequent ethnography study, where draft theory was tested (reported in Chapter 5).

The nature of systems mapping means that 'final' maps as presented here are never really final, as a system can be constantly changing and evolving, especially during times of significant upheaval such as during a pandemic. However, it does provide a snapshot of the dynamics of the system and where potential points of intervention may lie and can indicate their adaptability or their resilience. And this is key for understanding how to improve engagement.

3.9 Implications for Practitioners and Researchers

A few additional programme theories emerged from the analysis of these data, for example, the perception of health professionals as trustworthy and potential negative connotations of venue. The purpose of the next stage of research was to incorporate these findings into a refined set of programme theories that would then be tested, to inform suggestions for future actions. However, a number of broad recommendations were considered at this stage of the evaluation.

- Further investigate the most effective ways of developing repeated contact between a woman and her practitioner, both offline and online (e.g.: extended midwife appointments; home visits; zoom calls; use of WhatsApp)
- Consider extending the role of community workers such as neighbourhood workers in communicating the value of antenatal education within a context of community readiness (promotion of messages, perhaps provision of a gift of relevant products such as books for the family and materials related to pregnancy[124])
- Train practitioners including midwives, community workers to scope out the demand for group-specific provision in the BSB community (Dads, partners, asylum seekers and refugees, different ethnic backgrounds, cultural groups)

3.10 Implications for Future Research

- The maps produced a large amount of qualitative detail that could be further explored in follow-on research, such as the importance of communicating how parent education will improve knowledge about looking after baby when he/she arrives, or the availability of time and training for midwives to know the details about the range of what is on offer

3.11 Conclusion

The consultation process, involving a range of different stakeholders, allowed me to gather a detailed set of visual information that contributed to an overall view of access to community antenatal projects as a system. Resulting data indicated that there is a large amount of context that contributes to whether a woman and her partner would decide to attend a session, some of which contributed to additional theory.

The next Chapter (Chapter 4) introduces the revised programme theory for this evaluation. It includes how this was developed from data, collected from the Rapid Realist Review and the Systems Mapping, against the draft Initial Programme Theory (IPT) statements, and was then written into Context, Mechanism, Outcome (CMO) configurations, to be tested through the ethnography (Chapter 5).

Chapter 4 Refined Programme Theories for Testing

4.1 Introduction

This chapter outlines the process of refining Initial Programme Theories (IPTs) that were drafted at the start of the PhD. These theories, written out as 'If...Then...Because' statements were then reviewed against evidence collected within the Rapid Realist Review (Study 1) and the systems mapping fieldwork (Study 2). These were then scrutinized and amalgamated into Context, Mechanism, Outcome (CMO) configurations for testing in the ethnography stage (Study 3).

4.2 Method

4.2.1 Conducting a Review of Evidence for IPTs from Studies 1 and 2

4.2.1.1 Background of IPT Development

The IPTs that were refined were originally drafted from a review of national policy documents and reports (mainly grey literature) regarding the delivery of antenatal provision in the community. Knowledge from these literature was combined with anecdotal information from staff delivering BSB's projects and other stakeholders on the 'architecture' of the programmes[39] and what was happening locally in terms of engagement with these services. This led to the writing out of proposed theories that appeared to be pertinent to what was already known on a national level and challenges and facilitators to engagement that had reportedly been experienced in the local area. These are listed in Table 4.1. Members of the evaluation Reference Group were consulted on this list of draft theories and amendments were made where required to ensure these were relevant, before data collection started for studies 1 and 2.

4.2.1.2 Mapping Evidence Against the IPTs

Each of these IPTs were then reviewed in turn in terms of how well they had been supported by these data, as highlighted in Table 4.1 Draft 'If...Then...Because' Statements and Additional Theories, Mapped Against Evidence from Review of Literature and Systems Mapping Table 4.1. The first step involved identifying relevant narratives that had been extracted from papers and other literature during the Rapid Realist Review. Second, qualitative data collected from interviews and focus groups conducted for the systems mapping study were 'mined' for commentary that related back to that particular theory.

4.2.1.3 Classifying the Strength of the IPTs

I made a judgement about whether each theory was 'important', 'quite relevant' or 'less important', based on the stated relevance of these elements in the searched literature in terms of encouraging engagement with antenatal interventions. These classifications were not

linked to the amount (volume) of evidence available. I also then factored in the stated importance of these variables in the systems mapping focus groups and interviews. For example, data emerging from both studies highlighted the prioritisation of other ‘needs’ above requirements related to mother and baby as a significant barrier to attendance. Women and staff involved in the systems mapping fieldwork reported the impact of uncertainties about how women could seek advice or information during COVID-19 when literature had not yet been published on this issue. Colour coding was used to identify whether different elements had been referred to in the literature (blue), the systems mapping data (green) or both (red). An additional code of ‘-’ was added for statements that had been supported by the initial review of policy documents and observations of meetings but evidence had not been forthcoming in the Rapid Realist Review or the systems mapping. The emergence of these factors was due to be tested in the ethnography (Study 3).

4.2.2 Development and Classification of Draft CMO Configurations

4.2.2.1 Deciphering Appropriate Configurations

Each draft programme theory was then written out as a Context, Mechanism, Outcome (CMO) Configuration. In realist evaluation, these configurations are used as a ‘heuristic’ to help explain ‘generative causation’ [35], looking at what is contributing to the end effect of an intervention. Each one should suggest how the mechanism (resources and reactions), has interacted with the context (environment) to result in the outcome in question ([32, 35]. The overall aim is to offer a description of what might be happening, to ‘provide the most plausible explanation of the outcomes observed in the study’ [158]. These configurations can then be further updated once data collection and analysis has taken place. The configurations were again given a classification in terms of their apparent importance to engagement in community antenatal projects. I made this judgement based on the classification of the draft IPT(s) it had been drawn from. Where there were similarities between some theories, these were combined into one overall refined statement.

4.3 Results

4.3.1 Relative Importance of IPTs

Table 4.1 outlines the reported importance of the content of each theory to engagement and the ‘code’ column labels the theory as ‘important’, ‘quite relevant’, or ‘less important’. This category directly relates to the original wording of the IPT. Some new theories emerged from the first two studies that were outside of the explanations within the draft IPTs and these were reviewed in the same way. These are also included in the table, marked by *ADDITIONAL*. The table includes initial sources and how these were supported by the evidence reviewed.

Table 4.1 Draft 'If...Then...Because' Statements and Additional Theories, Mapped Against Evidence from Review of Literature and Systems Mapping

<p>Key</p> <p>Blue text – Rapid Realist Review</p> <p>Green text – Systems Mapping</p> <p>Red text – Both</p> <p>Important: Stated importance to engagement by literature and stakeholders</p> <p>Quite relevant: Stated importance to engagement by literature and stakeholders</p> <p>Less important: Stated importance to engagement by literature and stakeholders</p> <p>(IPTs marked as '-' there was an absence of data for these IPTs but the emergence of these factors was tested in the ethnography)</p>
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Initial Statements		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source ³⁶	Code ³⁷
<u>1. Marketing to Dads</u>					
<p><i>'If the text of the marketing materials explicitly invites fathers to join the project and outlines project content and activities focusing on/including Dads (resource)</i></p>	<p><i>...then the Dads may feel more willing to engage (reasoning), or more likely to attend (outcome)...because they expect that more Dads will be present and they will be more willing to share their experiences and learn from each other (reaction)'. </i></p>	<p>Preparation for Birth and Beyond: a resource pack for leaders of community groups and activities (2016)[28], Schrader McMillan et al (2009)[59]</p>	<p>Dads may feel more willing to engage or more likely to attend because they expect that <u>other</u> Dads will be present and they will be more willing to share their experiences (reaction).</p> <p><u>N.B. The reviewed literature did not specifically refer to inviting fathers to attend through written marketing materials</u>, but discussed the impact and experience of participating in sessions in an environment where other Dads were present</p> <p>Systems mapping data confirmed there may be an improved experience if in groups with other Dads.</p>	<p><i>"It's just good to get a bit of man-talk out in the open": Men's experiences of father-only antenatal preparation classes in Tasmania, Australia. (Nash, 2018)[105]</i></p> <p><i>A realist synthesis of social connectivity interventions during transition to parenthood: The value of relationships (Bennett et al, 2017)[75]</i></p>	<p>Quite relevant</p>

³⁶ The main examples of relevant literature are included here.

³⁷ Based on stated relevance of these elements in the searched literature and systems mapping data in terms of encouraging take up.

Initial Statements		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
2. Marketing to Include Specific Ethnic Groups: a) Availability of different languages					
<p><i>'If the text of the marketing materials (is in a specific language or) explicitly states that different languages can be understood and that conversations are possible using these languages (resource)...</i></p>	<p><i>...then parents with English as a Second Language may feel that their needs will be understood (reasoning)...because the programme facilitator and other parents in the programme will be fully aware of their experiences and/or concerns and may be able to offer their own response and reassurances to answer these (outcome)'.</i></p>	<p>Preparation for Birth and Beyond: a resource pack for leaders of community groups and activities (2016), EIF: engaging disadvantaged and vulnerable parents: an evidence review (2019)[27].</p>	<p><i>[If a practitioner] states that different languages can be understood and that conversations are possible using these languages (resource), then parents with English as a Second Language may feel that their needs will be understood (reasoning).</i></p> <p>N.B. The reviewed literature mainly referred to the importance of practitioner understanding of cultural context and sensitivities and that inclusion of discussions in their main language was a central part of this. This included during standard antenatal appointments and use of adequate interpreters. <u>The use of marketing materials to convey this was not present in the literature included in this study.</u> <i>Small amount of feedback on the importance of being inclusive of different languages where required, to ensure women felt understood.</i></p>	<p>Negative impact – where this doesn't happen is documented in <i>Increasing the early initiation of antenatal care by Black and Minority Ethnic women in the United Kingdom:</i> (Hollowell et al, 2012)[80]</p> <p><i>Somali refugee women's experiences of maternity care in west London: A case study</i> (Bulma et al, 2002)[88]</p> <p><i>Meta-synthesis of barriers to antenatal care for marginalised women in high-income countries</i> (Downe et al, 2009)[78]</p>	<p>Quite relevant</p>

Initial Statements		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
b) Inclusivity, covering different faiths and cultures					
<p><i>'If the text of the marketing materials explicitly states that project content will be inclusive/sensitive to the needs of specific faiths and cultures (resource)</i></p>	<p><i>...then people in these cultures may feel more willing to engage (reasoning), or more likely to attend (outcome)...because they expect that more parents from these faiths and cultures will attend (reasoning)'. </i></p>	<p>Preparation for Birth and Beyond: a resource pack for leaders of community groups and activities (2016)</p>	<p>If project content is inclusive/sensitive to the needs of specific faiths and cultures (resource), then people in these cultures may feel more willing to engage (reasoning).</p> <p><u>N.B. Literature mentions these types of groups but does not refer to how they may be marketed or the effectiveness of that process.</u> The presence of practitioners from different cultures help women to feel understood and not judged (eg: cultural practices). However, the literature does not mention that this would actually help encourage people to attend.</p> <p>A small amount of systems mapping data suggested specific cultural groups can be useful for women.</p>	<p><i>Empowering families by engaging and relating Murri way: a grounded theory study of the implementation of the Cape York Baby Basket program (McCalman et al, 2015)[100]</i></p>	<p>Quite relevant</p>

ADDITIONAL Statement		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
Capacity/candidacy of women		Rapid Realist Review Systems mapping fieldwork	<p>Starting point for women, whether they see themselves as ‘candidates’ for antenatal support (cultural and other reasons) (eg: literature on late access/bookings for women, including ethnic minority groups).</p> <p>Whether women feel they ‘need’ the support eg: beliefs about the value of antenatal care, influence of family members.</p>	<p><i>Understanding delayed access to antenatal care: a qualitative interview study</i> (Hadrill et al, 2014)[93]</p> <p><i>A public health perspective of women's experiences of antenatal care: An exploration of insights from a community consultation</i> (Thomson et al, 2013)[114]. (Also Meyer et al 2016)[102]</p>	Important
Prioritisation of other ‘needs’ above requirements related to mother and baby		Rapid Realist Review Systems mapping fieldwork	<p>Needs include financial and housing pressures as well as looking after family members. The desire to address these needs can overtake the decision to access antenatal care.</p> <p>Basic needs that need to be met eg: reporting to Home office, looking after other children.</p> <p>Because of this, antenatal provision seen as a ‘nice to have’ for some families.</p>	<p><i>Timing of the initiation of antenatal care: An exploratory qualitative study of women and service providers in East London</i></p> <p>Hatherall et al (2016)[94]</p> <p><i>Meta-synthesis of barriers to antenatal care for marginalised women in high-income countries</i> (Downe et al, 2009)[78]</p>	Important

ADDITIONAL Statement		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
Stereotypes about fathers' roles in pregnancy		Rapid Realist Review Systems mapping fieldwork	Small amount of literature on this. Assumptions made by services about how invested fathers would be, what information they would have liked and what support needs they had.	<i>Assessing the impacts of an interdisciplinary programme supporting father involvement on professionals' practices with fathers: A qualitative study</i> (deMontigny, 2020)[89]	Quite relevant
Perception of health professionals (eg: midwife) as trustworthy/reliable		Rapid Realist Review Systems mapping fieldwork	Not mentioned in the literature. Some families felt that health professionals should always be listened to as they could be trusted, they knew what was best for the woman (as reported by BSB staff and project deliverers).		Quite relevant
Perception of midwife as figure of authority		Rapid Realist Review Systems mapping fieldwork	Not mentioned in the literature. If midwife recommended it, women felt they 'should' probably do it (as reported by BSB staff and project deliverers).		Quite relevant

Initial Statements		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
<u>3.Contact Process</u>					
a) Contacting pregnant women via telephone (3b) has been merged with this IPT³⁸					
<p><i>'If expectant mothers are contacted via telephone (resource)...to be offered information on the different programmes available to them (resource)</i></p>	<p><i>...then this allows for initial discussion of needs (resource) and opportunity to consider why a project may be helpful (reasoning) and make them likely to try out a session (outcome) because it gives knowledge about what is available (resource)'...then mothers are more aware of what is on offer (outcome) and may be more likely to agree to attend (outcome) because they are equipped to consider what may be helpful (reasoning)'.</i></p>	<p>Workshop to pilot systems mapping methods, discussions at antenatal pathway meetings</p>	<p>(Currently can't find anything in literature to support this) (Has not emerged from systems mapping fieldwork) N.B. May emerge from ethnography – will not exclude</p>		-

³⁸ On reflection, a small number of the IPTs were merged together in this table where there were some similarities, to make this more succinct for the reader.

Initial Statements		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
<u>4. Signposting and Referrals</u>					
a) Availability of information and time to introduce interventions/programmes (4b) and 4f) were merged with this IPT)					
<p><i>'If midwives have available to them the information on the range of projects for expectant parents and how they are focussed (resource), AND have received training on importance of covering these (resource), AND have the time within an appointment (context) AND expectant parents are signposted (resource), 'If midwives do not know what support would be beneficial (context),</i></p>	<p><i>...then this provides an opportunity to discuss needs (resource) and appropriate signposting will be made that are in line with priority needs (outcome), because midwives can recognise what action or support would be beneficial (response), as there is 'space' to introduce the projects (resource), which may help parents feel the activity could be useful (reasoning) and more likely to attend (outcome)'...then appropriate signposting and referrals would not take place (outcome), because midwives do not know what is on offer (resource)'.</i></p>	<p>Workshop to pilot systems mapping methods, discussions at BSB antenatal pathway meetings</p>	<p>AND they have the time within an antenatal appointment to do this (discuss range of community antenatal programmes available) (context) then appropriate signposting will take place and referrals will be made in line with the needs of those families (outcome).' [contact with practitioner (resource), then this provides opportunity to discuss needs (resource), because there is 'space' to introduce the projects (resource). N.B. There was a limited amount on midwives' knowledge of what antenatal support may be available. A good amount of time in a discussion can facilitate attendance.</p>	<p><i>Protective steering: a grounded theory study of the processes by which midwives facilitate informed choices (Levy, 2006)[98]</i></p> <p><i>A Comparison of Recruitment Methods for an mHealth Intervention Targeting Mothers: Lessons from the Growing Healthy Program (Laws et al, 2016)[97]³⁹</i></p> <p><i>Midwives' experiences of referring obese women to either a community or home-based antenatal weight management service (Atkinson et al, 2017)[85]</i></p>	<p>Important</p>

³⁹Relates to practitioners rather than midwives specifically.

Initial Statements		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
<i>g) Availability of time compared to standard antenatal appointments</i>					
<p><i>'If a longer period of time is available for individual-practitioner communication when compared to standard antenatal appointments in hospital/GP settings (resource)</i></p>	<p><i>...then parents may feel more valued (reaction) and be more likely to attend a recommended programme session (outcome), because they have had a longer time window to discuss their individual circumstances (resource) and therefore feel the practitioner has recommended something they felt was beneficial to them as individuals, considering their individual needs (reasoning)'.</i></p>	<p>Better Births; continuity of carer agenda, 2017[65]</p>	<p>If a longer period of time is available for individual-practitioner communication when compared to standard antenatal appointments in hospital/GP settings (resource) then parents may feel more valued (reaction)</p> <p>N.B. The reviewed literature refers to the impact of a longer period of time (appointment or otherwise) to discuss women's needs in standard antenatal care, without feeling rushed. This was sometimes linked with the importance of seeing the same practitioner each time.</p> <p>Data confirmed the importance of allowing time to build a relationship with women, perhaps through repeated contact.</p>	<p><i>Provision and uptake of routine antenatal services: a qualitative evidence synthesis</i></p> <p>(Downe et al, 2019)[77]</p>	<p>Important</p>

ADDITIONAL Statement		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
Increased anxiety since start of COVID-19			Women asking for advice and information from projects, self-referring or asking for referrals as were more unsettled at this time (what will happen, who can be with me at appointments, in labour and birth?).	No literature yet.	Quite relevant ⁴⁰

⁴⁰ As above.

Initial Statements		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
c) Intervention availability throughout pregnancy (4d), 4e), 4f) has been merged with this IPT)					
<p><i>'If certain programmes are aimed at women within a specific stage of pregnancy, covering a certain gestational window (resource),</i></p> <p><i>'If women are eligible for a range of community antenatal programmes at specific stages in their pregnancy (resource),</i></p>	<p><i>...then midwives and practitioners can check women's' eligibility and signpost if appropriate and gestational timings fit (outcome), because they are aware of whether they are eligible (reasoning)'....then women can be signposted or referred when they are not eligible (response), causing lower levels of uptake (outcome) because women are excluded (outcome - unintended)'. ...then the midwife, practitioner or woman is required to prioritise which would be most advantageous (reasoning) because enrolling may use up all available time to attend other activities (response)'. </i></p>	<p>Workshop to pilot systems mapping methods, discussions at BSB antenatal pathway meetings</p>	<p><i>(Issue not discussed within the literature reviewed)</i></p> <p><i>(Has not emerged from systems mapping fieldwork)</i></p> <p>Emergence of these factors to be tested in the ethnography.</p>		-

Initial Statements		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
<u>5.Role of/Attributes of Practitioner</u>					
a) Use of compassion and respect					
<p><i>'If compassion and respect are employed by the practitioner (resource),</i></p>	<p><i>...then this can create a feeling of trust on behalf of the parent (reaction), leading to clear individual-practitioner communication and improved satisfaction with the process (outcome), because they feel that their feelings needs and concerns have been listened to (reaction)'. </i></p>	<p>EIF: engaging disadvantaged and vulnerable parents: an evidence review, 2019</p>	<p>'If compassion and respect are employed by the practitioner (resource), then this can create a feeling of trust on behalf of the parent (reaction), leading to clear individual-practitioner communication and improved satisfaction with the process (outcome) N.B. The literature suggests that displaying compassion contributes to development of trust from woman's perspective. The converse of this is also a factor.</p> <p>Displaying compassion contributed to trust, including understanding anxieties women had about looking after baby. Appreciating the cultural context, influenced the level of respect shown to women.</p>	<p><i>Caring for Pregnant Refugee Women in a Turbulent Policy Landscape: perspectives of health care professionals in Calgary, Alberta (Winn et al, 2018)[117]</i></p> <p><i>The Midwife-Woman Relationship in a South Wales Community: Experiences of midwives and migrant Pakistani women in early pregnancy (Goodwin et al, 2017)[92]</i></p>	<p>Important</p>

Initial Statements		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
b) Understanding of different cultural contexts					
<p><i>'If practitioners with similar experiences to the target population, such as speaking the same language and same gender are recruited to programmes (resource),</i></p>	<p><i>...then this can help parents feel their queries and concerns will be heard (reaction), because they feel they will be able to effectively communicate their own needs (outcome as well as reaction). They may also feel 'safer', as they feel these needs will be effectively listened to (outcome as well as a reaction)'. In response, to this they may be more open with their feelings and be more likely ask for help (outcome)'.</i></p>	<p>EIF: engaging disadvantaged and vulnerable parents: an evidence review, 2019</p>	<p><i>'If practitioners with similar experiences to the target population, such as speaking the same language... They may also feel 'safer', as they feel these needs will be effectively listened to (outcome as well as a reaction)'. In response, to this they may be more open with their feelings and be more likely ask for help (outcome)'.</i></p> <p>N.B. Understanding of the importance of cultural context (through language, gender, shared cultural heritage), contributes to respect shown to women and development of trust. Otherwise they may fear being judged for their beliefs and family practices.</p> <p><i>Limited data suggested that women valued contact with practitioners who had similar experiences, beliefs and language.</i></p>	<p>The achievement of 'cultural competence' in practice is important as identified in <i>The value of a learner's stance: Lessons learned from pregnant and parenting women</i> (Humbert et al, 2009)[96]</p> <p><i>Enhancing Healthier Birth Outcomes by Creating Supportive Spaces for Pregnant African American Women Living in Milwaukee</i> (Mkandawire-Valhmu et al, 2018)[103]</p>	<p>Quite relevant</p>

Initial Statements		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
6.Accessibility of Venue a) Ease of access (by public transport)					
<p><i>'If the programme is delivered at a venue that is easily accessible by public transport (context),</i></p>	<p><i>...then parents may feel that it would be easy and simple to get there (reasoning) and be likely to attend (outcome), because they can probably get there and back home quickly and efficiently (response, reasoning?)'.</i></p>	<p>Workshop to pilot systems mapping methods</p>	<p><i>'If the programme is delivered at a venue that is easily accessible by public transport (context), then parents may feel that it would be easy and simple to get there (reasoning) and be likely to attend (outcome).</i></p> <p>N.B. Available literature reports that easy, cost effective to travel to/to get to helps to encourage attendance.</p> <p>Systems mapping data suggested that a venue which is within walking distance or easy to get to via cheap public transport is a facilitator to attendance. Use of private transport such as taxi is less attractive to some cultures (e.g.: male taxi driver).</p>	<p><i>Designing, Implementing, and Evaluating a Community-Based Antenatal Education Program</i> (Zachary, 2016)[119]</p> <p><i>Factors that influence the uptake of routine antenatal services by pregnant women: a qualitative evidence synthesis</i> (Finlayson et al, 2016)[15]</p>	<p>Important</p>

Initial Statements		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
6.Accessibility of Venue b) Availability of programmes at different times of day					
<p><i>'If the project session is offered at times of day outside of school 'drop off' and 'pick up' times for older children (resource),</i></p>	<p><i>...then parents may feel less concerned about not meeting the needs of other family members (reaction) and be more likely to attend the session (outcome), because they have less family commitments (reasoning) and therefore are more mentally 'free' to think about this (intended/unintended outcome)'.</i></p>	<p>Workshop to pilot systems mapping methods</p>	<p>'If the project session is offered at times of day outside of school 'drop off' and 'pick up' times for older children (resource), then parents may feel less concerned about not meeting the needs of other family members (reaction) and be more likely to attend the session (outcome), because they have less family commitments (reasoning) and therefore are more mentally 'free' to think about this (intended/unintended outcome)'. N.B. There was some mention in the literature about importance of sessions outside of working hours. Comments made in the systems mapping related to frustration over timings that restricted working parents or with other children.</p>	<p>Schedule can be an issue for both parents: <i>Franco-Ontarian parenting couples living in the Ottawa region and their perceptions regarding the usefulness of prenatal classes</i> (Moreau et al, 2015)[104]</p> <p><i>Fathers' experiences of their transition to fatherhood: a metasynthesis</i> (Chin et al, 2011)[76]</p>	<p>Quite relevant</p>

Initial Statements		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
<u>6. Accessibility of Venue c) Provision of childcare</u>					
<p>'If childcare is offered 'on site' for the duration of programme sessions (resource),</p>	<p><i>...then parents may feel less concerned about not meeting the needs of other family members (reaction) and be more likely to attend the session (outcome), because they feel other children's needs are being met/catered for (reasoning) and therefore are more mentally 'free' to think about this (intended/unintended outcome?)'.</i></p>	<p>Workshop to pilot systems mapping methods</p>	<p><i>...then parents may feel less concerned about not meeting the needs of other family members (reaction) and be more likely to attend the session (outcome).</i></p> <p>N.B. A small amount of literature mentioned the usefulness of childcare (which would usually in other circumstances incur a cost or would not be available from social networks) in encouraging attendance, but not why this would make a difference.</p> <p>A few comments were made on the importance of childcare to help encourage attendance if a parent was looking after another child.</p>	<p><i>A systematic review of the effectiveness of interventions to increase the early initiation of antenatal care in socially disadvantaged and vulnerable women (Oakley et al, 2009)[82]</i></p> <p><i>A systematic review of asylum-seeking women's views and experiences of UK maternity care (McKnight et al, 2019)[81]</i></p>	<p>Quite relevant</p>

ADDITIONAL Statement		Initial Source	Elements Found (in wider literature or systems mapping fieldwork)	Literature Source	Code
Negative connotations of venue		Rapid Realist Review Systems mapping fieldwork	Association of some venues with being judged in some way because of other organisations based on same site eg: social service agencies (small amount of data).	<i>A qualitative evaluation of women's experiences of the Mellow Bumps antenatal intervention</i> (Breustedt, 2013)[87]	Quite relevant
Availability of online provision since start of COVID-19			Reports that a greater proportion of women were signing up to online courses (mainly parent education sessions) compared to when delivered face-to-face, could be linked to increased anxiety (see below), accessibility, more options for accessing support.	No literature yet.	Quite relevant ⁴¹

⁴¹ Had to mark this as weak as no literature found yet, may be evidence published on this in the future.

4.3.2 Draft CMO Configurations for Testing

Resulting configurations that were then tested in Study 3: An Ethnography with Key Stakeholders (Chapter 5) are presented in Table 4.2. Those that were the result of a combination of the original draft IPTs are highlighted by the label 'combined'.

<p>Key:</p> <p><u>Context</u> – background, environment (outside of the intervention)</p> <p><u>Resource</u> – opportunity to do something</p> <p><u>Response</u> (falls within below three categories)</p> <p><i>Response (cognitive/practical)</i></p> <p><i>Reasoning (judgement)</i></p> <p><i>Reaction (emotional)</i></p> <p><u>Outcome</u> – the resulting effect[35]</p>
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Table 4.2 Draft CMO Configurations for Testing, Including Original IPTs

<u>Code</u>	<u>Related Theme</u>	<u>CMO Configuration</u>
<p>Important (combined, originates from IPT: 3a); 4a))</p>	<p>Situating the project offer within women's life experiences and needs</p>	<p><u>Time to get to know the woman and understand her life situation</u></p> <p><i>An allocation of time that allows the practitioner to ask questions about the woman's life situations, priorities and concerns (mechanism: resource), can contribute to an understanding of their needs and the knowledge for the practitioner to provide information about programmes that might be most appropriate to her (mechanism: response), leading to a tailored set of advice (outcome).</i></p>
<p>Important (combined, originates from IPT: 3a); 4a))</p>	<p>Situating the project offer within women's life experiences and needs</p>	<p><u>Time to explain what is available and why this may be relevant to that woman with her needs</u></p> <p><i>Where women receive information about how available programmes could help to address their stated priorities and needs (mechanism: resource), this could encourage them to think about what is on offer and how it will help them (mechanism: response) and to come to a judgement that this may make a difference to their daily lives</i></p>

		<i>(mechanism: reasoning), because it is seen as ‘worth’ their time (outcome).</i>
<p>Important/quite relevant</p> <p>(combined, originates from IPT: ADD*</p> <p>Prioritisation of other ‘needs’ above mother and baby; ADD*</p> <p>Increased anxiety since start of COVID-19)</p>	<p>External factors impacting on whether programmes are seen as important</p>	<p><u>Prioritisation of other, significant needs</u></p> <p><i>Where daily external pressures such as living status, care for other children, financial constraints are requiring regular attention from families (context), women can feel that there is little time for other activities (mechanism: reasoning, reaction), because of this, the idea of attending an antenatal project may not be considered (outcome). [this has been disrupted slightly by Covid 19, as it has brought about uncertainties about pregnancy and may have mobilised people more than normal].</i></p>
<p>Important/quite relevant</p> <p>(originates from IPT: ADD* capacity and candidacy of women)</p>	<p>Whether women feel they ‘need’ the support (candidacy)</p>	<p><u>Beliefs about whether they ‘need’ support e.g.: thought systems about value of antenatal care, influence of family members.</u></p> <p><i>Influences from family members and cultural beliefs (context), may frame antenatal care as being of low value (context), leading women to feel it is not something they ‘should’ be doing and that other activities are more important or worthy in their lives (mechanism: reaction, reasoning), affecting the degree to which information about antenatal programmes is considered (outcome).</i></p>
<p>Important</p> <p>(originates from IPT: 6a))</p>	<p>Accessibility of venue</p>	<p><u>Convenience of local venues</u></p> <p><i>Where programme sessions are delivered at a local venue (mechanism; resource), that is walking distance or easily accessible by public transport (context), or accessible online, women may feel it would take little thought to plan their attendance (mechanism: reasoning) and therefore may consider it as fairly ‘easy’ to attend (outcome).</i></p>
<p>Important</p> <p>(originates from IPT: 5a)</p>	<p>Compassion of practitioners⁴²</p>	<p><u>Woman feels understood by practitioner, use of compassion</u></p>

⁴² It was unclear if these were facilitators to attendance, or simply ensured comfort and satisfaction while there.

		<i>Where compassion and respect are employed by the practitioner (mechanism: resource), this can help to create a feeling of trust on behalf of the parent, as they feel their feelings, needs and concerns have been listened to (mechanism: reaction), which can lead to clearer individual-practitioner communication and improved satisfaction with the process (outcomes).</i>
Important/quite relevant (combined, originates from IPT: ADD* stereotypes about fathers' roles, 1, 2a), 2b), 5b)	Feelings of safety, with others in similar situation	<u>Will people 'like me' be there? (no judgement)</u> <i>Where women and partners feel there may be other people with similar backgrounds, needs, priorities and experiences to them attending a programme session (mechanism: resource), they may anticipate that others will understand their views and they will feel safe and not judged (mechanism: reasoning), which may help them to feel more comfortable and more likely to try it out (outcome).</i>
Important/quite relevant (originates from IPT: 6a))	Use of travel options	<u>Impact of more complex travel requirements</u> <i>If some form of public or private transport is needed to travel to the venue from their home (context), cost of travel or the need to organise a taxi can cause women to feel uncomfortable, especially with the likelihood of a male driver (for some cultures) (mechanism: response, reaction) and lead women to feel it is not a viable option (outcome).</i>
Quite relevant (combined, originates from IPT: ADD* negative connotations of venue)	Familiarity with venue	<u>Associations made with venues, based on experience and judgements</u> <i>The use of specific community centres that also include or host other agencies such as social services (context) can create a sense of concern or distrust with the programme(s) in question (outcome) as women may worry about being judged or asked questions about their home life (mechanism: reaction).</i>
Quite relevant (combined, originates from IPT: 6c); 4d); 4f); ADD* availability of	Timing of provision	<u>Available at a time and in a format that suits women (this also relates to partners who can feel excluded on this basis), options for different times of day , needs to feel 'doable', daytime is not always workable for woman or partner</u>

<p>online since start of COVID-19</p>		<p><i>A range of options for attending programme sessions, including daytime, evening and weekend slots, online sessions (mechanism: resource) may allow women and their partners to feel that this provision is 'for them' (mechanism: reasoning) as it is available at times they can attend. This also means they are able to cater for other children's needs, negotiate childcare and work requirements (mechanism: reasoning) and still have the opportunity to attend a session and are more mentally 'free' to think about attending a session (outcome).</i></p> <p>(negative programme theory for the above)</p> <p><i>Where programme sessions are only available at set times during the day, dictated to by community venues (context), women and their partners may feel their needs are not being considered if they have other children to look after or are working (mechanism: reasoning), therefore they are less likely to attend or it is not possible for them to do so (outcome).</i></p>
<p>Quite relevant (originates from IPT: 3a); 4a); 4g); ADD* health professionals can be trusted; ADD* seen as a figure of authority</p>	<p>Significance of referral or signposting by a midwife</p>	<p><u>Perception of health professionals (eg: midwife) as more trustworthy/reliable</u></p> <p><i>Introduction of the programme by a midwife (mechanism: resource) can help to ensure that women see it as something 'worthwhile' to do (outcome) as it has been recommended by someone of professional authority who may have judged it to be valuable for women (mechanism: reasoning).</i></p>

4.4 Conclusion

This chapter highlights how the data from studies 1 and 2 had been collated against draft programme theories to help categorise the relevance of each of these. The resulting updated theories (CMO configurations) were drawn from these and reflect their stated importance, with a recognition that these would be fully tested through the ethnography, including those where data had not emerged from the initial work to support them.

Chapter 5 Theory Testing: An Ethnography of Key Stakeholders (Study 3)

5.1 Introduction

The Rapid Realist Review of literature and the systems mapping exercises with stakeholders (Chapters 2 and 3) provided information for development of the draft CMO configurations. To further investigate and test my updated theories, I planned a study to further explore the potential reasons for low take up of community antenatal projects, by immersing myself in the situations and contexts within which women may have contact with information about BSB's offerings. I wanted to review what was really going on when women had contact with individuals about the available provision, what sort of information they were given, how they interacted with this and their reflections on how this may have fitted with their own lives and needs. This approach was intended to help to confirm, further develop or refute existing ideas about what might be happening in practice and would ensure that findings and recommendations presented to BSB were grounded in an understanding of this reality.

5.2 Ethnography

Ethnography (in this case, multi-sited ethnography[159]), is a useful approach for gaining knowledge about processes, looking at how events unfold over time and within different circumstances. Unlike individual interviews or surveys, this methodology involves observation of in the moment actions and behaviours, which would be difficult for participants to remember or document retrospectively[160]. It is an ideal way to test ideas about why community antenatal projects may be accessed, in certain settings by different people, in different contexts[161]. Ethnography can help to uncover understanding about the range and variation within these patterns, as reflected by the researcher, through observations of different events, focussing on how contexts within which people are operating can change or shift, according to different time points, actors and influences. It advances understanding of changes in peoples' responses, according to structures, relationships and beliefs and links in with the behaviour of systems, as well as systems changes. This is especially helpful within complex provision, when considering triggers for behaviour change[162].

5.3 Aims and Objectives

5.3.1 Aim

To test candidate programme theories outlined in Chapter 4 (and developed as part of research outlined in Chapters 2 and 3), associated with how, why and in what contexts parents-to-be access community based antenatal projects.

5.3.2 Objectives

- To further understand what resources or reasoning (mechanisms) may be ‘triggering’ whether or not expectant parents attend a community antenatal project
- To identify and test any additional programme theories not already identified in the preceding work
- To generate a greater understanding of the conditions and constraints within which the local population live, which might be impacting on access and how different experiences may be bounded in space
- To feed into the explanatory map of take up of these projects as a ‘system’, illustrating tested programme theory

5.4 Design

5.4.1 Overview of Ethnography Within this Realist Evaluation

In this ethnography I planned to accompany women in their journey towards motherhood, looking at how their experiences of being an expectant parent fitted with their lived experiences and how these influenced their motivations and behaviour regarding accessing services. In keeping with an ethnographic approach, a combination of qualitative methods were used to address the stated aim and objectives, comprising: observation of multiple stakeholders in different settings (including antenatal sessions, online sites where antenatal projects may have been delivered); supported by review of information given out to families; review of online discussions about access to antenatal programmes; a diary app (smartphone app) with pregnant women and their partners; and realist interviews with these participants as well as with practitioners involved in communicating detail about BSB’s projects (Figure 5.1). Practitioners are defined here as a person whom is a point of contact with pregnant women and can include health practitioners as well as BSB project delivery staff.

Methods employed through ethnography, comprising observations, supported by other methods such as interviews help to illustrate a recorded reality of what is being researched on the ground. Such methods can also help to identify potential mechanisms, the apparent responses, reasoning, and reactions that may be occurring in reply to certain intervention resources and environments. As highlighted by Van Belle (2019), ethnography provides a means of looking at ‘underlying’ reasons for what an individual’s actions may be and through this, illustrates potential ‘causal relationships’[163]. It is an iterative method, which lends itself to support development of theories about why an intervention may or may not be working[160, 164]. Although realist evaluations often incorporate realist interviews and/or observations, this study aimed to situate the draft CMOs in an immersive understanding of pregnant women’s experiences through the stepped focusing and funnelling approach where design, sampling and data collection were informed by analysis undertaken in previous stages, ‘in successive phases of research’, covering deconstruction, construction and then

confirmation [160] and via a range of different data sources, allowing for a structured, iterative, and specific route to theory refinement.

5.5 Methods

Methods for this ethnography (Figure 5.1) were designed to capture a range of information on the environments experienced by individuals and communities, as well as detail on what was occurring, why and how. As a starting point, it was important to spend some time observing the different settings, gathering data on how pregnant women and their partners received and discussed information in these places, including informal conversations with them and practitioners who worked there. This involved the review of 'documentary materials' [160] such as leaflets or other marketing that had been given to women attending project sessions and other environments such as clinics, community groups. I drew inspiration from digital ethnography, using some related data collection techniques to enhance my study, allowing me to explore people's lives as they happen, via video, photography, online activity, taking note of how people behave and how they spend their time [165]. It was expected that online spaces giving out information and advice (websites and social media) may be a source of useful commentary regarding views about accessing services and provide information about context and mechanisms arising from general questions or comments on provision. As with the observations, use of a diary app was intended to capture contemporaneous data, enabling pregnant women to record their thoughts and actions 'in the moment' as they are likely to carry their phone wherever they are [166], recording their daily activities and answers to specific questions regarding their local area and their views about antenatal services. Initial observations were considered and used to refine the observation guide. Changes were incorporated into a revised version of the observation guide. Use of the diary app was tested with the first two women who had consented and participated in the study.

The iterative nature of ethnography enabled me to capture further, deeper information through two levels of fieldwork. I was able to sense check programme theory via revised observation guides and topic guides, informed by observable and other data already collected and analysed. This allowed me to pick up on more specific areas of focus or questioning to be employed. In the second level of research, formal interviews were conducted with practitioners and pregnant women to provide a means of testing the draft theories. This was done through the teacher-learner cycle approach to questioning, where the researcher introduces the prepared theories (worded in the third person so it's not focussed on individuals) and the interviewee responds as to how well these fit with their experience [167], allowing for theories to be tested (refuted, confirmed, refined). This allowed the interviews to move beyond partial elements of the interviewee's experience of engagement to further understand the fuller picture. Additional reviews of online commentary and diary work in the app were targeted at specific areas of programme theory that needed to be evidenced further. Interview guides were reviewed after the first two interviews with practitioners and with pregnant women and language was amended to ensure the theories were easy to understand.

A realist evaluation approach to analysis was used to enable refinement of the CMOs[168]. I also used inductive thematic analysis to ensure I was open to new possible information emerging, to help capture new theory, rather than relying on a purely deductive approach to analysis. Ongoing analysis was conducted in line with the iterative design, informing future sampling and data collection.

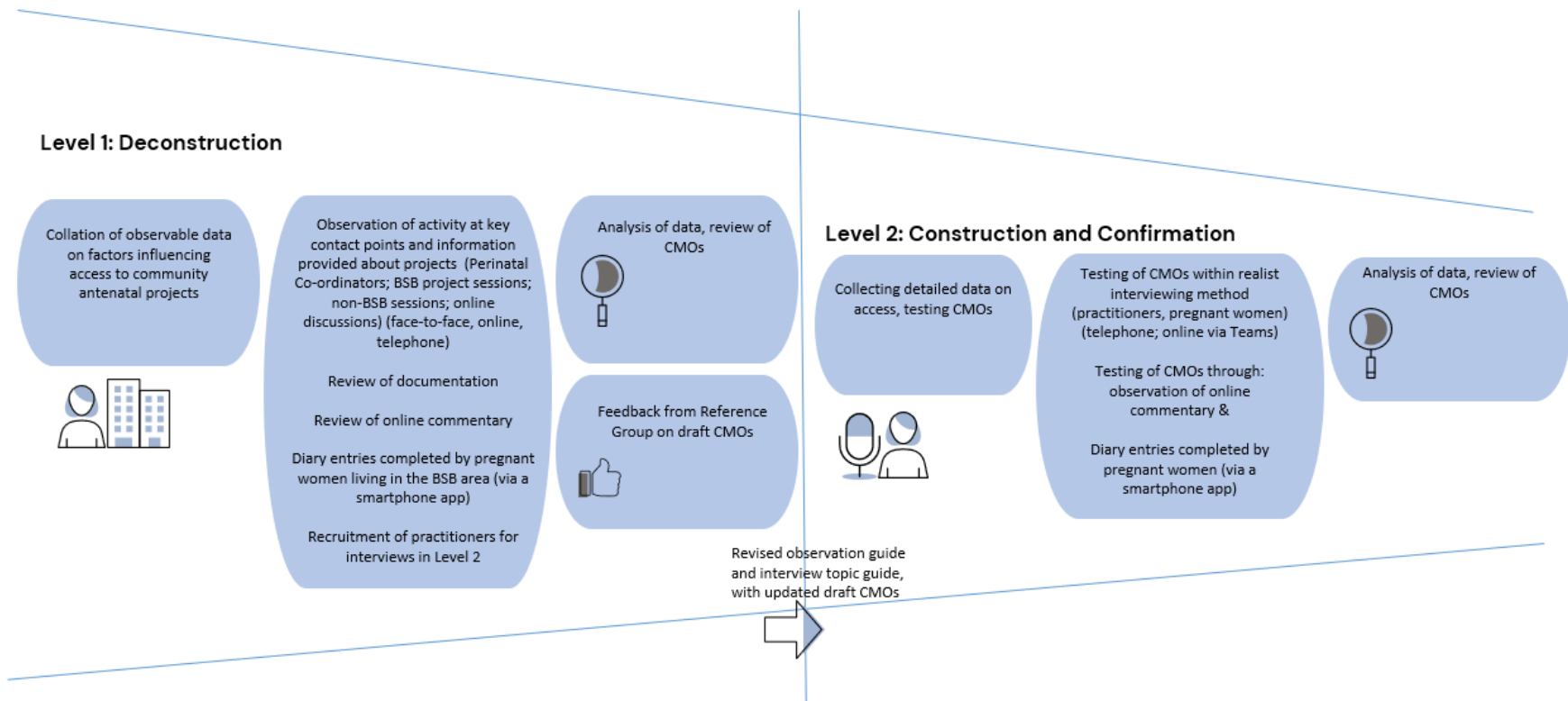


Figure 5.1 Overview of Funnelling and Focusing Design: Levels 1 and 2 (Inspired by deconstruction, construction and confirmation models) [160]

Meeting with Reference Group

Findings from level 1 were discussed with the study Reference Group (see Chapter 2 for an introduction to the Group), to help validate the emerging data and to feed back any suggested changes to the wording of the draft theory, before being presented to interviewees in the realist interviews. After providing an update of the work conducted and a reminder of the purpose of programme theory in the evaluation, I discussed how the theory would be tested in level 2. Members of the group were asked to comment on which CMOs resonated with them and whether any seemed to be missing or if any specific changes were required. Amendments were then made to the statements to be used in the interview guides. Members were also asked to provide any key reports, documents, or papers that may relate to these configurations.

5.5.1 Sampling

Initial sampling was purposive in nature, with subsequent sampling being theoretical, planned at a setting, practitioner and pregnant women level. Sampling was planned to be directed iteratively. This allowed for a stepped review of whether all the appropriate settings and participants had been involved (according to draft programme theory and any new theory emerging), enabling the ethnography to be 'case-oriented' and identifying explanations of causality where possible[163]. Purposive sampling was used in level 1 to provide a range of different settings and coverage of practitioners and pregnant women to allow data to be collected from a diverse base, allowing for variation, within the available resources of the study[169]. Theoretical sampling was used in level 2 to identify the 'validity' of findings[169] emerging from the first level.

Settings Sampling

To cover all the draft programme theories, settings that comprised a range of attributes were considered for inclusion. This was about capturing different contexts for the realist evaluation[154] (background, environment), various activities, actions and how individuals were responding and reacting to these. Settings included those that provided a service or information for women and their partners, relating to community antenatal projects but excluded those used exclusively for clinical monitoring purposes, where no discussions were held with women about access to information and support. Data collated in my previous studies suggested that the following points of information exchange could be pivotal in encouraging access:

- Information and training provided to midwives, community facilitators, about community antenatal projects (including eligibility for the different provisions)
- Significance of attributes of these practitioners in facilitating a positive relationship with women, of compassion and trust (eg: social skills, languages spoken, gender)
- Importance of the strength of these relationships in encouraging women to find out more or to sign up to project sessions

- How BSB's community antenatal projects may be introduced during discussions between women and midwives and community facilitators, where signposting or a referral may occur
- How BSB's projects are further discussed and potentially women referred, by Perinatal Co-ordinators (specialist administrative practitioners at the Bradford Royal Infirmary (BRI) who telephone women to inform them about BSB's projects)
- Printed and online text of marketing materials and how these are interpreted by pregnant women

The sampled settings (outlined in Table 5.1 Sampling Strategy for Settings) reflected these points of contact and comprised: offices of Perinatal Co-ordinators; BSB delivered and non-BSB antenatal sessions (delivered face-to-face and in online environment); websites and social media; as well as the pregnant women's home and social settings to represent their daily lives. Observations from women (as entered into the diary app) could include any setting they felt was relevant to share as part of this remote data collection process. For observations of antenatal provision, I decided that observing two sessions would provide a range of data on the types of interactions, events and general activity, without producing an unmanageable amount of data for a PhD study.

I decided to involve a mix of BSB's projects according to: routes of access; and whether a group or individual model was on offer. This was to help reflect any differences of 'ways in' to project activity and where referrals were likely to come from. This also aimed to explore whether the design of the projects influenced how these were perceived by women, including accessibility. The intended sample was to include both group-delivered (Baby Steps; HAPPY) and individualised provision (Doulas) (the latter of which was peer-to-peer support). These covered active referrals from midwives; signposting by other practitioners; self-referrals. Consistency was maintained via the same target geographic population and the same ethnographic approaches taken with each. Data suggested there was a range of language quality and needs within all BSB's projects, with some participants requiring language support or needing clarification in areas. Therefore, it was decided that observations of these projects would provide information on this topic.

Table 5.1 Sampling Strategy for Settings

<u>Settings</u>	<u>Contribution</u>	<u>Level 1</u> <u>('Deconstruction')</u>	<u>Level 2 ('Construction' and</u> <u>'Confirmation')</u>
Offices of Perinatal Coordinators (BRI)	Where Perinatal Coordinators (PPCs) contact women by telephone to tell them about BSB's projects and how they would benefit them, how this links with	Observations (<i>x10-15 phonecalls with women over two sessions</i>)	Realist interviews with practitioners (<i>x1-2 PPCs, 1-3 GTT clinic members, 1-3 community midwives</i>)

	advice from other sources (midwife; GTT clinic).		
Community centres	Settings where BSB and non-BSB funded antenatal project sessions may have taken place (e.g.: mother and baby groups).	Observations (<i>x2 group sessions</i>)	Realist interviews with practitioners (facilitators delivering sessions, community workers) (<i>1-3 facilitators, BSB and non BSB projects</i>)
Online meeting rooms (Zoom antenatal sessions)	Setting where BSB and non-BSB funded antenatal projects may have been delivered (via Zoom).	Observations (<i>x2 group sessions</i>)	Realist interviews with practitioners (facilitators delivering sessions, community workers) (<i>1-3 facilitators, BSB and non BSB projects</i>)
Online (websites, social media)	Online sites where practitioners and members of public may comment on antenatal sessions.	Review of online activity (<i>x2 weeks monitoring posts and commentary</i>)	Review of online activity (<i>x1 month monitoring posts and commentary</i>)
Women's home, social settings, other environments they participate in	Places where pregnant women are experiencing their daily lives, facing opportunities and challenges and where receiving and processing information about antenatal projects.	Diary App Study with pregnant women and their partners (<i>mix of those who had attended at least one BSB project within past three months; those who had not attended a project in this period</i>) (<i>x2 weeks (x4 tasks)</i>), <i>8-10 women (and partners)</i>	Diary App Study (<i>x8 tasks, 4-6 women</i>) Realist interviews (<i>x4-6 women</i>)

Practitioner Sampling

In line with sampling of settings, I planned to involve the relevant practitioners who were providing information on BSB's projects in informal discussions during observations. The study involved practitioners who worked in an environment that provided a service or information regarding community antenatal projects and those whom directly delivered these projects. Individuals not participating in the environment being observed (e.g.: working externally in the next room) were excluded. I aimed for a purposive sample of roughly 5-7 practitioners to take

part in formal interviews in level 2, sampled to ensure maximum variation [170] in role, including Perinatal Coordinators; session facilitators (BSB projects); and session facilitators (non-BSB community groups). This also aimed to involve practitioners who delivered the Glucose Tolerance Test (GTT) clinic at the BRI and community midwives. These individuals also gave out information about provision but related sites were not sampled for the general observations due to COVID-19 restrictions (see section 5.9.2). The sample size was appropriate as it reflected the variation group, incorporating a range across all types of practitioners with whom pregnant women may have had contact about BSB's projects.

Pregnant Women Sampling

The ethnography sought to involve women and their partners living in the BSB programme area who were expecting a baby. Participants from whom I sought informed consent (for: diary work; interviews) involved any pregnant woman and their partners living within the BSB area, regardless of whether they had attended a BSB project. This was not restricted to nulliparous pregnancies. A purposive maximum variation sample of around 8-10 women and their partners was targeted for the Diary App work. I aimed to involve a mix of parents who were not currently attending BSB projects and those who were, with a mix of ethnic groups where possible. Based on existing data collected via the systems mapping study (study 2) in terms of range of experiences, lifestyle and social and cultural backgrounds, as well as barriers and facilitators to accessing projects, it was expected that this number of families would provide this variation I was aiming for. Sampling would be stopped once this variation was achieved. Theoretical sampling was employed to identify a smaller sample of women (4-6 women) in level 2 by reviewing their comments from level 1 diary entries and how these related to specific draft programme theories that needed further exploration. This would allow for more detailed understanding of their needs and experiences, including interviews and further diary entries. Participants were drawn from the original sample who had already been involved in level 1, again with a mix of engagement and ethnic group. Women and their partners who were no longer pregnant, had recently had their baby or had suffered pregnancy loss, were excluded, as well as those who lived outside of the Better Start Bradford programme area (defined by postcode boundary).

5.5.2 Recruitment

Recruitment of Settings

I worked with the BSB management team to organise observations of their project sessions and to approach other community groups, to explain the purpose of the study and ask for permission to attend their activities. In addition, I contacted the Better Start Bradford Innovation Hub (academic colleagues conducting evaluations of BSB's projects), to obtain permission to observe Perinatal Coordinator activity on their site. When discussing the arrangement of observations, several steps were taken to help put the relevant staff 'at ease'. I asked for an initial informal chat (telephone or face-to-face) to explain more about the purpose of the observation and what would be involved. I used the term 'shadowing' as a more friendly and less intense way of describing my presence on the day (whether offline or online).

Recruitment of Practitioners

To recruit practitioners for interviews, I worked in partnership with the BSB Innovation Hub who approached key contacts on my behalf (e.g.: manager of the GTT maternity clinic and maternity matron at the BRI; team managers of community midwifery teams). They introduced the research and the purpose of the study. The Born in Bradford (BiB) Research Midwife was also asked to assist in contacting community midwives to ask for their involvement. All details about the study and what was involved were provided via email, including a link to the secure University-hosted webpage⁴³ which hosted online versions of the contact form, the Participant Information Sheet and consent form.

Recruitment of Pregnant Women

Permission was obtained from managers at the BRI to enable me to work with the GTT team to assist with the recruitment of women and partners to the participant study. Practitioners acted as gatekeepers for recruitment in clinic to minimise the need for me to be in clinic during a time where COVID-19 restrictions were still in place. Members of the team informed women about the study and provided them with a Participant Information Sheet and consent form, which included details about the rationale, design, and personal implications of the study. They were then provided with an 'agreement to researcher contact' form to be either contacted by telephone or email. Completed forms were stored in the research office⁴⁴ at the Bradford Institute for Health Research (BIHR), which is on the same site as the maternity unit, at the BRI. Practitioners collated the forms and shared them with me to enable me to make direct contact with potential participants.

I also asked those running BSB projects for permission to attend projects to conduct recruitment or for them to make initial contact with potential participants on my behalf. These

⁴³ <https://ctru.leeds.ac.uk/expectantparentstudy/>

⁴⁴ The research office stores all study-related patient data where required for studies conducted by BIHR and practitioners are trained in secure storage of information and data protection.

projects were mainly delivered online at the time of recruitment. Session participants were invited to share contact details with me using the online form, via the secure link. Those who took part in the diary app study were provided with a £15 high street voucher to say thank you for their time and to cover internet costs. These vouchers were emailed to the participant as an 'e-voucher'.

Once women had completed their initial diary tasks, I contacted them on the telephone to confirm arrangements for emailing their incentive. At this point I asked if they would be willing to spend some of their time in a discussion with me about some of the posts/answers they had provided and to assist me in understanding more about potential reasons why women and their partners may or may not access community antenatal projects. They were also asked if they would be willing to complete further diary tasks. The term 'interview' was not used to maintain an informal dialogue with the participants and for some, this term may feel over formalised or even frightening. Pregnant women who completed one or more elements in level 2 (interview, diary study) were given another £15 voucher.

Families whose first language was not English were offered the opportunity to invite a family member or friend to help with interpretation at that time and later, during the consent call (telephone or Teams), for the diary work and the interviews. I also quality tested a different language version of the diary app with the community research team at the Innovation Hub (e.g.: in Urdu), in case potential participants were interested but were concerned about their level of English.

Consent Process

As I was observing people because they happened to be at a site at a specific time or attending a specific online session, I did not collect specific written consent for this purpose. The aim of these observations was to gain an understanding of how these sessions worked in general terms. Observation notes recorded general information on the layout of the room, length of time spent in that environment, interactions between families and practitioners, information provided to families. I introduced myself to practitioners and members of the public and gained verbal consent to be in the space around them (at a distance). No personal data was collected.

For all face-to-face observation work, posters were put up in the relevant rooms, to inform pregnant women, their partners and other members of the public of the research being conducted, that I was present on that day and the reason for me being on site. The poster informed them that they could choose to opt out by informing me that they didn't want to be included. There was also a clear process for ensuring individuals were able to opt out of online sessions. I asked practitioners to contact group participants in advance (email, telephone) to inform them about the study and that I would be logged in at the same time and be able to see and hear the activities and discussions, including comments made. Practitioners could also ask not to be included.

Once I had collected contact details for practitioners and for pregnant women, I contacted them to introduce the research (women were telephoned). For women, I provided information about the process of completing diary entries and checked they had read the Participant Information Sheet and consent details. Verbal informed consent was gathered via an audio recording. This process involved call backs and chasing (initially several calls to reach that person, then additional attempts to catch them again to capture consent).

5.5.3 Data Collection

The data collection process is outlined by the iterative stages completed for the funnelling and focussing approach: (level 1) 'deconstruction'; and (level 2) 'construction and confirmation'.

Figure 5.2 provides an overview of the ethnography, incorporating these two stages.

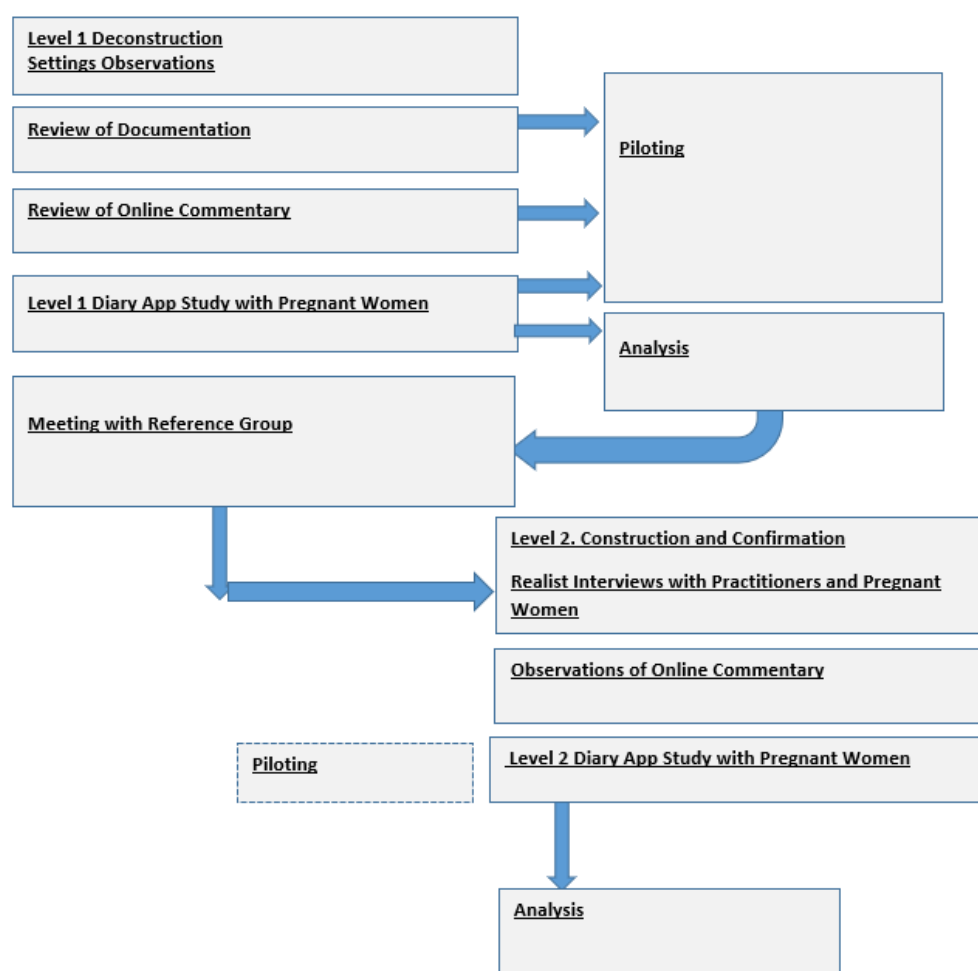


Figure 5.2 Overview of Data Collection

5.5.3.1 Level 1: Deconstruction

Level 1 involved a range of methods, including settings-related observations, informal discussions with practitioners and women, as well as a review of online commentary regarding access to community antenatal projects. Pregnant women were recruited to undertake the diary study, using a smartphone app. This fieldwork is summarised in Table 5.2.

Table 5.2 Settings, Sample, Data Collection Techniques for Level 1: Deconstruction

Settings	People	Event/contact points	Data Collection
Office of Perinatal Co-ordinator (PPC), BRI	PPC practitioners (in telephone discussion with pregnant women, partners)	X10-15 phonecalls with women ⁴⁵	Observation, informal discussions with PPCs
Community centres	Facilitators, pregnant women, partners attending baby and toddler groups	X2 group sessions observed	Observation, informal discussions with practitioners and women
Online meeting rooms (Zoom antenatal sessions)	Facilitators, pregnant women, partners attending community antenatal projects run by BSB	X2 group sessions observed	Observation, informal discussions with practitioners and women
Online (websites and social media)	Organisers, pregnant women, partners, posting commentary and discussions about antenatal projects	X2 weeks monitoring posts and commentary	Recording relevant comments, text analyses
Any setting that a woman chooses to describe, including home, social settings	Pregnant women, partners, x8-10 women (and partners where possible)	X2 weeks (x4 tasks) written activities/photography/video/audio	Written diaries, via ethnography app on smartphone

⁴⁵ To cover responsiveness to conversations as well as range of calls.

and any other environment			
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Level 1: Deconstruction, Settings-Related Observations

All observations of activity in different settings (Perinatal Coordinator offices; community centres; online settings) were discretely recorded within the HRA-approved observation guide (Appendix H). The guide had been developed to capture a range of information about the activities. It allowed for open fieldnotes as well as inclusion of key areas to observe, including general interactions between women, partners and practitioners, informal discussions with individuals and diagrams, where relevant (e.g.: mapping of room, where people were sat, body language). Observations took place on particular dates and times when activities occurred (e.g.: when BSB projects and other community sessions were delivered; time slots when Perinatal Coordinators arranged to telephone expectant women). The guide covered several areas as a starting point, including:

- Comments on the environment and context, including seating, personnel, time of day, day of the week, timings of sessions, numbers of women and partners, length of time subjects spent in the environment
- The body language of women when in sessions, comments made, waiting times, body language when coming out of sessions
- Body language of practitioners
- Conversations between practitioners and women – capturing whom was involved, what was discussed, what was offered, what was accepted, what was discounted (on both sides) in terms of community antenatal projects
- Who attended the session with women and their apparent role in this activity

The guide provided prompts for my informal discussions with practitioners, to ask how they had received information about community antenatal projects and how they had relayed this information to women and any issues with communicating this (e.g.: lack of time, other priorities). Discussions were conducted with women about impressions of practitioner contact, how helpful this had been for them, their impressions of what community antenatal projects were and their purpose, including any difficulties people may have faced in accessing them. Observations of online group sessions took place in the same way. Practitioners were involved in informal discussions prior to and after delivering an online session, for example, when setting up the online 'room' and activities and when waiting for expectant parents to arrive. A full, descriptive account (observation record) was written up as soon as possible after each event.

Level 1: Deconstruction, Review of Documentation

Practitioners were asked to provide copies of any literature about BSB's projects that they had given out to expectant women when attending sessions or clinics⁴⁶ (digital or paper 'packs' including leaflets and other information). This also included scripts used by Perinatal Coordinators to explain the projects over the telephone. These were provided in person or were emailed to me, including photos of paper leaflets. I read each document and highlighted text that related to the content of sessions and how to access them, that could contribute to understanding of contexts and any potential detail on mechanisms (for example: focus of session and how it might help them; eligibility; how to get to the venue; online access).

Level 1: Deconstruction, Review of Online Commentary About Community Antenatal Projects

Data were collected on narratives regarding access to antenatal projects, by looking at what had been written about this on websites and on social media. I expected that a broad search of what was being discussed in the first instance, would help further my understanding of the online context, as well as identify comments that may relate to draft or potential new theory. Text searches were conducted for specific websites and terms via social media sites which are in themselves 'research sites'[171] (Facebook, Twitter, Instagram, Youtube). I conducted four sets of searches using Google Incognito (to avoid biasing results based on my previous searches), using the following search terms: "antenatal programmes"; "Facebook antenatal groups"; "Twitter antenatal groups"; "Instagram antenatal groups". The first ten results of each were extracted into the same guide as used for live observations. For Facebook, Instagram and Twitter pages, this involved reading the content and particular comments on each post. It was expected that the first ten results would be time intensive and would produce sufficient data to establish a sense of the type of comments being made. Specific text or comments relating to the draft CMOs were added to the conversations section of the guide (e.g.: how long it takes to get somewhere; provision of classes for Dads or for those who English is not their first language; time spent with the midwife).

Level 1: Deconstruction, Diary App with Pregnant Women

Women were asked to record anything that they felt was relevant to their experiences of antenatal projects, using an ethnographic smartphone app called Field Notes⁴⁷. In addition to allowing sporadic entry, this online technology allowed me to upload semi-structured questions such as: how they were spending their time (routines) on weekdays and at weekends; their experience of their local area and local community centre; what activities that they may have wanted to engage in; whether they would expect to see antenatal services in their area; and how they knew if they had been understood and respected. I asked follow-up questions using the dashboard, which then sent a notification to them in the app. These asked

⁴⁶ Although not included in observation work, practitioners delivering GTT clinic and midwives were asked about relevant literature when they consented to take part in a realist interview.

⁴⁷ <https://www.fieldnotescommunities.com/>

for more detail on certain areas e.g.: the different activities they had been doing that day or to ask them to explain why they felt understood (or not) by a midwife.

Questions were added alongside specific instructions for how participants could respond. Participants were able to answer each question in several ways, such as by taking photos, recording video or audio, or simply writing in their answer in text format. Each task had a date by which the questions needed to have been answered. I was able to monitor which participants had accessed the study and which tasks had been completed and sent individuals a message as a reminder to answer the questions.

5.5.3.2 Level 2: Construction and Confirmation

Level 2 involved realist interviews with a range of practitioners whom have a role in distributing information about BSB's community antenatal projects. A sample of pregnant women were also interviewed, using the same method of testing the draft CMOs with the interviewee. Women used the Diary App to add more of their thoughts and experiences. Online examples of commentary on access to antenatal provision were again searched for and recorded. This fieldwork is summarised in Table 5.3.

Table 5.3 Settings, Sample, Data Collection Techniques for Level 2: Construction and Confirmation

Settings	People	Focus	Data Collection
Office of PPCs (BRI), GTT and midwifery clinics, community centres, online meeting room (Zoom)	Practitioners (PPCs, GTT delivery practitioners, midwives, BSB facilitators, other community facilitators, community workers)	Interviews with x5-7 practitioners	Microsoft Teams online call/telephone
Any setting that a woman chooses to describe, including home, social settings and any other environment	Pregnant women, partners	Interviews with x4-6 women	Microsoft Teams online call/telephone
Online (websites and social media)	Organisers, pregnant women, partners, posting commentary and discussions about antenatal projects	X1 month monitoring posts and commentary	Review of comments, text analyses.

Any setting that a woman chooses to describe, including home, social settings and any other environment	Pregnant women, partners	X2 months of written activities/photograph /video/audio, women completing x8 tasks, partners complete x4 tasks, x4-6 women	Written diaries, via ethnography app on smartphone
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Level 2: Construction and Confirmation, Realist Interviews with Practitioners and Pregnant Women

Interviewees were provided with a choice of participating in a discussion face-to-face (at the practitioner's place of work and for women, in their own home, in an external environment such as a community centre), virtually on Microsoft Teams, or by telephone⁴⁸. Discussions were based around a semi-structured topic guide which had been developed incorporating overall questions about the BSB programme and its projects and incorporating draft CMOs (Appendix I for practitioners and Appendix J for pregnant women). Theories were introduced in a conversational style, using informal wording.

Practitioners were asked about their experiences of what information was made available to them regarding community antenatal projects and how this was usually provided to women. It also involved questions around how their last few sessions were run, how details on provision were given out and how varied these different sessions may have been, in terms of what was provided and responses or feedback. Pregnant women were asked initial 'icebreaker' questions such as what they like to do in their spare time, followed by some discussion points about posts they had made in the initial diary study, to help them to feel at ease regarding the discussion and to maintain the informal nature of conversation that had developed between myself and the participants. Interviews lasted approximately 60 minutes to allow time to cover each draft CMO and written notes were made during the discussions. Audio recordings were also transcribed verbatim. Interviews were conducted until I had captured a range of different practitioner roles and variation in women's experiences.

Level 2: Construction and Confirmation, Review of Online Commentary

Once the realist interviews had been carried out, a second review was conducted of online commentary, to collect data on specific theories where interviewees had been undecided as to whether they agreed with them or felt they could not answer due to not having experienced that scenario themselves. For each of these CMOs I re-read diary entries and comments from interviews to ascertain the language women used when describing these topic areas. For example, in terms of who might be at sessions, women mentioned 'people in the same

⁴⁸ I worked with Quality Assurance within CTRU to write approved guidance for conducting telephone or online interviews during remote working. This has since been used by other researchers based at the Unit.

situation'. Participants tended to use the term 'antenatal classes' or 'antenatal courses'. I conducted three searches using the following search terms: "antenatal classes" AND "trust the midwife"; "antenatal classes" AND "people interfering"; "antenatal classes" AND "people in the same situation". The first ten results of each search were extracted into the observation guide.

Level 2: Construction and Confirmation, Diary App with Pregnant Women

New tasks were given to women that specifically focussed on areas of programme theory that needed further information and explanation. General routine questions were also asked (how they had been spending their time that day).

5.5.4 Analysis

Analysis was designed to capture and categorise emergent themes from level 1, to highlight the depth and range of data already collected against the draft CMOs and to inform sampling for level 2. All data collected, including completed observation records (the observation guide template used on the day; handwritten 'free' notes on observations; informal discussions with practitioners and women; and the reflexivity journal), data from the review of documentation, text and photos from the diary entries were imported into NVivo 12 (qualitative analysis software). In line with the recommended approach to conducting analysis in realist evaluation[164], I first read through the records and transcripts twice, so I could fully immerse myself in the content and to allow thoughts about potential programme theories to begin to take shape[172]. Initial notes were then made about these. Coding was applied using inductive analysis to identify emerging themes (key areas of activity, thoughts and experiences related to accessing community antenatal projects). Themes were then categorised into potential new theories or linked to existing programme theory (CMOs) where relevant, using deductive analysis. In both cases, relevant data were coded to specific programme theory 'nodes' within the software (Figure K.1, Appendix K), building on guidance within Dalkin et al's (2021)[168] paper about the use of this software to help record and advance understanding of data collected within a realist evaluation. Child nodes were created to show which data source these had originated from (e.g.: level 1 observations; level 1 diary study).

A 'linked' memo was created for each programme theory. This provided details of the original CMO and was edited to show how any wording could potentially be changed to better reflect the data collected. The use of linked memos helped to demonstrate in a transparent way, how programme theory had been refined[168, 173]. At this point, I also included all data from the previous two studies to show the journey each theory had taken, from Initial Programme Theory (IPT), using summarised examples of data within the same document. Analysis informed changes to level 2 methods in a number of ways: a) informed the focus of topic guides for practitioners and women for the realist interviews; b) improved understanding going into the realist interviews about which CMOs required more detailed commentary (data to support them) as well as; c) informed development of the additional diary 'tasks', including

follow-up questions to ask pregnant women and areas of focus for the review of online commentary. Additional data collected from level 2 were analysed in the same way. Analysis of data emerging from the realist interviews also helped me to establish where I needed to focus my efforts in the review of online commentary and diary entries, to further support particular theory. For example, one of the findings from analysis of the interview data was that not everyone felt able to comment about the presence of social services or other agencies at venues where community antenatal projects may be delivered as they had not experienced this themselves. Specific search terms were added to searches of online commentary to help test this further. There also appeared to be a difference in opinion as to whether group sessions with those from similar backgrounds, needs and priorities would be useful. Specific questioning was added to the level 2 diary tasks to cover this.

Ethical Considerations

This study received ethical approval from the NHS HRA Committee (Bradford/Leeds REC, reference: 20/YH/0332). Reassurances were provided to practitioners and women that observation work was just to get an idea of how the setting operated and did not include a specific focus on individuals. The use of posters in face-to-face settings allowed those present to see and read about the study and to understand who I was and my role on the day. Informed consent was sought for practitioners involved in interviews and for pregnant women involved in the Diary App study and interviews. I was conscious of the different responsibilities the pregnant women involved in my study may have had and was flexible in arranging calls to collect consent for the diary study and in arranging interviews. The length of interviews with women and with practitioners were shortened where required, to fit with their other commitments. Women were offered the opportunity to only provide diary entries if an interview was not possible. Women consenting to the study were provided with a copy of useful contacts for local and national support organisations (in the smartphone diary app), in case these would have been useful.

5.6 Quality Assurance

The initial step of the funnelling and focussing approach allowed the collection of a wide set of data from sampled key contact points where pregnant women and their families were usually informed about BSB's community antenatal projects. Methods were designed to allow for additional sampling of sites, settings and cases where required to allow the inclusion of relevant information for the second stage, where theories were further supported through a confirmation of what had already been observed and collected. This provided a strong framework for the iterative development of theory, further supported by input from the Reference Group, which provided guidance on the focus of the realist evaluation from its inception.

Where possible, some of the observations were repeated across more than one session to help collect detail on potential variation, as well as to support collection of a wide amount of

information relating to take up of antenatal projects. Each observation was conducted using a structured observation guide. I completed a reflexivity diary for each of these activities, to help inform my own reflections and understand my own bias and potential assumptions that I might have been bringing into the work. Realist interviews were conducted with a range of practitioners with different backgrounds and different roles. All interviews (practitioners, pregnant women) followed the same topic guide, with specific suggested language for explaining the draft theory in a conversational style. The process of categorising programme theories in NVivo and coding of data against these was discussed and agreed with my supervision team. I also second checked my own coding at the end of level 1, to help ensure I was consistent in my approach.

5.7 Findings

I recruited 15 participants for this study, including practitioners (3), project facilitators (3) and pregnant women (9). I also conducted observations of four different settings.

5.7.1 Participant Characteristics

Observation and Review Settings

A range of settings were captured in the research as highlighted in Table 5.4 below. These included office-based activity and online sessions. For example, the office used by the Perinatal Coordinator was a busy workspace, occupied by other practitioners conducting several different community research tasks, telephoning pregnant women and families and carrying out administrative work. Another setting was an online group, delivered by one of BSB's projects via Zoom. Two facilitators talked through the information and 'shared' slides to aid discussions attended by pregnant women, which lasted two hours. A separate BSB project activity was observed via telephone, where I listened in to a face-to-face conversation between a facilitator, a pregnant woman and her partner, in the couple's home. I visited a community mother and baby project which was held in a church hall. This was a weekly two-hour drop-in session that provided play equipment and soothing music for babies and refreshments for mothers. I also conducted reviews of online sites that discussed access to antenatal programmes, listing posts and comments from members of the public as well as health practitioners including midwives and other professionals delivering antenatal provision.

Table 5.4 Observations of Sessions and Review of Online Commentary

Contact Point	Setting	Activities	Conducted	Total
Perinatal Coordinators (PPCs)	Office of PPC, BRI	Telephone calls to women who had attended a midwifery booking appointment, notifying them of	In person	X15 phone calls observed over two sessions (two visits)

		HAPPY and other appropriate projects		
Non-BSB Funded Project	Community centre	Stay and play with new mums and young babies (included informal discussions with new mums)	In person	X1 full session, one and half hours in length (one session)
BSB-Funded Project	Online meeting room (Zoom)	Delivery of a parent education project	Researcher observed via an online log in (Zoom)	X2 full project sessions, two hours in length (over two sessions)
BSB-Funded Project	Woman's home	Peer support for expectant women and partners to prepare them for labour and birth	Researcher observed via telephone (listened in to meeting)	X1 session between a facilitator and an expectant couple, one hour in length
Online commentary about antenatal projects	Online (websites and social media)	Text searches to identify relevant comments and posts relating to access to antenatal projects	Researcher reviewed via online searches	X3 review sessions of online commentary

Practitioners

Interviews were completed with six practitioners, as outlined in Table 5.5. These were completed via either telephone or online, using Microsoft Teams.

Table 5.5 Sample Achieved: Interviews with Practitioners

Practitioners	Role	Format		Total
		Online	Telephone	
Perinatal Coordinators (specific posts to inform families about BSB's projects)	Telephoning pregnant women to inform them about range of BSB projects on offer and how they will help, making referrals	0	1	1

GTT clinic members (clinic to test for Glucose Tolerance in pregnancy)	Clinical testing, informing pregnant women of which BSB projects are on offer and how they will help, giving out leaflets	1	0	1
Community midwives (community midwifery clinics, including 'booking' appointments)	Clinical testing and monitoring, forming pregnant women of which BSB projects are on offer and how they will help, making referrals, giving out leaflets	0	1	1
Session facilitators (BSB projects)				
<i>(HAPPY project: parent education antenatal project delivered over Zoom)</i>	Delivering project content, facilitating discussions, answering questions	1	0	1
<i>(Bradford Doulas project; volunteer doulas project, home visits)</i>	Delivering project content, answering questions, delivering practical and emotional support	0	1	1
<i>(Neighbourhood workers, communicate BSB's projects to wider community)</i>	Informing members of public about BSB's projects and how they can be of benefit, attending community events	1	0	1
Total number		3	3	6

Pregnant Women

I recruited nine women to the Level 1 diary app study, representing a mix of ages, ethnic groups and whether this was their first child (of whom 8 were recruited from the GTT clinic). An additional six women who had agreed to be contacted were deleted from the contact sheet because of a failure to further engage (despite repeated efforts to so). Another four women who had completed forms were not eligible for the study (lived outside of the target area; poor English, with no family who could support in interpreting; not pregnant). Of the sample of nine women, four women took part in level 2, representing a mix of ethnic groups. Of these, three participated in an interview and three provided further detailed information for the diary app study.

Table 5.6 Sample Achieved: Levels 1 & 2 Diary App Study, Interviews with Pregnant Women⁴⁹

Pseudonym	Site Recruited from	Age Range	Ethnic Group	Engaged in BSB projects?	First baby?	Participated In...
'Zakra'	BSB project	35-39	Asian/Asian British	Yes	No	Diary App (levels 1 & 2)
'Noor'	GTT clinic	35-39	Asian/Asian British	No	No	Diary App (level 1)
'Sadia'	GTT clinic	25-29	Asian/Asian British	No	Yes	Diary App (level 1), interview
'Shazia'	GTT clinic	20-24	Asian/Asian British	No	Yes	Diary App (level 1)
'Amaya'	GTT clinic	25-29	Asian/Asian British	No	Yes	Diary App (level 1)
'Umaira'	GTT clinic	30-34	Asian/Asian British	No	No	Diary App (level 1)
'Kadijah'	GTT clinic	20-24	Asian/Asian British	Yes	Yes	Diary App (levels 1 & 2), interview
'Daniela'	GTT clinic	20-24	White British and other White groups	Yes	Yes	Diary App (level 1 & 2), Interview

5.7.2 Thematic Narrative

Six themes were identified: 1. A dedicated window of time for getting to know pregnant women; 2. Link between being listened to and feeling accepted, leading to a sense of respect; 3. Practitioner's role in improving awareness of projects; 4. Factors contributing to overwhelm in women's everyday lives, complicating access to provision; 5. Feelings of comfort and safety in accessing community sessions; and 6. Offering flexible timings in provision.

⁴⁹ One woman consented to the study and accessed the app but did not complete any diary entries and could not be reached about the interview.

1. A dedicated window of time for getting to know pregnant women

Practitioners (midwives, project facilitators) were aware that the amount of time available to get to know the pregnant woman, could impact on women's perceptions about whether they had been treated as an individual with their own needs (they had been listened to) and whether they had received quality care. Comments in the realist interviews with practitioners suggested that a key ingredient was feeling that they had been given a specific, focussed amount of time (with no other distractions) where there was a chance to talk about themselves and to ask questions.

'Under a post about whether people feel being a midwife is their main vocation in life, comments included how much they enjoy the job but are concerned about the amount of time they have available to deliver quality of care'. (Comment from a midwife, online commentary (websites, social media))

'I had a recent appointment with my midwife on [date]. I had approximately an hour or slightly over with her. This was enough time to discuss what I wanted to discuss...The midwife was very relaxed and not in any rush at all. She gave me valuable time and answered all the questions I had in order to clear everything that happened and how I can take control of things this time round and actually make my own decisions'. ('Zakra', pregnant woman, diary study)

"...that's still time where you are getting to know them and they get to know you...And it doesn't have to be much time, it just needs to be when you have given them that time, it's dedicated and you are listening to their needs and trying to help them. With that, whatever that problem is at that moment in time. They're not just another number". (Practitioners, realist interview)

Links to draft CMO: Time to get to know the woman and understand her life situation

2. Link between being listened to and feeling accepted, leading to a sense of respect

Those completing diary entries were asked what helps them to feel understood and how they know if someone respects them. Comments focussed on how feeling listened to could make them feel they were being taken seriously. This was also about helping them to feel accepted. The provision of advice and support adds to this reasoning that their needs have been considered and that they are not just someone in a system, to be processed. Practitioners reported on the importance of showing that they care and explaining that they may have had similar experiences themselves, helping to normalise any worries they may have had and that they were not alone.

'I feel understood when talking to someone, as through their body language and talking in depth about things. I feel respected when someone praises me, makes me feel good about myself and ensures I gain support I require'. ('Kadija', pregnant woman, diary study)

'I have always struggled with expressing my emotions and telling people about my feelings however something that helped me feel understood is when there is some sort of help offered to me... Feeling understood can also mean just a conversation and feeling listened to rather than being treated as a "patient"'. ('Sadia', pregnant women, diary study)

"...people don't like being talked down to, you know you should be doing this so you're doing something wrong. So I kind of just like to just be real and just talk to them. You know, like I, I'm a mother myself...and this was my experience and I struggled... you're more bound to open up to someone who seems relatable and who gets it". (Practitioners, realist interview)

Links to draft CMO: Woman feels understood by practitioner, use of compassion

3. Practitioners' role in improving awareness of projects

There appeared to be some variation in women's awareness of what antenatal projects may be available to them in their local area and how these could help them. Some of the women involved in the diary study reported a good understanding of the different provision available, where these had been explained to them by a midwife or other practitioner such as a BSB project facilitator, and a confidence that they could find a project to fit with their needs if required. A few stated that they were unsure as to what classes were available to them locally. Although these seemed to be mainly focused on provision they would like to have attended once baby was born, such as baby-led weaning and baby yoga, breastfeeding was also mentioned, which would have been beneficial to learn at antenatal stage, rather than postnatally. Practitioners involved in interviews stated the importance of talking through what the project sessions would involve (rather than relying on information printed in leaflets), to convey what to expect from the provision and how this could make a difference to their lives.

'Well, the experience I had so far with midwives and antenatal appointments was brilliant, I am always reminded to check out different projects and classes, so I am very pleased with that and I strongly believe that if I wanted to find a specific antenatal activity, I could'. ('Daniela', pregnant woman, diary study)

'I feel like if there was antenatal classes or services near me I would benefit from them as I would love to meet other mums and have similar conversations with them. Also learn new things that I am not familiar with as in breastfeeding, baby led weaning. Maybe even pick up a few beneficial books or leaflets. However there aren't any that I have seen in my area'. ('Shazia', pregnant woman, diary study)

'Under a post about what to expect in appointments with a midwife, comments included individuals not being told about antenatal sessions or just being given leaflets in packs that explained where to find information about them'. (Comment from a pregnant woman, online commentary (websites, social media))

"I mean, we could give leaflets to women and if we didn't go through them individually I'm sure a lot of people...they might just put them to the side...[if you introduce the project] it gets them thinking like, well, you know this is interesting. If they have time and then it's you know something you know, tell them it's a you know, nice group and you know it would be beneficial...And so it's about I'm breaking that down a little bit. So they do actually know". (Practitioners, realist interview)

The knowledge and willingness to talk through what provision may be available for the pregnant woman can also help to develop a sense of trust in the practitioner's opinions, leading to a stronger relationship and referrals as well as a better understanding of what support can be accessed.

'The benefits of asking someone for help or support is that I am able to obtain more information/advice about things, what to do and make better decisions. Overall, I don't think there are any negatives of this. My doula has told me it is a good thing to ask for help from for example the midwife as I had a lot of concerns and questions about my previous birth which I wanted to clear. This has helped me a lot in this pregnancy. My sister recommended me to access the doula service to which I feel connected to as she has given me a lot of advice and also referred me to the hypnobirthing session and also the home breastfeeding team for post natal support. I am likely to trust my doula's opinion because she knows and has discussed with me about what or how I want to the birth to go'. ('Zakra', pregnant woman, diary study)

Links to draft CMO: Time to explain what is available and why this may be relevant to that woman with her needs

4. Factors contributing to overwhelm in women's everyday lives, complicating access to provision

a). Pressure of multiple roles and responsibilities

Women taking part in the diary study reported that they felt very busy in their daily lives and had a lot going on. Some were working full-time, working away from home, attending college as students, on top of looking after home life, involving cooking, cleaning as well as personal and spiritual care (washing, relaxing, praying). A few mentioned that their husband/partner was usually out all day, so they were left looking after other children and dropping of and collecting these children from school. The health of their children also took priority, sometimes causing them to have erratic attendance if they had appointments.



Image to the left was posted by one diary participant along with the following message:

'It is 9.30 am Wednesday. I am at Bradford college now for studying English language'. ('Umaira', pregnant woman, diary study)

A few days later, she wrote:

'Today I have too much work to do first I am going to college then go to town after that pick up my kids'.

'[women who turned up to session late] one woman said she had been working long hours, one wasn't getting much sleep as she has a two-year-old keeping her up at night, one had a doctor's appointment as been having some health issues'. (Observation, BSB antenatal session (delivered online))

b). Health issues, specific to pregnancy journey

A couple of women were feeling overwhelmed by clinical diagnoses of specific conditions during pregnancy and having to process information about the condition and attend additional appointments as part of their pregnancy journey. In addition, some of those participating in

the diary study reported generally experiencing poor health, feeling ‘under the weather’ during pregnancy (this included feeling very tired because of the stresses of everyday activities, leading to additional overwhelm). This became another thing to process and deal with and at times, they reported that this caused a delay in their responses in the study. This had also impacted on their participation in sessions, as highlighted in observations of project activities where they had turned up late.



Image to the left was posted by one diary participant along with the following two messages:

‘I was diagnosed with gestational diabetes so today I have my growth scan as well as an appointment with the antenatal diabetic team in order for them to explain everything to me...’

‘This is not a normal day for me because it is my first antenatal diabetic appointment and from today I’m going to have an ultrasound scan and an appointment to see the diabetes team every 4 weeks up until my due date. Today has been very overwhelming for me as a lot of information has been given to me and I still have to process it’. (‘Amaya’, pregnant woman, diary study)

c). Barriers created by significant needs and life events

All-encompassing needs related to residential status, housing, finances as highlighted in the Rapid Realist Review and Systems Mapping study (Chapters 2 and 3), did not emerge from the observations and first set of diary studies. This may have been because the fieldwork did not occur at the same time as one of these issues arising in women’s lives, or perhaps this level of detail was not forthcoming within these methods, because this may have felt like a sensitive topic e.g.: fear or embarrassment about talking about issues that had been affecting them. However, the realist interviews provided an opportunity to test the theory associated with this, specifically that the need to deal with such pressures override any potential interest in attending an antenatal session. Women involved in the interviews stated that others may prefer to research topics themselves, rather than attend sessions, if they have other responsibilities that take priority. Cost of travel could also be a barrier. Practitioners reported an awareness that some families face issues that projects are not able to influence. Instead, they aimed to address practical barriers to help remove some of the smaller problems, using resources from the projects such as the loaning of mobile phones or organising transport, the logistical elements that could be solved.

“Yeah I think that would make it difficult for them to go to an antenatal class. [would they prioritise an antenatal class?]. It depends on the person's responsibilities as well, their living situation. And even if they are able to drive themselves, or if their partner will go with them, for some people it's difficult you know, the travelling cost as well. [what would make a difference then if cost and other responsibilities were an issue?] maybe have a closer place where they can go to an antenatal session, like the doctor's surgery, or the fact that the travel costs need to be funded for them, to make it easier”. (‘Kadija’, pregnant woman, realist interview)

‘Facilitator checks on whether the couple have a clear plan for getting to the hospital when needed. She asks if the partner has cash for a taxi. Partner mentions that he has spoken to the Home Office about this. He says he has some cash that he has put aside in a room and he won't touch it as he knows that is for the taxi’. (Observation of BSB project)

“I have a lot of ladies that are asylum seekers, so their accommodation, other children, finances and things, but I try to promote it (BSB projects) as an extra service where Better Start can help and they do help. For instance, if they say they don't have a phone and can't access classes sometimes I tell them they have phones that they can borrow”. (Practitioners, realist interview)

“You've got to look at the barriers that you can break down in that aspect, and obviously you can't do it with all of them... We paid for the taxis to and from...so they didn't have the money constraints and things like that...if somebody was worried about their, you know their status or anything like that, there's only so much we can do”. (Practitioners, realist interview)

Links to draft CMO: Prioritisation of other, significant needs

5. Feelings of comfort and safety in accessing community sessions

a) Concerns about general immersion in the local area

Although some community venues were close to where pregnant women lived, they were not necessarily viewed as easy to get to because that meant walking in the local environment, something they would rather avoid. A few participants in the initial diary study stated they would drive instead because of issues with rubbish, rats, pollution and not feeling physically safe. It was also more convenient and comfortable to drive, where they had easy access to a car or could get a lift from others.



Image to the left was posted by one diary participant along with the following message:

‘It is easy to walk to my community centre. About 10-15 minutes away. However, I mostly commute there in my own car as it is more quicker in this cold weather’. (‘Zakra’, pregnant woman, diary study)

'I don't really like walking in the area, as I never feel too good there. Part of it is sometimes it smells terrible when they are burning chicken bones from the factory and the smell is unbearable. Part of it is that it always looks messy and untidy (people leave litter everywhere, no one bothers putting trash into the trash cans, it just looks very bad). Also I believe my area is quite dangerous to walk around by yourself, especially if there aren't many people around'. ('Daniela', pregnant woman, diary study)

b) Complexities and costs regarding travel

Detailed discussions with practitioners and women in the realist interviews suggested that comparatively, attending sessions closer to home would be preferable to ones further away, where specific travel and finances may be required e.g.: travel by bus or taxi or those with access to a car may feel unsure about where they are going. In this respect, a session that is a ten-minute walk may be the best out of a set of unappealing choices to make.

"People don't want you know, uh, unnecessary additional costs and many families in the Better Start areas. You know, they're just, you know, financially kind of just getting by. So I think they definitely wouldn't want to pay for a taxi to get to an antenatal class". (Practitioners, realist interview)

"If it's obviously it's near to where you live, then that's ideal. If there's parking. If there's, you know if it's easier to get to, then obviously that's ideal. If it's somewhere where you've got to travel to the other side of Bradford, or you know it's a funny time, whether it's school time at rush hour, it's a lot of people have anxiety around that, you know, actually getting somewhere. It's not even the class that they're worried about. It's actually the getting there. Whether they're nervous driver or that they get worried about planning things". (Practitioners, realist interview)

Links to draft CMO: Convenience of local venues, (also, perceptions of the local area)

c) Familiarity of venues accessed, a knowledge of what to expect

Observations showed that in some circumstances, women accessed provision that was not always 'easy' for them to attend. This included sessions that were not in their local area so specific travel would need to be considered and organised. This appeared to be because the venue was familiar as it was already known to them. During an observation of a community mother and baby group, it was clear that some had turned up without a firm plan as to how they would get home as they did not live locally and did not have transport. These individuals appeared to be used to car sharing with others. They had been happy to put themselves in this situation, suggesting the venue or the sessions offered something they wanted to go 'above and beyond' for. Those attending had been there before and one woman stated the venue was connected to her local church. Some pregnant women stated in the diary study that they did not usually visit their local community centre as they were unsure of what it offered them.

'Woman 1: Is actually from outside of BSB area (local area said to me), but comes here because it is also her local church...[When asked why some people might not go to antenatal services], said travel might be an issue if places aren't central enough for sessions and people don't have a car...A few women/couple are here without lifts home, so must be confident that project will help to organise that.

Practicalities of getting to a session quite complicated then, go to quite an effort to get here'. (Observation, non-BSB community session)

'So my local community centre is called [name of venue]. It is fairly easy to get to however I don't feel comfortable going there as they never advertise what events they have on if they have any. I am familiar with the kids library there as I did visit when I was a child but never since. I feel like they should advertise what events they have or classes so the community can interact more'. ('Shazia', pregnant woman, diary study)

Although the term 'familiarity' had been used in initial collation of data through the observation work, the realist interview helped to unpack this further. Interviews with women and practitioners highlighted that women responded positively to venues or locations they had been to previously because they already had a good understanding of what they would experience. They already knew and understood the practicalities of how to get there, without having to give additional thought to this. This appeared to reduce any uncertainty or stress about new places and situations.

"If it's walking distance and if it's familiar, they know their own way, they are more confident about going, because they know it and they have been there". (Practitioners, realist interview)

"I do get a bit anxious with places that I've not been to before. Someone may feel nervous if they don't know where they're going. [if have been there before] You know where you're going and you're aware of the surroundings and you know you're not going to get lost, you're not having to ask people 'excuse me, where's this, the building'. It's just easier". ('Sadia', pregnant woman, realist interview)

It was less clear whether online provision benefited from this same mechanism in encouraging attendance, an emotional reaction to being aware of the 'ins and outs' of it and generally, what to expect. Observations and interviews suggested logistical issues with accessing online sessions (e.g.: via Zoom) and gaps in technical skills, but not whether experience of this technology would increase the likelihood of them attending a first session in this format, or to keep returning.

d) Negative perceptions of specific venues

An uncertainty of what to expect may also have extended to what the venue would be like inside, the knowledge of the practitioners who worked there and how they could help them. This included potential feelings of negativity towards a venue if it also housed support agencies such as social services. When asked about this during interviews, practitioners generally agreed that such an association may have resulted in women being 'put off' taking part in a project. However, not everyone had observed this happening and so did not feel able to comment. Pregnant women agreed that this might be seen as risky, that they might be worried that social services might 'interfere' with their lives and that might impact on whether they wanted to attend.

As soon as you hear words like social services, and you know that just puts the fear in people 'cause it's like the media I'm going to get my children taken off me or like you know and that is, I think that's a common thread amongst parents. And so

yeah, I think the venue has to be inviting as well. I mean, hopefully it's all going to pan out in class you won't think about maybe what else is going on in the building? Maybe, but I mean if it gets if you find out its social services or just, yeah it's a bit off putting I think...especially with the parents that we're working within these sorts of communities. You know they haven't always got it easy".
(Practitioners, realist interview)

"We've held them in different places, so like [name of venue] was attached to the doctors' surgeries and the health visiting team were all based in there and things like that... And I think possibly yeah, that probably did cause a barrier actually without us realizing at the time... And so I think if you could do a lot of this stuff in more neutral places like community centres and things like that ... then probably they will feel comfier". (Practitioners, realist interview)

Links to draft CMOs: Convenience of local venues, negative association with venue

e) Feelings of comfort in a group setting

In some instances, pregnant women and their partners may have felt uncomfortable accessing antenatal sessions in a group environment, whether face-to-face or online. There were a range of reasons that could have resulted in a lack of comfort such as insecurities about the level of English for non-speaking families and a fear of being judged because of it. It could also have been due to assuming the content would not be aimed at them. Practitioners reported that Dads could feel excluded or anticipated that such provision would not cater for their needs. Specific messaging would be needed to help reinforce how they would benefit from attending. A few pregnant women agreed that women may feel more comfortable with others from similar age groups and cultural backgrounds but personally they were happy to be in mixed groups as they were used to being amongst those from different backgrounds. A few practitioners found it difficult to agree with or disprove this theory, because they had not worked with many families in this way. Groups tended to naturally involve many from the same cultural background and therefore this did not feel like an artificial approach.

'Practitioner mentioned that she spoke to two women at the end of last week with poor levels of English...so they didn't want to do HAPPY. They were concerned about what other people would think, embarrassed she said. Worried that if they didn't talk the language, what would people think of them. So she referred them to ESOL instead and they said they may do HAPPY later on if they then felt happy [with their level of English]'. (Observation of calls to pregnant women to inform them of BSB's projects)

"Dads I think feel a bit put out if they think they're going somewhere, and it's just going to be a load of women and you know it can be a bit off putting, so if it's kind of geared at Dads or Dads are mentioned, you know, and they say it's for Dads as well, then you know, I guess they'd be more up for going" (Practitioners, realist interview)

A lot of ours are from the same cultural groups. It's very unusual and we get a few, a bit of a mixed bag sometimes, but very, very rarely. Normally pretty much the majority are the same. You know. Same religious group. Everything like that. So it might make a difference, but I can't say". (Practitioners, realist interview)

Links to draft CMO: Will people 'like me' be there? No judgement

6. Offering flexible timings for provision

Observations of telephone calls to women highlighted the value of informing them ‘up front’ about the start date of project sessions, timings, length of sessions and number of weeks, as well as venue (face-to-face or online). This provided them with the opportunity to either decline or to ask employers and others for assistance so they could attend. In some instances, women asked for time to scope out if this would be possible, before they were contacted again for an answer. Respondents to the realist interviews agreed that flexibility of the offering is important, with a range of different timings and options for families. However, it can be difficult to offer something for everyone, as practitioners also need to cover these different time slots, which is logistically hard to organise within small teams. There was also the suggestion that it was impossible to offer enough flexibility to involve everyone at their desired days and times of the week.

‘Call 4. Not interested as she can’t do the timings and doesn’t want to commit to something she knows she can’t do. Has two children and timings don’t work with pick up from nursery, then has to work and then pick up other child from somewhere else’. (Observation of calls to pregnant women to inform them of BSB’s projects)

“So if you’re offering a late evening when it was basically right, OK, so you can do a morning one and a late evening one. What are you in terms of your work, life balance as well? You have to sort of have that as well. You have to so you would have to have a fairly big team. For me, I believe that you would have to have like two or three sets of facilitators to be able to sustain that”. (Practitioners, realist interview)

Links to draft CMO: Available at a time and in a format that suits women and/or partners

5.7.3 Evidence Supporting CMOs

Draft theories were discussed with the Reference Group at the end of level 1, before data collection in level 2. Comments received from the Group mainly related to the order of the CMOs (the order in which they could be presented to the interviewees during the realist interviews). Most of the draft configurations were confirmed by the Group, with members agreeing these were relevant to the BSB community and would be important to test in the second level of fieldwork.

The following table (Table 5.7) highlights the data collected from the ethnography against each draft CMO.

Table 5.7 Data Against Draft CMOs

Related Theme	Draft CMO Configuration	How Supported in the Data Collected	Where
<p>A dedicated window of time for getting to know pregnant women</p>	<p>Time to get to know the woman and understand her life situation</p> <p><i>An allocation of time that allows the practitioner to ask questions about the woman’s life situations, priorities and concerns (mechanism: resource), can contribute to an understanding of their needs and knowledge for the practitioner to provide information about projects that might be most appropriate to her (mechanism: response), leading to a tailored set of advice (outcome).</i></p>	<p>Observations demonstrated that time was spent talking to women at different contact points, to find out more about their lives and to develop a relationship with them. Diary entries supported this and that this helped them to feel valued, that they mattered.</p>	<p>Observations, Diary app Online commentary</p>
<p>Link between being listened to and feeling accepted, leading to a sense of respect</p>	<p>Woman feels understood by practitioner, use of compassion</p> <p><i>Where compassion and respect are employed by the practitioner (mechanism: resource), this can help to create a feeling of trust on behalf of the parent, as they feel their feelings, needs and concerns have been listened to (mechanism: reaction), which can lead to clearer individual-practitioner communication, improved satisfaction with the process and a likelihood they will consider attending (outcomes).</i></p>	<p>Women reported in the diary app that they had been given quite a bit of time in midwife appointments to ask questions and that they usually felt listened to. Part of this was that they felt like their questions had been answered, which meant they had been taken seriously.</p>	<p>Diary app</p>
<p>A dedicated window of time for getting to</p>	<p>Time to explain what is available and why this may be relevant to that woman with her needs</p>	<p>Observed activity suggested that information was given out, but not whether amount of time available to do this was appropriate. Some women involved in the diary study</p>	<p>Observations, Diary app</p>

<p>know pregnant women; Practitioner's role in improving awareness of projects</p>	<p><i>Where women receive information about how available projects could help to address their stated priorities and needs (mechanism: resource), this could encourage them to consider the possible benefits (mechanism: response) and see it as 'worth' their time (outcome).</i></p>	<p>reported that their midwife had mentioned BSB's projects and had encouraged them to attend.</p>	
<p>Factors contributing to overwhelm in women's every day lives, complicating access to provision</p>	<p>Prioritisation of other, significant needs <i>Where daily external pressures such as living status, care for other children, financial constraints are requiring regular attention from families (context), women can feel that there is little time for other activities (mechanism: reasoning, reaction), because of this, the idea of attending an antenatal project may not be considered (outcome). [N.B.: This has been disrupted slightly by COVID-19, as it has brought about uncertainties about pregnancy and may have mobilised people more than normal].</i></p>	<p>Observations and diary entries from women suggested a general feeling of being overwhelmed by having too much to do. However, the presence of more stressful events did not emerge, despite practitioners saying they had encountered this.</p>	<p>Observations, Diary app</p>
<p>Practitioners' role in improving awareness of projects</p>	<p>Beliefs about whether they 'need' support eg: thought systems about value of antenatal care, influence of family members. <i>Influences from family members and cultural beliefs (context), may frame antenatal care as being of low value (context) and that other activities are more important or worthy in their lives (context), leading women to feel it is not something they 'should' be doing (mechanism:</i></p>	<p>Women involved in the ethnography mentioned that families were generally supportive, although feedback from practitioners was that this influence can be quite substantial. The role of partners in wanting to make joint decisions with women also emerged from the observations and when telephoning women to invite them to take part in the research.</p>	<p>Observations Realist interviews</p>

	<i>reaction), reducing the degree to which information about antenatal projects is considered (outcome).</i>		
Practitioners' role in improving awareness of projects	<p>Perception of health professionals (eg: midwife) as more trustworthy/reliable</p> <p><i>Using recommendations of a midwife who may be seen to have professional authority (context) facilitates an introduction to the project (mechanism: resource) that suggests the midwife has judged it to be valuable for women (mechanism: reasoning) which can help to ensure that women see it as something 'worthwhile' to do (outcome)</i></p>	Practitioners felt that midwives were seen by women as professionals who should be listened to and that they would respond to recommendations from them. However, it was unclear whether women would follow their instructions because they were a figure of authority.	Realist interviews
Feelings of comfort and safety in accessing community sessions	<p>Convenience of local venues</p> <p><i>Where sessions are walking distance or easily accessible by public transport (context), because project sessions are delivered at a local venue (mechanism: resource), women may feel it would take little thought to plan their attendance (mechanism: reasoning) and therefore may consider it as fairly 'easy' to attend (outcome).</i></p>	Although a venue close to their home might be seen as easier to attend, women might still be concerned about getting there, because their local environment might seem uncomfortable or uncertain. The notion of familiarity was important here and for women, the knowledge that they had been somewhere before and knew what to expect, was a comfort.	Observations Diary study Realist interviews
Feelings of comfort and safety in accessing community sessions	<p>Will people 'like me' be there? (no judgement)</p> <p><i>Where women and partners feel there may be other people with similar backgrounds, needs, priorities and experiences to them attending a project session (mechanism: resource), they may anticipate that others will understand their views and they will feel safe and not judged (mechanism:</i></p>	Practitioners and pregnant women mainly appeared to have a range of views on whether it was important to have people from similar backgrounds or with similar needs in provision. Women had often attended mixed groups without this feeling like a negative or worrying thing to do. However, some saw this as a way to help women feel more	Diary study Realist interviews

	<i>reasoning), which may help them to feel more comfortable and more likely to try it out (outcome).</i>	comfortable and open groups could create an issue around language, especially for those who may have felt their use of English was not good enough.	
Feelings of comfort and safety in accessing community sessions	Impact of more complex travel requirements <i>If some form of public or private transport is needed (context) to travel to the venue from their home (context), cost of travel or the need to organise a taxi can cause women to feel uncomfortable, especially with the likelihood of a male driver (for some cultures) (mechanism: response, reaction) and lead women to feel it is not a viable option (outcome)</i>	Data collected suggested that cost of travel could be a barrier in attendance and that the potential complexity (the working out how to get there) can also create anxiety for women. This might put have them off the idea of engaging.	Realist interviews
Feelings of comfort and safety in accessing community sessions	Associations made with venues, based on experience and judgements <i>The use of specific community centres that also include or host other agencies such as social services (context) can cause women to worry about being judged or asked questions about their home life (mechanism: reaction), creating a sense of concern or distrust with the project(s) in question (outcome).</i>	Practitioners felt that negative links with certain venues could impact on whether women considered agreeing to a session and pregnant women agreed this could be an issue, even if they had not directly experienced that reaction themselves.	Realist interviews
Offering flexible timings for provision	Available at a time and in a format that suits women (this also relates to partners who can feel excluded on this basis), options for different times of day , needs to feel 'doable', daytime is not always workable for woman or partner	Women and practitioners commented that a wide range of availability of sessions was important, to help encourage women and partners to attend, outside of work commitments and other priorities. Having knowledge straightaway of what is available and when could help them	Realist interviews

	<p><i>The need to cater for other children’s needs, negotiate childcare and work requirements (context), means that a range of options for attending project sessions, including daytime, evening and weekend slots, online sessions (mechanism: resource) may allow women and their partners to feel that this provision is ‘for them’ (mechanism: reasoning) as it is available at times they can attend. This provides the opportunity to attend be more mentally ‘free’ to think about attending a session (outcome).</i></p>	<p>to decide if they were able to fit this into their daily schedules.</p>	
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5.8 Reflexivity

Within realist methodology, scientific realism is expressed within the constructing and testing of programme theory, a chain of contexts and mechanisms and how they interplay to produce outcomes, to establish 'why things are the way they are' [174]. However, contexts play a role in establishing what has occurred and researchers play a role in contributing to that context, it is not just about what is 'empirically observable' [175], this also relates to subtle realism, where understanding of people's lives is partly created by that researcher [176]. I wanted to consider the degree of reflexivity as well as self-reflexivity that I had used in observations and interviews, thinking about how I may have influenced environments or how I may have 'reacted' to the data, as a result of certain factors, such as my 'socialisation, professionalisation, conditioning, positioning' [177] as these could have influenced my interpretation of the material.

I was conscious of the general tone of each environment I was observing and aimed to be as unobtrusive as possible. For example, the mother and baby project I visited appeared to be a quiet place for new mothers, to help them relax, so I stayed 'in the background' and left gaps in between talking to different women. I was aware of those who appeared to be not keen on talking a great deal and only asked them a couple of questions. The amount of 'in the moment' note taking varied for each observation, according to the circumstances of each environment and whether this felt appropriate. For example, I recorded detailed notes from an observation I conducted of a practitioner visiting a couple in their home as I observed this discussion via the telephone and I knew I could not be seen. I jotted down limited information during a face-to-face observation of a mum and baby group as it was a fairly contained room, and this would have been quite distracting for the people attending. As an experienced researcher in conducting semi-structured sociological qualitative studies, I initially found it challenging to stay informal and refrain from asking many follow up questions, as usually would be the case in an interview or focus group. This felt like I was not taking the opportunity to gather more detailed information. However, this became easier as time went on and I conducted more observations. This also applied to carrying out realist interviews where I was familiar with using open questions and instead, I was required to use the programme theories as my focus.

A couple of times, I felt some of the women may have been facing unspoken challenges in their lives, with which they could have been supported. I was aware that this perspective may have been influenced by my existing knowledge of issues faced by this demographic within the BSB area, because of other research published by academic colleagues at the BSB Innovation Hub. I had to accept my role as an impartial researcher. Each participant in the diary study could access a list of pre-approved local and national support agencies (via the app and study website) and those attending formalised BSB and non-BSB sessions were well-looked after by facilitators and other practitioners. I was able to use my experience to help those being observed to feel more at ease. One of the practitioners was quite reserved and appeared unsure of how an observation would work. I used my skills in reassuring them about the

informal nature of the event and how I was only noting down key points about what had been said and would not be recording any personal information. I also offered to share my notes on what I had written. When conducting the realist interviews with pregnant women, I was aware that sometimes they might have initially agreed with a proposed theory to get through the interview quicker or to please me. I made sure that I took my time in probing around why they felt the theory could be plausible and asking for specific examples.

While recruiting women to the diary study, I was aware that phone calls could be associated with services or health professionals rather than contact from friends or family, where messaging (e.g.: through WhatsApp) would usually be used. I usually had to telephone more than once, to discuss the study and often had to call back to collect consent. This repeated contact helped me to develop a small element of trust with potential participants as they became more aware of who I was. Because of delays in being able to start the diary app study, most of the sample of women wasn't recruited until the beginning of March 2022 which meant that recruiting partners of women was not possible. As I intended to complete level 1 by the end of March, I decided to focus the time available on continuing to build a relationship with these women through completion of the diary entries, including asking follow-up questions for these posts, to help maximise their responses. The act of asking women about partners and whether they would also like to take part, may have complicated this relationship, when I was focussing on getting to know them and their lives. As a sociologist, I was aware of the varying starting points for women, where their experiences had started and how they may have formed their attitudes and behaviour. This enabled me to be sensitive to the general individual contexts that were intertwined with the decisions they were making and to acknowledge the importance of these when conducting fieldwork and during analysis.

5.9 Discussion

5.9.1 Summary

Findings of this ethnography suggest that an appropriate amount of time for practitioners to get to know pregnant women, their life situation and related needs was crucial to helping them to feel listened to and respected. Limited time contributed to them feeling that they were 'just a number' and could negatively impact on the amount of awareness they may have had about what support was available and what would have potentially helped them. These results emphasised that normal, everyday lives and concerns such as getting a taxi or taking children to school could feel overwhelming, with competing priorities for their attention and these could impact on whether they would consider an antenatal session. Combined with poor health in pregnancy, these could be perceived as large barriers, regardless of more critical survival issues such as housing or financial crises. It is these everyday logistical barriers that could be easier to address, such as availability of cash to pay for transport to a session, where significant life events require multi-agency interventions.

A greater level of detail emerged regarding feelings of comfort and safety, women's perspectives on their communities and what it felt like to live in the local area, including certain concerns connected to being out and about. Although this presented certain barriers to attending a session at a local community centre, the idea of organising travel further away and/or accessing a venue they hadn't been to before appeared to be larger issues. Familiarity with these elements provided a reassurance that they could deal with any travel plans and meet with those inside the venue because they knew what to expect and whether they would be welcoming places. Where places were not familiar, descriptions and information from practitioners may have helped to encourage attendance, by explaining that sessions are run by friendly people and that other pregnant women and partners with similar backgrounds may be there. Being upfront about timings and the commitment required to attend sessions may have helped women to be more decisive about whether they could fit these in amongst their priorities.

These findings link with comments collected from stakeholders in the systems mapping study (Chapter 3), especially in terms of the importance of an allocation of time with the midwife, anxieties about travel and views of their local area. Available literature reviewed (Chapter 2), had highlighted discomfort with what was unknown about sessions such as venues and who else would be there and difficulties in obtaining cash for travel, especially qualitative studies conducted with asylum seekers and refugees (e.g.: McKnight et al, 2019, Hadrill et al, 2014). Availability of time to discuss needs and accessing projects at different times of the day were also present in the literature (e.g: Downe et al, 2019, Chin et al, 2011).

5.9.2 Impact of COVID on Design

When designing the protocol for this study, I aimed to involve the waiting areas of GTT clinics midwifery booking appointment clinics in face-to-face observation work, where social distancing guidelines allowed. The observations began in the summer of 2021 at a time when COVID-19 restrictions were still in place within the Bradford Teaching Hospitals Foundation Trust (BTHFT). Clinical monitoring appointments were being carried out by telephone, unless high risk, or partners were not allowed to attend in clinic. Non-clinical research was considered a low priority and I agreed with my supervisors that I would not approach management on site regarding attending these. It was anticipated that community midwives would be able to approach pregnant women on my behalf to recruit them to the diary app, when they were attending booking appointments. This did not happen because of restrictions due to the Omicron variant. Midwifery teams had been asked by the Trust to only focus on clinical work for a six-week period, which extended through a large part of my recruitment timings. I decided to instead focus most of my recruitment via GTT clinics and BSB projects.

I had planned to conduct participant observations with pregnant women in the second stage of the ethnography, spending time with them going about their daily lives, such as accompanying them on shopping trips, school/nursery drop off, appointments with a midwife and attending

any community antenatal sessions. However, when asking women about this in the initial consenting process (during recruitment in level 1), some said they would not want to do this activity or felt unsure. This appeared to be partly due to an uncertainty of in-person contact and wanting to limit any meetings with people outside of their normal life. Appointments and sessions were still being held over the telephone or online, which made the act of accompanied activities more complicated. I decided not to attempt to involve women in this way and to focus instead on developing trust with them through the diary work and the interviews.

5.9.3 Strengths and Limitations

The ethnography was conducted across a range of different sites, incorporating online environments. It aimed to include a structured sample of BSB projects and included non-BSB provision. The same observation and topic guides were used across different settings, to help ensure consistency. A specific method was used for analyses of all data, using inductive and deductive coding to map information against draft CMOs, while also providing space to capture potential new theory. I utilised a range of methods to test my draft theory, including detailed diary work and reviews of online narratives about community antenatal projects to support data gathered from observations. The presence of COVID-19 forced me to use a wider range of observation techniques than I may have used otherwise if I had been able to conduct more face-to-face research. These may have added to the richness of the data collected as these methods represented the different ways in which women may have had access or had experienced touchpoints with information about BSB's projects at that time (in person, telephone, online). This also helped to generate information on variability.

Splitting this study into two stages allowed me to gather a broad overview of women's lives and their experiences of contact with information. Analysis of these data against the draft CMOs enabled me to consider how well these were reflecting what I had found, informing the use of observation guides and topic guides in the construction and confirmation phase, to focus in on areas of theory that needed further investigation. This fitted well with the principles of realist evaluation, to continuously test and refine what is 'known' about a particular intervention, until enough evidence is collated. The second round of fieldwork was conducted quite late on in my study and close to the end of my PhD, because of delays brought about by the pandemic and the approvals process within CTRU to start recruitment. The results of the realist interviews in level 2 highlighted some differences in terms of the extent of data that I had collected and this could have been used to conduct additional sampling for the latter part of that stage (review of online commentary, diary entries). Although I did use that opportunity to focus remaining methods on CMOs that were less well developed, if time had allowed, the study would have benefited from additional sampling and recruitment to really get to the bottom of some of these, especially in terms of capturing variation in responses. It would have been useful to involve a facilitator from a non-BSB project

in the realist interviews where more time had allowed for identifying additional contacts, as original contacts had not confirmed their involvement within the timeframe available.

A more varied sample that included women who had been involved in a range of BSB's community antenatal projects may have provided a wider set of data on experiences of receiving information and accessing provision. It would also have been useful to have collected data from a more ethnically diverse sample, had I been able to use more routes to recruitment. Draft programme theory developed in earlier work suggested that language could form a barrier in accessing project sessions. However, the smartphone app technology did provide translation of text and video in case this was required. Use of participant observation methods may have given more insight into the pressures faced by women in their everyday lives, rather than relying on them to report on these in the diary study. The sample achieved for the level 2 diary study was small and should be noted in terms of the reliability of findings.

5.10 Implications for Practitioners and Researchers

- Consider the experiences of being 'not healthy' or 'unwell' in pregnancy, generally needing time to rest and have time away from commitments and the potential impacts these might have had on whether women felt able to participate in sessions
- Consider the appeal of online project sessions versus face-to-face provision (from women's perspectives) and any potential value of offering a flexible model for access that incorporates both elements
- Work with other support agencies based within Bradford or the BSB area to share learning about how women's lives are impacted by critical needs such as living status and finances and to what extent resolving minor issues such as cost of travel can help them to attend sessions
- Consider the value of having more than one way of participating in a research study or consultation, using online methods as well as face-to-face groups, WhatsApp appears to be especially popular amongst project deliverers and women in communicating about antenatal sessions, which could provide lessons for engaging in future research studies

5.11 Implications for Future Research

- Further investigate the factors that may make a community venue 'familiar' and how these could be replicated, to help make provision more appealing in these locations, experiment with types of venue that may mean different things to different people (e.g: places of worship; schools)
- Understand how women's perceptions of their local neighbourhood can impact on whether they would walk to a session near their home (i.e.: if they liked the area would they be less reluctant to walk?)
- Investigate whether repeated use of online sessions helps to create a sense of familiarity with this platform and encourages them to attend again

5.12 Conclusion

This ethnography provided a rich set of data that built on information collected in previous work (Chapters 2 and 3). It furthered my understanding of women's life contexts and lived experiences and allowed for the investigation of areas of programme theory that previously had been less clear. It provided evidence to support the draft CMOs or indicated where these could be adapted.

The next Chapter (Chapter 6) introduces the revised CMO configurations, considering the data presented here. It also provides an overview of each strand of programme theory, from draft IPT through to revised programme theory. Chapter 7 includes recommendations based on this theory.

Chapter 6 Confirmation of Preliminary Programme Theories

6.1 Introduction

This Chapter summarises the process of the development of programme theories for this evaluation and the confirmed output, namely the confirmed preliminary programme theories (CPPTs). It highlights the journey each 'strand' of theory has taken, from Initial Programme Theory to CPPT. There is an argument in realist evaluation that theories are never completely finalised, as the context is always changing (e.g.: systems changes) as well as the resources provided by the intervention in question[178]. However, these CPPTs represent the resulting knowledge regarding access to community antenatal programmes.

6.2 Overview of the Process

Candidate programme theories (IPTs) were developed through a review of national policy documents and reports; observations of antenatal meetings and input from the evaluation reference group, then turned into draft CMOs (informed by data collected in the RRR (Chapter 2) and systems mapping fieldwork (Chapter 3)) to get to this confirmed form (developed from the testing of draft CMOs in the ethnography of key stakeholders, as reported in Chapter 5) which was then used to inform recommendations.

Each theory is presented and described in turn, both in terms of potential strengths and weaknesses in the information collected (areas of theory where data did or did not emerge from the research to support it) and whether any further research could enable further refinement (see discussion, section 6.4). Each figure below presents the data and quotes that best articulate the type and range of information collected to support the programme theory. Other data were also available to support these. Red text on each figure, is to highlight points of interest relating to potential mechanisms that may have been uncovered by the ethnography. It is important to consider CPPTs in terms of implications for practice. Suggested linked theories are included where relevant. These are an extension of the theory discussed, to reflect variation in findings or suggestions to fill gaps in what had emerged in terms of what is known about encouraging attendance. These are not the only potential linked theories. Others could be developed and these and would need to be tested in future research.

6.3 Results

6.3.1 Journey Taken by Individual Programme Theories (IPT-draft CMO- CPPT)

Chapter 4 introduced the CMOs to be tested, along with descriptions for each (section 4.3.2). They are summarised below.

1. Time taken by practitioners to get to know the woman and to understand her life situation
2. The extent to which the woman feels understood by the practitioner, including the level of compassion employed
3. Prioritisation of other, significant needs in that woman's life (above antenatal care) which may be requiring daily attention
4. Beliefs about whether antenatal sessions are 'needed' in their lives
5. Time available to explain what support is available to her and why this may be relevant to that woman with her individual needs
6. Perception of health professionals as trustworthy, more reliable than others
7. Convenience of local venue where sessions may be being held (location, familiarity)
8. Potential impact of more complex travel requirements (if not walking distance, how will I get there?)
9. Will 'people like me' be there? Is there likely to be a concern about being judged by others?
10. Associations made with venues, based on experiences and judgements
11. Available in a time and format that suits women and partners

6.3.1.1 Programme Theory 1: Time taken by practitioners to get to know the woman and to understand her life situation

The journey this theory has taken is highlighted in Figure 6.1. The RRR highlighted the importance of practitioners (including midwives) being afforded sufficient time in appointments or meetings to find out more about the pregnant woman and their lives, needs and concerns. This appeared to be a key ingredient to helping to facilitate referrals to other services. Feedback from the systems mapping supported this, further adding to the evidence on how time is usually restricted and how this then results in women not being given links to information about support. The ethnography highlighted a connection between availability of time and quality of care and women then feeling understood as an individual. The ethnography produced data on the importance of dedicated time to listen to their needs.

Time taken by practitioners to get to know the woman and to understand her life situation

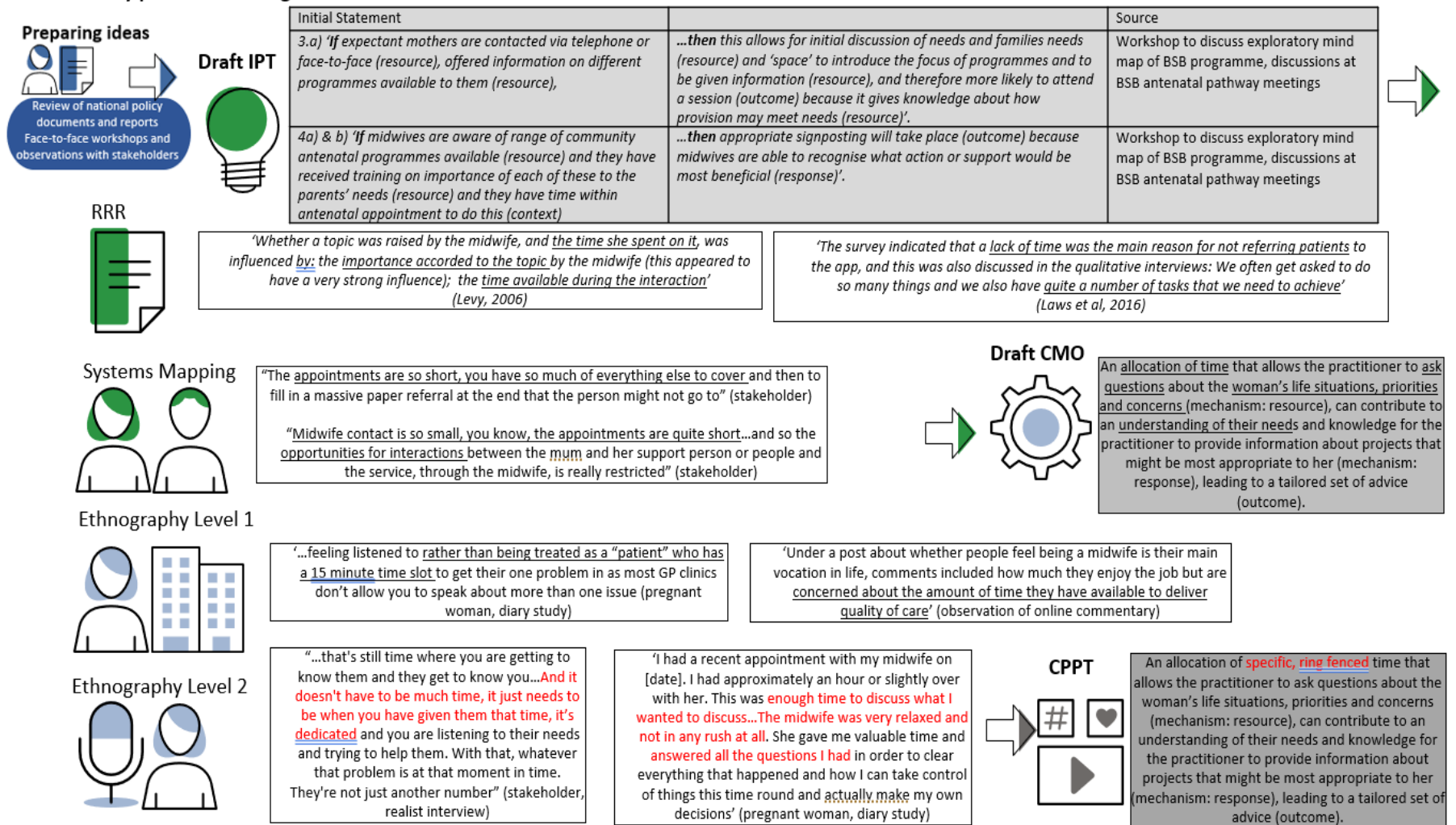


Figure 6.1 Time taken by practitioners to get to know the woman and to understand her life situation⁵⁰

⁵⁰ Red text indicates where the draft programme theory had been amended.

6.3.1.2 Programme Theory 2: The extent to which the woman feels understood by the practitioner, including the level of compassion employed

The data collected (Figure 6.2) confirmed that women needed to feel they had been listened to and understood. This in turn led to feeling respected and helped to develop a level of trust. They wanted to feel that there was at least a recognition that they had certain needs when they had contact with services. This included an appreciation of the general context of what was happening in their own lives. Where they were able to ask questions and have interactions where answers or suggestions were then provided, this helped to confirm that the practitioner had given them their attention and had considered a response for them that may have been helpful. This is strongly linked with CMO number 1 (time taken by practitioners to get to know the woman and to understand her life situation). Being able to listen and empathise appeared to help convey a sense of being respected and that there was a genuine wish to care for them and to give attention to their needs. In some cases, a similar value was placed on the type or quality of information received. There was also awareness of the potential power dynamic during such discussions and the importance of allowing the woman to feel that her questions or concerns were valid. This included the opportunity to communicate with practitioners who spoke their language(s) and/or had some level of understanding of their cultural backgrounds and beliefs. However, this appeared to be made possible, once needs had been discussed and considered in the first instance (e.g.: an understanding of language requirements might only have come about once the practitioner had listened to or been told about these needs by themselves, partners or other family members).

Although there appeared to be a strong connection between feeling understood and respected and the development of trust, further research would help to determine the extent to which this influences whether a pregnant woman would then attend an antenatal session. This may be about the appropriateness of the signposting or referral that occurs after these discussions and how successful that may have been.

Linked theory:

Where a pregnant women or partner feels they have been appropriately referred to a project which could help them to be understood (mechanism: resource; reaction), this can lead to clearer individual-practitioner communication, improved satisfaction with the process and a likelihood they will consider attending (outcomes).

The extent to which the woman feels understood by this practitioner, including the level of compassion employed

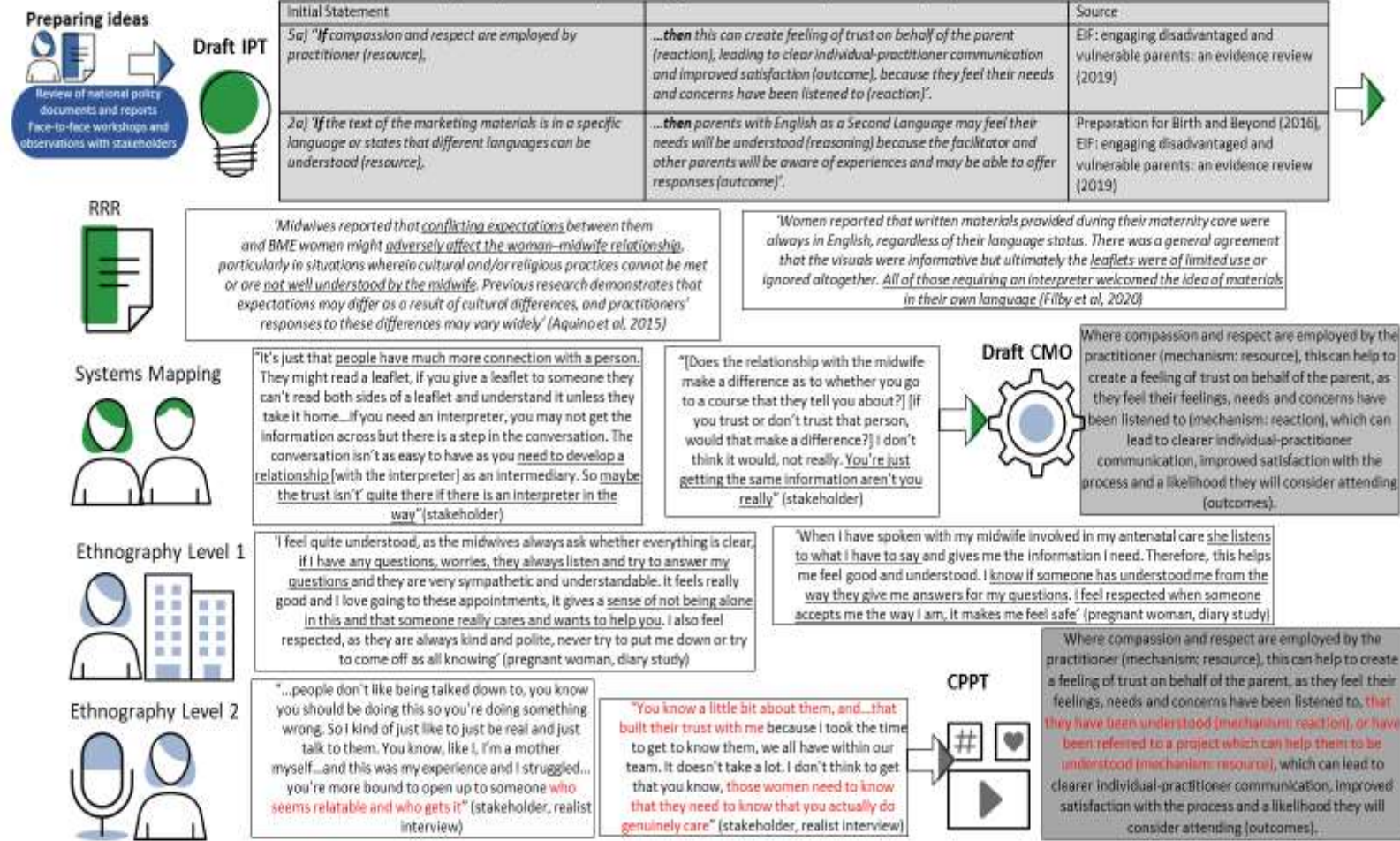


Figure 6.2 The extent to which the woman feels understood by the practitioner, including the level of compassion employed

6.3.1.3 Programme Theory 3: Prioritisation of other, significant needs in that woman's life (above antenatal care) which may be requiring daily attention

Pregnant women face a variety of different stresses in their daily lives and this was particularly prominent in the RRR (Chapter 2), where literature referred to research with asylum seekers and vulnerable women. Findings from the systems mapping fieldwork reinforced that families were dealing with pressing issues on a regular basis, associated with: living status; housing; finances (including availability of cash); and looking after other children. Observations of antenatal sessions and reviews of online activity, as well as responses from women in the diary study, highlighted 'packed' daily schedules: taking children to and from school; working; cooking and cleaning; studying at college or university; and dealing with any health problems experienced by themselves or family members. These factors clearly demonstrated a scale of severity, with some families literally dealing with survival needs in terms of housing or finances, while others simply reported being very busy.

Linked theory:

Where projects can fully understand the type of barriers experienced by families facing daily external pressures such as living status, care for other children, financial constraints (context), they may be able to offer advice or refer to practical support through other services or other resources (mechanism: resource) that could help to address these. Women could then feel that there is more available time for other activities (mechanism: reasoning, reaction), because of this, the idea of attending an antenatal project may be considered (outcome).

Prioritisation of other, significant needs in that woman's life (above antenatal care) which may be requiring daily attention

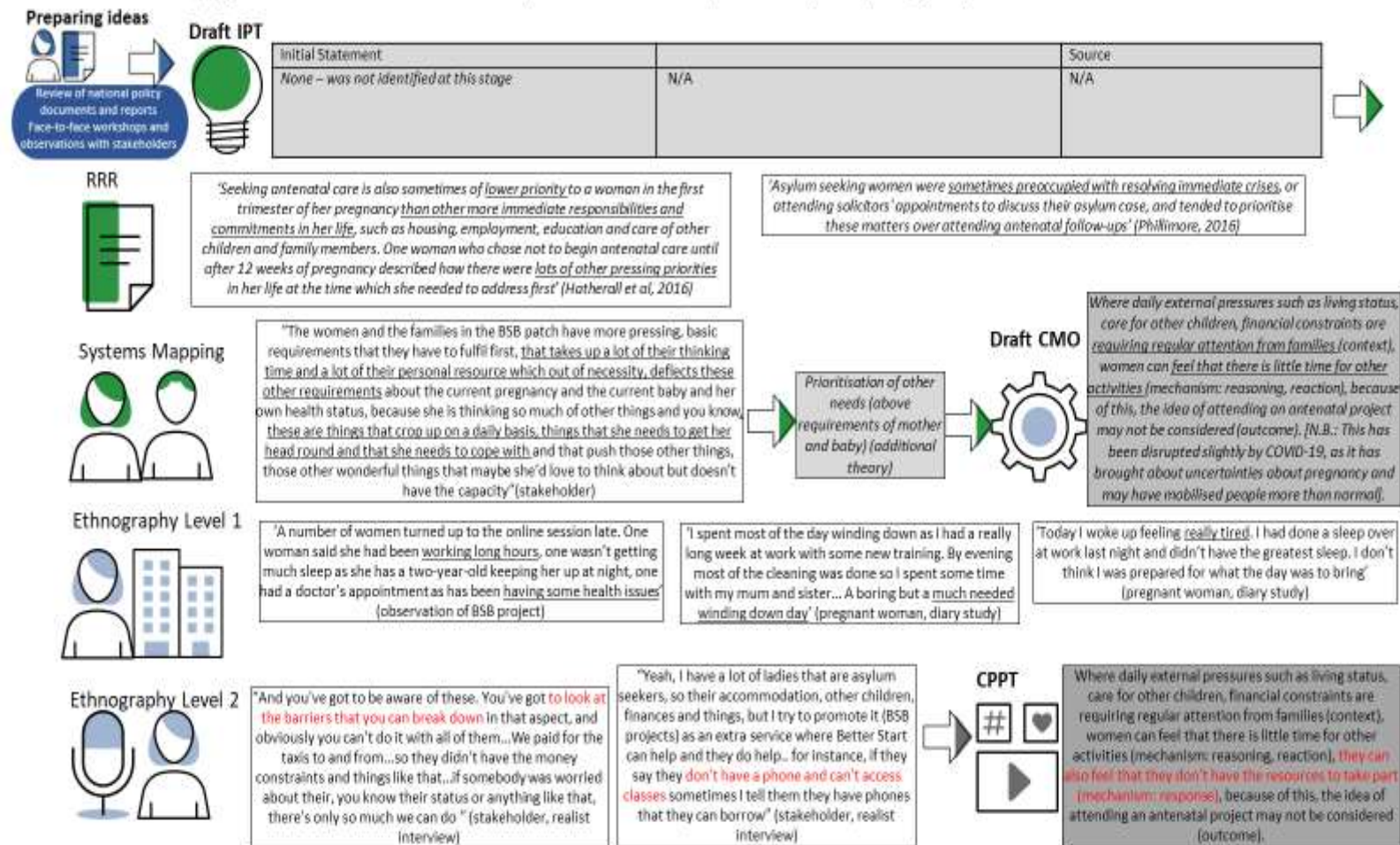


Figure 6.3 Prioritisation of other, significant needs in that woman's life (above antenatal care) which may be requiring daily attention

6.3.1.4 Programme Theory 4: Beliefs about whether antenatal sessions are 'needed' in their lives

Family influences appeared to have impacted on how comfortable women felt in taking up the antenatal projects on offer and this was well supported through the data collected in the RRR and especially in the systems mapping work, where practitioners stated that they had often observed family influences on attitudes to antenatal provision. Opinions of others downgraded potential interest if it was considered low priority or simply not needed if other family members had not accessed it before. This was because of suggestions that the pregnant woman was not eligible for this type of support as there was no real health 'issue' or it would not add anything to what they knew or what others could tell them. Where older family members had raised their own families without using this provision, this appeared to have contributed to a sense of perceived inadequacy or pointlessness of sessions and an expectation that the pregnant woman should be able to deal with the role of motherhood well, without any 'formalised' preparation such as parent education. It is important to note that although there appeared to be some comments around the cultural context and that some families (including partners) make these decisions as a unit, this is not necessarily restricted to certain ethnic backgrounds. In addition, there could be other factors that influence this conclusion, including whether women feel already confident in their abilities, whether they already have good wider support networks or if this is not their first pregnancy.

Linked theory:

Women who have already had children (context), may frame antenatal care as being of low value as they feel they have already gathered knowledge from previous experiences of childbirth and parenting (mechanism: reasoning) and that other activities are more important or worthy in their lives (context), leading women to feel it is not something they need to do (mechanism: reaction), reducing the degree to which information about antenatal projects is considered (outcome).

Beliefs about whether antenatal sessions are 'needed' in their lives

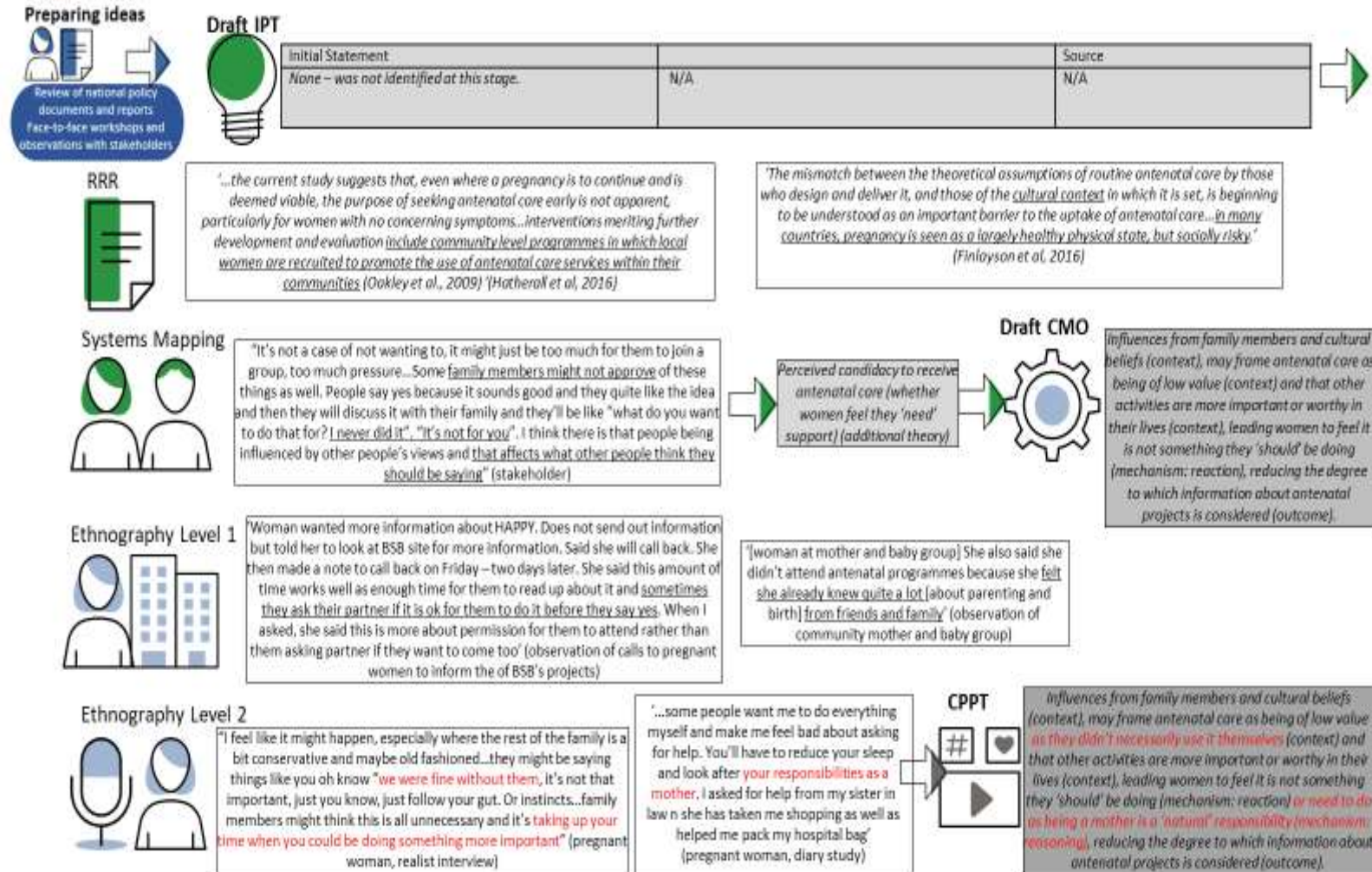


Figure 6.4 Beliefs about whether antenatal sessions are ‘needed’ in their lives

6.3.1.5 Programme Theory 5: Time available to explain what support is available to her and why this may be relevant to that woman with her individual needs

A key mechanism for this programme theory was whether pregnant women know what to expect from sessions, what they are aimed at teaching them and what they would learn. This can translate into how they may personally benefit from attending. Data collected from the systems mapping fieldwork indicated that expressing how exactly the project could help make a difference to women's lives could help to encourage interest. This may also include practical information such as location, start date, number of weeks, length of sessions and that can help them to understand straight away if it is something they can fit into their life. Findings from the ethnography highlighted the value of having all of this information upfront when they are initially told about the provision, to help them to make an informed decision. The success of this process is dependent on whether practitioners and facilitators: a) have the time to explain the benefits and general details of the provision; and b) know and understand what these are. It is important that they can also answer questions about the sessions and an inability to do this might result in women becoming uninterested. Misunderstandings about the provision can also lead to inappropriate referrals. Leaflets about the projects do not have the same enabling effect as it is difficult to know more about something if the pregnant woman is away from that contact point and is unable to ask questions.

Linked theory:

Where practitioners and facilitators are provided with enough detail on potential sessions that they can recall a simple bullet list of benefits and timings (mechanism: resource) and they also mention this at the next contact point with the same woman (mechanism: resource) this could encourage women to think about how these could help them (mechanism: reasoning) and see it as 'worth' their time (outcome).

Time available to explain what support is available to her and why this may be relevant to that woman with her individual needs

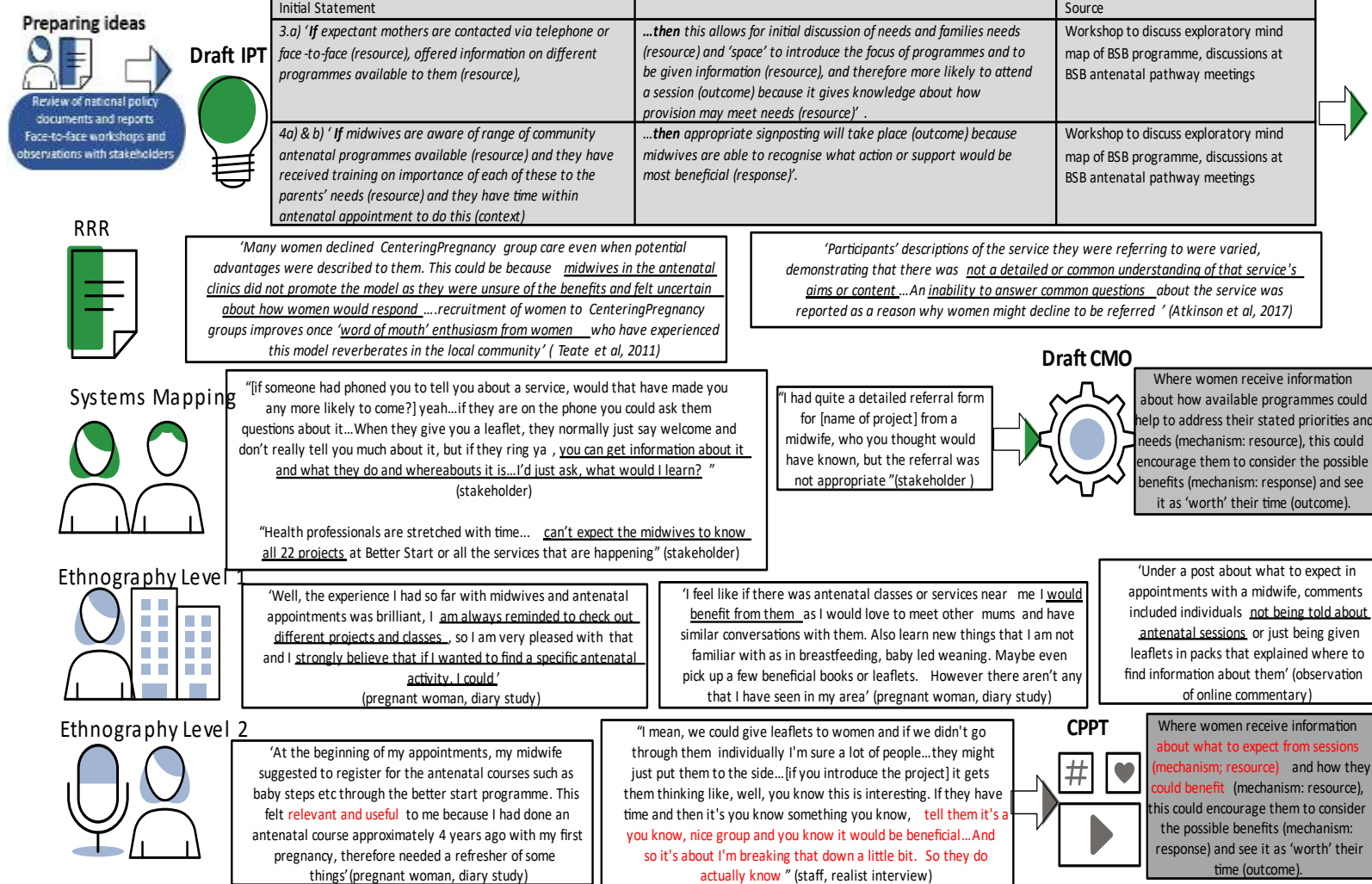


Figure 6.5 Time available to explain what support is available to her and why this may be relevant to that woman with her individual needs

6.3.1.6 Programme Theory 6: Perception of health professionals as trustworthy, more reliable than others

Linked with the theory around availability of time, I also tested a specific theory regarding the acceptability of practitioners that recommend something of apparent benefit to pregnant women. This was found to be intertwined with the development of trust. During the systems mapping work, it became more apparent that this could also be about the opinions of practitioners, particularly the idea that health professionals such as midwives were more trustworthy, their opinions should be trusted or they also should do something, because if the midwife has suggested it, it must be important. Feedback from the ethnography suggested that there was an assumption that midwives are well qualified and have the knowledge to know what may or may not be valuable. However, there was less information emerging about whether they felt that they 'ought' to listen to their advice because of other possible reasons e.g.: potentially being criticised for not attending; because it was just the 'done thing' and they were expected to do so.

Linked theory:

The recommendations of a midwife who may be seen to have professional authority (context) facilitates an assumption that the woman 'should' attend a project (mechanism: reaction), because the midwife expects her to (mechanism: reasoning), which could contribute to a sense of dissatisfaction with the sessions (outcome)

Perception of health professionals as trustworthy, more reliable than others

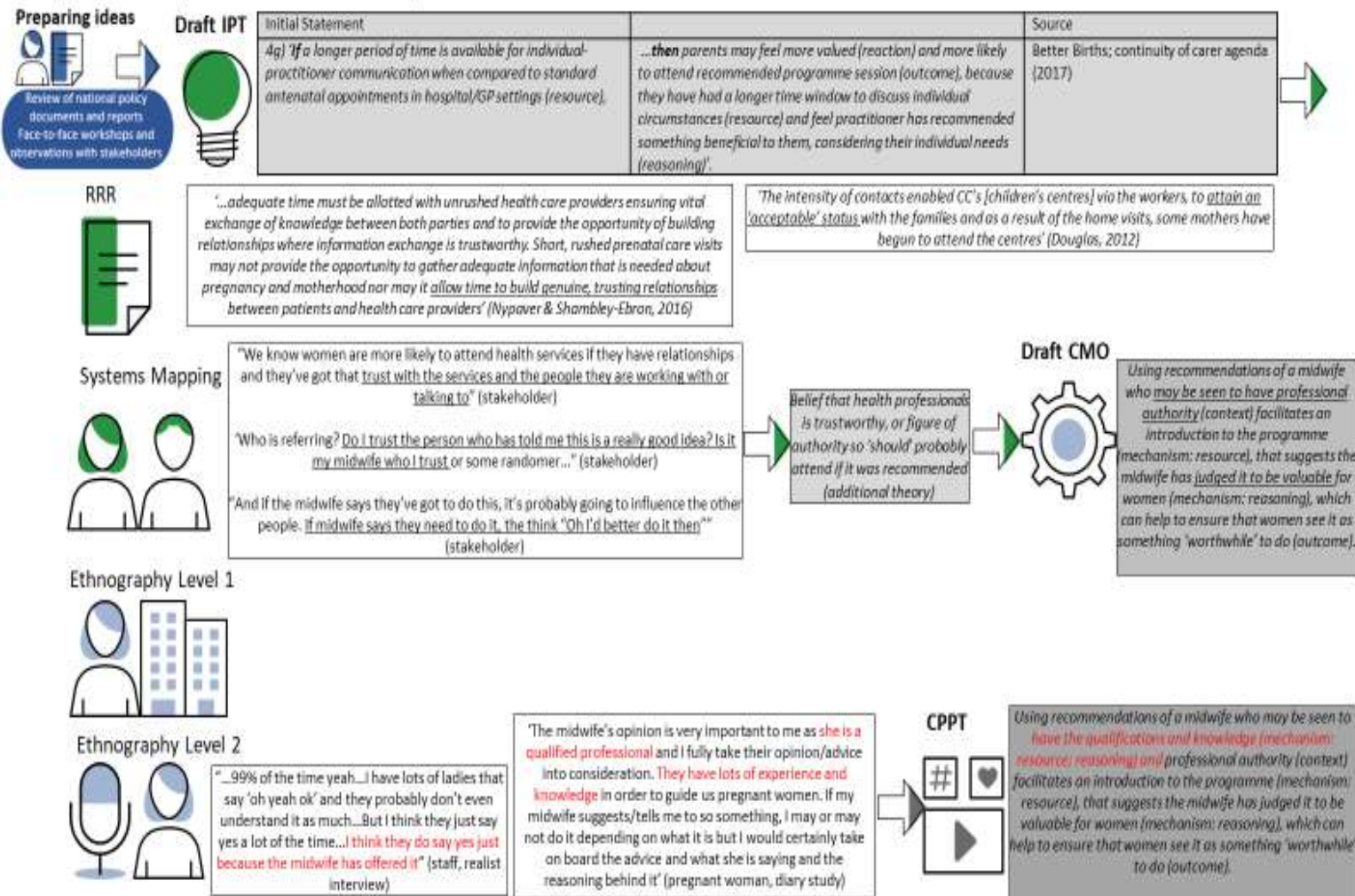


Figure 6.6 Perception of health professionals as trustworthy, more reliable than others

6.3.1.7 Programme Theory 7: Convenience of local venue where sessions may be being held (location, familiarity)

The data collected indicated that sessions based at a local venue would be seen as easy to get to if they were within easy walking distance or easy to access by bus. However, women did not always prefer the option to walk if this would have required them going out in an area where they did not feel comfortable with the general environment, considering factors such as pollution and an uncertainty about strangers, even in the local neighbourhood. Familiarity was mentioned in the review of the available literature and the systems mapping fieldwork. The ethnography helped to demonstrate that this was more about the development of confidence obtained by an existing knowledge of what 'it' was and how to get there. If this was somewhere they had been to before, they had already experienced it, therefore it was not new or different. Conversely if they hadn't been there before, this may have created some anxiety. There is also a counter to this theory as potentially a previous experience may put someone off the idea of attending. In addition, it would be useful to understand more about feelings related to their local area and how these might impact on their willingness to walk anywhere, especially if other transport is not an option for them.

Linked theory:

Where sessions are delivered at a local venue (mechanism: resource) that may be already known to the family (context), women may feel it is a journey they have done before (mechanism: reasoning; response; reaction) and this may cause anxiety if it is a journey that had previously felt problematic or difficult (mechanism: reaction) and therefore may consider it as difficult to attend (outcome).

Convenience of local venue where sessions may be being held (location, familiarity)

Preparing ideas

Review of national policy documents and reports
Face-to-face workshops and observations with stakeholders

Draft IPT



Initial Statement	Source
6.a) <i>'If the programme is delivered at a venue that is easily accessible by public transport (context),</i>	Workshop to discuss exploratory mind map of BSB programme
<i>...then parents may feel that it would be easy to get there (reasoning) and be likely to attend (outcome), because they can get there and back home quickly and efficiently (response, reasoning)'</i>	

RRR



'Women appreciated the community venue, reporting that the location and familiarity facilitated participation. Women could get to the center without having to depend on someone for transportation' (Riggs et al, 2017)

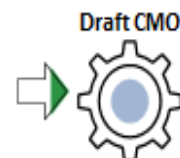
'The Family Health Center was chosen as the best location for the antenatal education program as it is located within a neighborhood setting and on the bus route, allowing for a safe walk for pregnant women' (Zachary, 2016)

Systems Mapping



'Familiarity of the venue, they like (name of venue), because they know it, but if it was a bit further away they would be less likely to attend, if they know it, they trust it, its familiar. Know the staff, know there's a car park, know its nearby, know its on a bus route' (stakeholder)

'You wouldn't walk down Manchester Road into Bradford because it's a horrible road, with cars and fumes' (stakeholder)



Where sessions are walking distance or easily accessible by public transport (context), because programme sessions are delivered at a local venue (mechanism; resource), women may feel it would take little thought to plan their attendance (mechanism: reasoning) and therefore may consider it as fairly 'easy' to attend (outcome).

Ethnography Level 1



'It is easy to walk to my community centre. About 10-15 minutes away. However, I mostly commute there in my own car as it is more quicker in this cold weather' (pregnant woman, diary study)

I don't really like walking in the area, as I never feel too good there...Part of it is that it always looks messy and untidy (people leave litter everywhere, no one bothers putting trash into the trash cans, it just looks very bad). Also I believe my area is quite dangerous to walk around by yourself, especially if there aren't many people around' (pregnant woman, diary study)

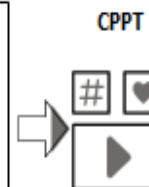
'I just recently tried looking for groups or sessions that I could go with for my baby but didn't find much. There were things like baby sensory and baby yoga but they are no where near where I live' (pregnant woman, diary study)

Ethnography Level 2



'If it's walking distance and if it's familiar, they know their own way, they are more confident about going, because they know it and they have been there' (stakeholder, realist interview)

I do get a bit anxious with places that I've not been to before. Someone may feel nervous if they don't know where they're going. (If have been there before) You know where you're going and you're aware of the surroundings and you know you're not going to get lost, you're not having to ask people 'excuse me, where's this, the building'. It's just easier (pregnant woman, realist interview)



Where sessions are walking distance or easily accessible by public transport (context) because programme sessions are delivered at a local venue (mechanism: resource) that may be already known to the family (context), women may feel it is a journey they have done before (mechanism: reasoning; response; reaction) and it would take little thought to plan their attendance (mechanism: reasoning) and therefore may consider it as fairly 'easy' to attend (outcome).

Figure 6.7 Convenience of local venue where sessions may be being held (location, familiarity)

6.3.1.8 Programme Theory 8: Potential impact of more complex travel requirements (if not walking distance, how will I get there?)

Lack of finances or access to cash was a barrier to the idea of using public or private transport to get to sessions. Although organising travel appeared to create a sense of 'hassle' and uncertainty (especially if it was to a new venue that they didn't already know), the main issue that could result in non-attendance was sourcing the money to enable this to happen. As highlighted in the literature, cash was not always available to asylum seekers and particular arrangements were required well in advance if specific transport by bus or taxi was needed to get somewhere. Some BSB projects had worked to address this, by organising taxis on their behalf which had helped to encourage attendance. This also included arranging for women to share taxis so that they were not on their own with the driver and using Disclosure and Barring Service (DBS)-checked taxi companies. However, potential cost was a practical issue that could make it easy to dismiss the prospect of taking up a project. This may have been an especially important consideration for those with more chaotic lives and more pressing matters to deal with daily, linking with CMO number 3 (Prioritisation of other, significant needs in that woman's life (above antenatal care) which may be requiring daily attention).

Potential impact of more complex travel requirements (if not walking distance, how will I get there?)

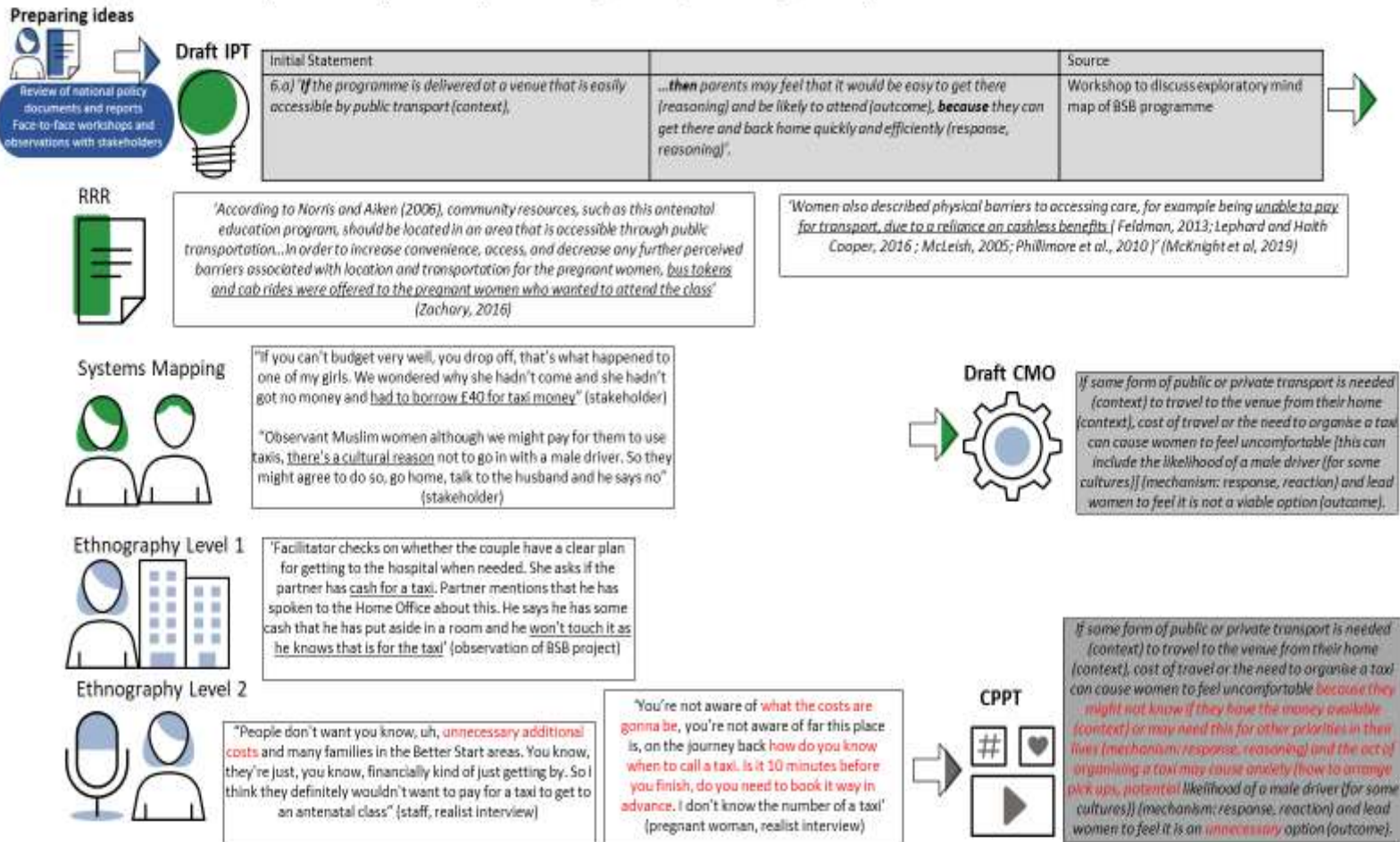


Figure 6.8 Potential impact of more complex travel requirements (if not walking distance, how will I get there?)

6.3.1.9 Programme Theory 9: Will 'people like me' be there? Is there likely to be a concern about being judged by others?

Data collected via the review of available literature and systems mapping focus groups and interviews suggested that women and partners (e.g.: Dads) could feel concerned about whether they would be judged by others in a group setting and that this may prevent take up. A more nurturing and 'safe' environment could be created by delivering sessions with others 'like them', including other fathers or expectant mothers from the same cultural background. Delivery by a facilitator from the same gender or background could also contribute to this. The results of the ethnography produced a mixed view, with some indications that women could indeed feel self-conscious about being with others not from the same background (e.g.: because of competence in use of languages) and that Dads may prefer to attend where they know other expectant fathers will be present. This familiarity may be a mechanism for finding this acceptable and for this to encourage attendance at a session. However, comments from pregnant women also indicated that mixed groups, with people from different backgrounds would not be concerning for them, because they were used to being in these situations.

Linked theory:

Where women and partners have previously experienced being with people from different backgrounds and genders in a group environment (context), they may anticipate that they will not be judged, or will have the confidence to stand firm in their own viewpoints or outlook because they have that familiarity (mechanism: reaction) and will feel comfortable to try it out (outcome).

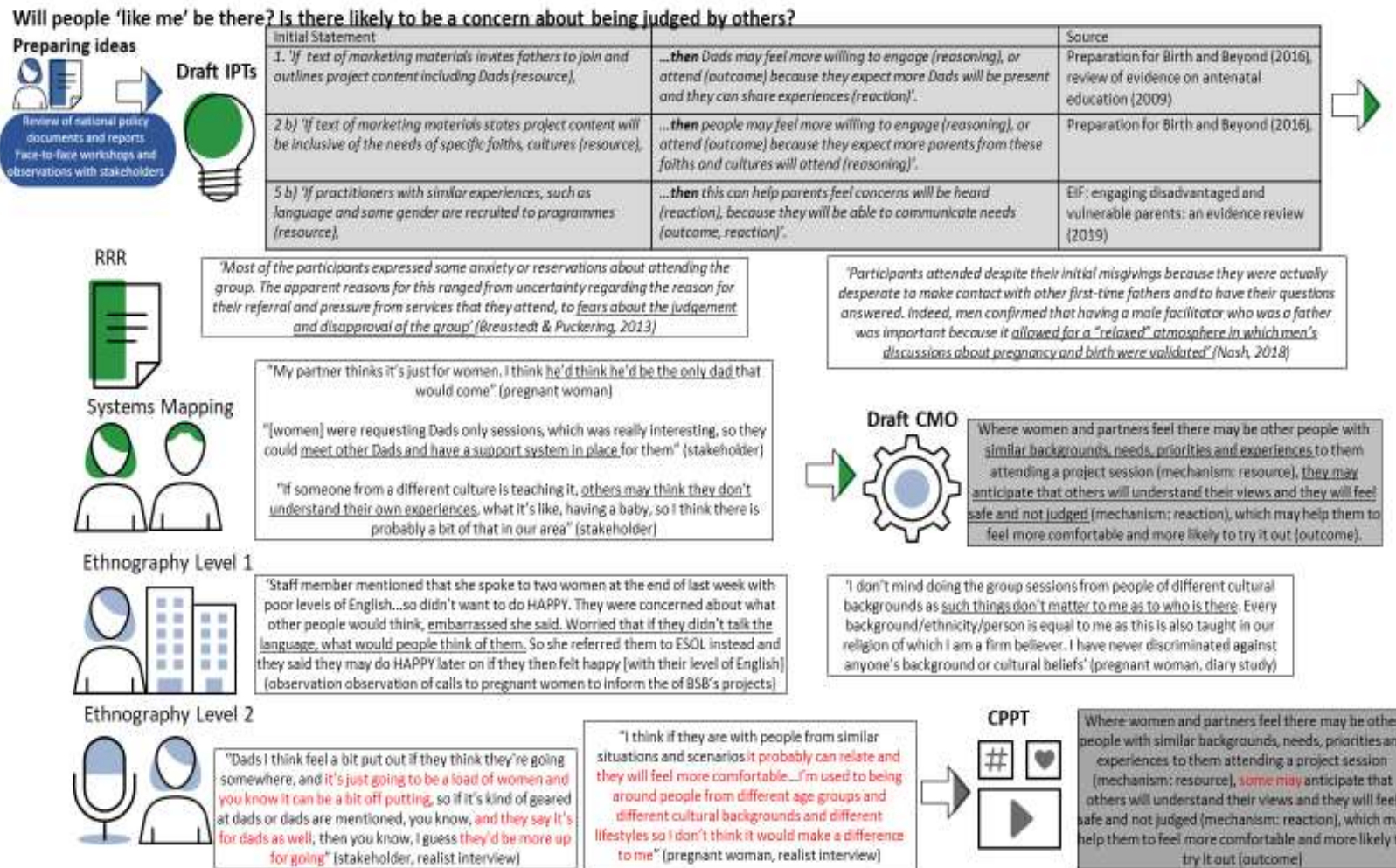


Figure 6.9 Will 'people like me' be there? Is there likely to be a concern about being judged by others?

6.3.1.10 Programme Theory 10: Associations made with venues, based on experiences and judgements

Each of the three studies conducted for this research, reported that the mental associations women and their families might have made with certain venues did have the potential to influence how they felt about attending and whether this was likely to have created some level of discomfort. A location could have felt 'stigmatising' because of the possible link with a different organisation or staff that could apply some sort of judgement to their families. A connection to social services could cause concern that there would be some sort of questioning or follow up action with the 'ins and outs' of their family life. Women may also not feel comfortable attending a session at a local community centre if they are unsure about what is on offer for them or their families, linking with CMO number 7 (convenience of local venue where sessions may be being held (location, familiarity)). Further research could be conducted to help identify where this negative outlook comes from, whether it is about a fear of a new environment, or potentially an assumption that it would not offer something of use, to help address their specific needs.

Associations made with venues, based on experiences and judgements

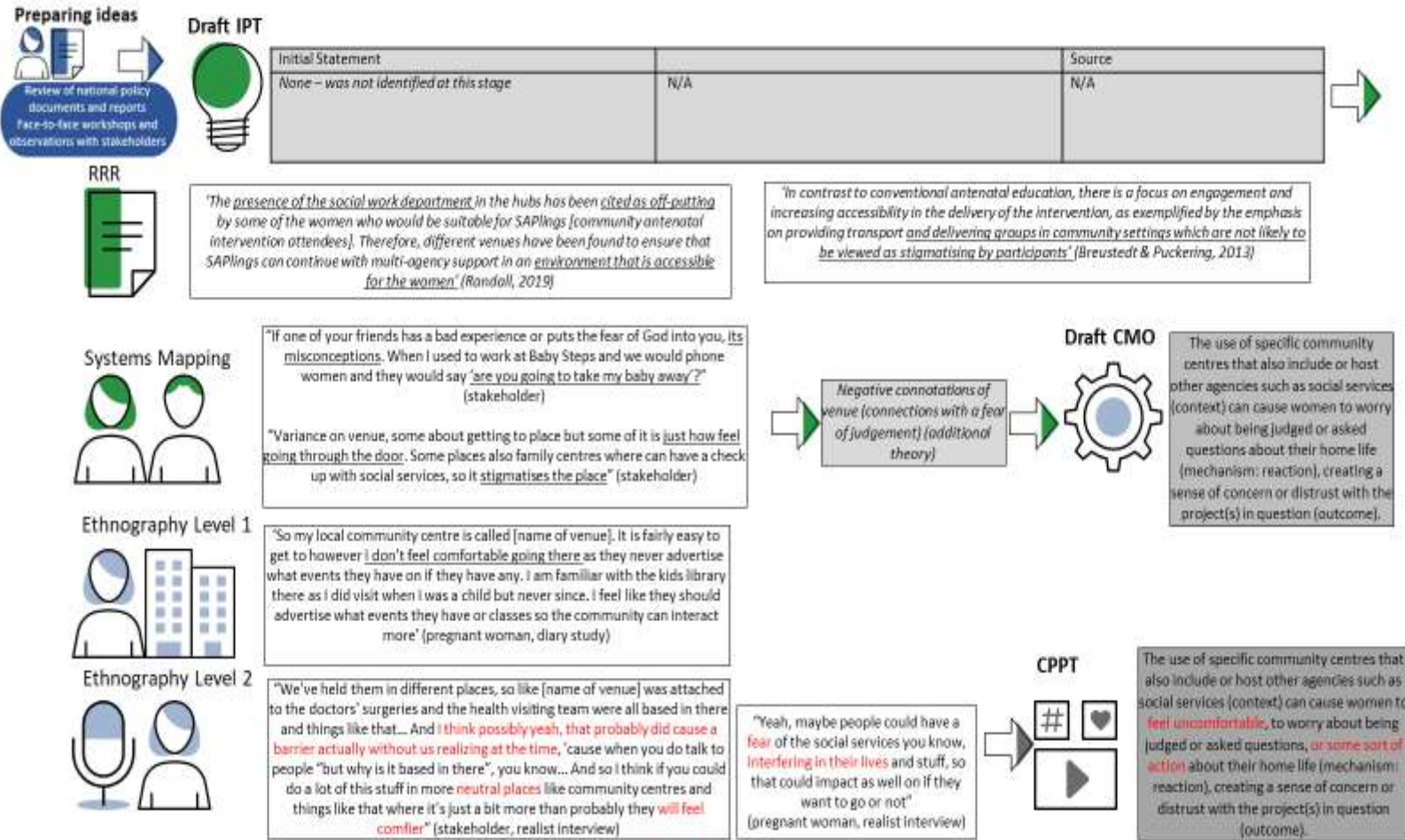


Figure 6.10 Associations made with venues, based on experience and judgements

6.3.1.11 Programme Theory 11: Available in a time and format that suits women and partners

A range of timing and date options for accessing antenatal sessions emerged as a key mechanism for helping to encourage attendance. This may have provided families with more of a choice of how to fit this in amongst all their other life priorities. More recent availability of sessions online (via online communication platforms such as Zoom) had resulted in increases in interest and feedback given to projects suggested that women and partners would like to maintain this as the main way of receiving antenatal support. However, not all families had the appropriate technology or understanding to access this and the choice of when to attend appeared to still be of greatest importance and different times and days of the week are suitable for different people. The provision of detailed information up front (at the first point of contact about BSB's community antenatal projects) about when the sessions are running, enabled some women to decide if they could attend and gave them time to consider if they could ask for time out of work or arrange for care for other children. This may also help to address any uncertainty about eligibility for the provision, such as whether they were within the correct gestational window. This did not emerge from the ethnography and it would be useful to test if this factor does impact on potential attendance.

Linked theory:

Informing families of the option for attendance on first contact (start date, day of week, time, length of sessions, format – whether face-to-face or online) (mechanism: resource) may allow women and partners to investigate, in advance, whether they have the allotted time, skills, resources to be able to attend (mechanism: response) and provide some confidence that attending will be relatively 'easy' (mechanism: reasoning; reaction).

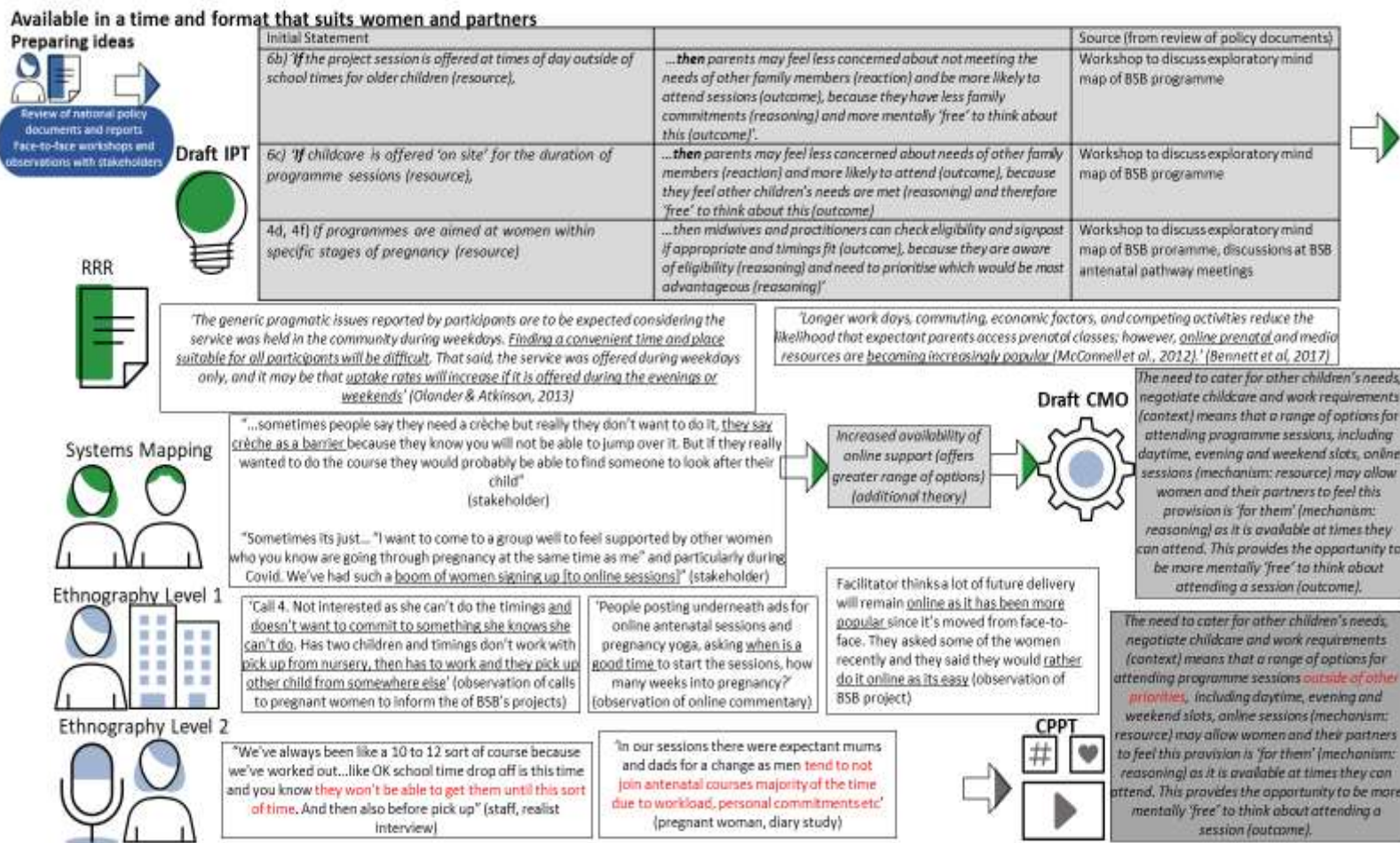


Figure 6.11 Available in a time and format that suits women and partners

6.4 Discussion

A number of areas are still unclear and warrant further research to understand. It would be useful to understand more about whether an allocation of time for getting to know women would be specific non-clinical time (or time where clinical monitoring is not mentioned). For example, whether this would need to be 'ring-fenced' so that other demands do not creep in. In addition, further data could be collected on whether a specific measure of time in an appointment or in general discussion with a practitioner or facilitator allowed them to be able to understand more fully, what type of antenatal support (BSB projects and other support) would be potentially of greatest value to them.

Additional research could help to identify a range of mechanisms, in terms of available resources and how these could impact on participation in one of BSB's community antenatal projects. Practitioners and facilitators work with families to help address some of these issues and it would be important to unpack some of these processes in more detail. This may be about the appropriateness of referrals to other services, or intervention resources used to help support them (e.g.: availability of phones/devices so families can access online provision). A rival theory could then be developed, to theorise how participation could be enabled. In addition, it would be useful to gather more data on how much information is 'enough' to influence attendance as it is perhaps not practical to expect practitioners to always have up to date information and knowledge on each of BSB's projects. This could also be influenced by whether they are reminded of this available provision at the next appointment. A programme theory could be used to test whether an amount of time spread out over two contacts could potentially have the same effect.

6.5 Conclusion

This chapter summarises the development of each programme theory and has presented confirmed preliminary programme theories which relate to both the design and delivery of community antenatal programmes. The next chapter (Chapter 7) discusses the implications of these updated theories, including recommendations for access. It covers suggestions for community antenatal programmes and the implementation of BSB's various projects.

Chapter 7 Discussion

7.1 Introduction

This Chapter discusses the research undertaken and its strengths and limitations, as well as implications for design and delivery of community antenatal programmes and BSB's projects. It also considers the impact of the findings from the PhD for future research.

7.2 Summary of Thesis

This research aimed to identify 'how, why and in what contexts parents-to-be access community based antenatal programmes in high income countries, in order to facilitate increased service use' (Chapter 1). This aim was achieved through three studies that allowed for the iterative development and testing of programme theory: (1) elicitation of theory via a Rapid Realist Review of the available literature (Chapter 2); (2) development of theory through applied research, carrying out systems mapping exercises with key stakeholders (Chapter 3); and (3) testing of theory as Context Mechanism Outcome (CMO) configurations within an ethnography of relevant settings, practitioners and pregnant women (Chapter 5).

7.2.1 Theory Gaps in the Literature

The initial stage of my PhD involved the development of draft theories (IPTs) and searches of literature on how parents-to-be access community antenatal programmes in high income countries to identify elements of these theories. This review provided a guidance point, outlining what was already 'known' and where future applied research would need to be directed, to build on this. A lack of detail in published studies about how and why parents-to-be were accessing antenatal projects limited most of the IPTs to a 'sketched out' outline view of what might be happening. Contexts regarding women's and practitioner's experiences tended to be clearly described in the literature (especially issues faced by pregnant women from different ethnic groups and refugees such as language needs, expectations about the value of antenatal services, concerns about finances and living status and practitioner reported restrictions on time in appointments). Potential mechanisms to increase attendance (relating to marketing, transport, timing of sessions), were unclear apart from a few exceptions as described below: a) allowing women to talk about their lives and needs; b) assurances for cultural safety where women can feel respected and understood; c) perceived candidacy to receive antenatal care; and d) prioritisation of needs above mother and baby. Mechanisms that did emerge from published literature tended to come from studies on barriers to attendance at the initial 'booking' appointment with the midwife and discussions around the design of antenatal interventions (Chapter 2). These included the value of the appointment with a practitioner, as an opportunity to allow women to talk about their lives and their needs and for them to be offered information in response. The literature also covered the role of cultural safety (with practitioners from a similar cultural background and good language

support) in helping women to feel their needs would be understood and respected. Additional potential theory was captured from analyses of the literature, including perceived candidacy to receive antenatal care and prioritisation of other needs above mother and baby (Goodwin et al, 2018, Haddrill et al, 2014, Phillimore, 2016). These points were prevalent in qualitative studies related to asylum seekers and refugees, immigrant women and their reported experiences of accessing antenatal care (Hatherall et al, 2016, Begum, 2011). Stereotypes about fathers' roles and negative connotations of venue also emerged.

One third of the papers analysed were focussed on non-statutory interventions delivered in the community, above and beyond standard antenatal care (Atkinson et al, 2017, Breustedt & Pickering, 2013, de Montigny et al, 2020, Douglas, 2012, Filby et al, 2020, Hesselink & Harting, 2011, Laws et al, 2016, McCalman et al, 2015, Mkandawire-Valhmu et al, 2018, Nash, 2018, Olander & Atkinson, 201, Parry et al, 2019, Quintanilha et al, 2018, Randall, 2019, Riggs et al, 2017, Zachary, 2016). This indicated that there was a more limited understanding of what was working well outside of routine antenatal provision at hospital sites and GP surgeries. Most literature focused on pregnant women from South Asian and indigenous backgrounds. There was an absence of literature on access issues faced by those from a White British background and Eastern European populations which are present in the target BSB programme area and may have reported different expectations, experiences and beliefs about access. The views of those who had not engaged at all in antenatal provision were hardly present in the review. This is a group that could have provided key knowledge about how different contextual elements had influenced their decisions and whether there would be any variation in motivations, producing certain outcomes (CMO configurations) compared to what was already known.

7.2.2 Uncovering Context and Mechanisms through Systems Mapping

The results of my review of literature (RRR) were then built upon by a mapping exercise specifically regarding access to BSB's community antenatal projects (Chapter 3). Previous work outlined in the background chapter had provided detail on the 'how, what and why' of the programme architecture, including what was meant to be delivered, how it was meant to work and its expected results. The confirmatory systems map for the overall programme reinforced that pregnant women and their partners were influenced by wider family networks and belief systems about why or how an intervention could help them and that a number of physical and social structures were in place, as well as resource allocations and constraints.

Analysis of the resulting stakeholder maps for take up of BSB's projects provided a rich set of information about influencing factors, building on new theory that had been identified through the Rapid Realist Review such as whether pregnant women considered themselves in need of such provision. This was important to consider, as it may have impacted on how 'ready' they might have been to receive and process information about what was on offer. Another important aspect was the availability of the practitioner (with competing commitments), to

understand a woman's needs and to use that information to convey why it would be beneficial to access a project, versus something else in their life that they could have prioritised. Involvement of BSB management and delivery staff, midwives, project deliverers and pregnant women in the systems mapping interviews and focus groups allowed me to collate data on variables from a variety of viewpoints. Comments about women's expectations and attitudes were mainly reported by practitioners, probably because the methods employed did not ask about individual's motivations but instead looked at factors on a broader level.

7.2.3 Collation of Deeper Understanding Using an Ethnographic Approach

The ethnography (Chapter 5) provided iterative testing of theories identified in the Rapid Realist Review and systems mapping studies; allowing me to explore the robustness of my theories. Exploration of contact points where women may have received information about BSB's projects, was supported through observations. The use of realist interviews, informed by data on how the provision was offered to pregnant women, helped to elucidate some of the theories. Women felt their lives were busy and demanding, limiting available time they may have had to consider other activities, including antenatal sessions. Their decisions to walk or travel somewhere comprised of several decision points, including their views on how 'safe' they felt in their local environment or at venues. Feedback on the draft CMOs during interviews illustrated that some theory was harder to test as some women may not have had the same experience as that reported by practitioners. This illustrated the importance of involving different perspectives when attempting to test out ideas of what is happening on the ground.

7.3 Key Findings

7.3.1 The Value of Time, Feeling Understood and Safety

Existing literature reported that the availability of an appropriate amount of time in midwife appointments was critical to a positive experience for women in their pregnancy journey, helping to avoid feelings of them being rushed or not taken seriously (Department of Health, 2009). Restrictions on this reportedly made it difficult for midwives to ask questions and to give relevant information about antenatal support that could be relevant to women (Levy, 2006, Laws et al, 2016). This also extended to the answering of questions. Where timings were flexible, there was an assumption by stakeholders involved in the research (BSB staff, health practitioners, project deliverers) that the practitioner in question would have obtained some information about the woman's life, beliefs and perhaps also their needs. Practitioners reported that space to explain what antenatal projects are available, based on an understanding of needs and why antenatal sessions may help to meet these needs is more effective than the use of marketing, such as leaflets. This also provides a window of opportunity to explain where the sessions are taking place, timings, days of the week and length of sessions, to allow pregnant women to fully consider whether they can commit to

them. Connections were made in the literature between a lack of sensitivity shown by practitioners and a low motivation for women to ask questions (Bradbury-Jones et al, 2015). Feedback from the systems mapping and the ethnography supported this, with the reverse being reported by pregnant women who had been given the space to ask questions (the practitioner displaying compassion) and had these answered, helping them to feel respected. Results from the realist interviews suggested that time available in appointments or other meetings needed to be ring fenced, so it could be focussed solely on discussing the women's needs and appropriate solutions, outside of discussions about clinical care, a request that is very difficult for midwives to achieve because of the systems of delivery[98].

Findings from my research suggested that being understood was interrelated with improved feelings of safety. This sense of feeling reassured was discussed as a factor within practitioner interactions and in deciding whether to attend antenatal sessions, particularly cultural safety, as highlighted by studies on migrant women and those from ethnic minority groups (Goodwin et al, 2018, Utne et al, 2020). My research has further supported earlier claims in the literature that such concerns stemmed from a fear of judgement from others, including practitioners and other pregnant women (Mkandawire-Valhmu et al, 2018). There were also more general concerns around the degree of comfort experienced in travelling to a session, or accessing online technology. Although familiarity of venue had been mentioned in previous work (Riggs et al, 2017), the ethnography allowed me to capture a more granular narrative around why this would work as a mechanism, encouraging attendance. The effort of working out how to get somewhere and figuring out transport could be anxiety rousing if women had not attended before. Where they had experienced accessing that particular site it helped them to feel more comfortable because they reasoned that they 'know what it is'. Because of this, the idea of attending felt 'easier'. Potential discomfort about the venue also included knowing about the building, including the local environment women would have to travel in and whether that was considered 'safe'. This also included what else goes on there, who they might encounter (e.g.: support agencies, GPs), a point mentioned previously (Breustedt & Puckering, 2013, Randall, 2019).

7.3.2 Ongoing Challenges Faced by Pregnant Women

Pregnant women reportedly felt overwhelmed by a variety of factors that were regularly present in their lives (looking after children, working, training, cooking, cleaning, looking after their own health needs, especially if they have felt unwell in pregnancy). Although this research did not produce a large amount of data on the survival needs of families, including those who may be refugees or seeking asylum (financial crises, housing status, access to food), its findings did suggest that the everyday life of a family living in the BSB area may still feel hectic and complicated by issues associated with living in a socio-economically deprived area[21] (unable to afford childcare for other children; poor general health). In addition, the results suggest that family members and partners can influence the views of pregnant women,

especially if they feel that antenatal care is unnecessary, due to different or generational belief systems, particularly if older members did not access this type of care (as referenced in existing literature, such as Haddrill et al, 2014, Hatherall et al, 2016). Or as stated in the systems mapping and ethnography work, this may cause women to feel they should not need it, so they may decide to cope without it. These two points contribute to the notion that pregnant women did not necessarily consider themselves in need of provision. In other words, they did not see themselves as candidates for this type of care (MacKenzie et al, 2013). An effective function of the practitioner would be to use information they had learned about that woman's life to convey why antenatal sessions would be beneficial to them, versus something else in their life that they could have prioritised.

The findings of this thesis suggest that small actions to address one problem could potentially create a 'domino effect', leading to a big change. Cost of travel and access to cash to pay for transport can be a large issue and can make the difference as to whether a pregnant woman decides to try out a session. Limited access to money is not something that projects can assist with, but they can arrange travel, providing regular taxis where required. This may provide a 'tipping point' and might facilitate attendance. By removing this immediate barrier and the requirement for the woman to organise travel herself, this could result in an acceptance that attending would be straightforward and a decision to attend.

7.4 Main Strengths of the Thesis

The thesis has provided ontological depth regarding the contexts and mechanisms that may influence attendance at community antenatal programmes, building on existing ideas and experiences of practitioners working in this field. It has developed and tested theory, based on available literature and feedback from those connected with the BSB programme about what was felt to be happening in practice. This has progressed understanding at local level to confirming what the myriad of different influences could be and in which circumstances.

The inclusion of literature on access to standard antenatal provision as well as community antenatal projects, enabled comprehension of the broader context, including the challenges faced by practitioners and women's expectations of meeting with a midwife. The draft IPTs were originally discussed with the Reference Group, verifying and prioritising these with field experts and practitioners (Saul et al, 2013). Scope and search terms were also agreed with the Group to help ensure relevance to the context of the BSB programme (Jagosh, 2019) and its related projects. The systems maps provided further detail on new theories identified through the RRR. Conceptualising take up of projects as a system highlighted connections between factors and the most effective places to intervene. Use of digital ethnography methods via the smartphone app provided an insight into pregnant women's everyday routines and lifestyles as reported by them. I designed the tasks to allow me to collect broad information about how they were spending their time as well as in-depth, focused data regarding their opinions and experiences of antenatal provision. Their posts provided some reflection as to how they spent

their time, their priorities and their concerns as they occurred 'in the moment', capturing granular, contemporaneous data on daily life, in contrast to what would have been collected via an interview or focus group. This was successful in providing context for the programme theories, directly from pregnant women, rather than reported by practitioners. Review of online commentary also added to a general context and understanding of how antenatal projects were perceived by women in general. Both sets of methods used in the ethnography and systems mapping work were flexible in their suitability for in person and online methods and produced consistent sets of information from both these formats during enforced periods of remote working during the PhD.

Sampling covered a range of practitioners involved at different contact points, to provide different perspectives and to help capture variation in responses. My ongoing partnership work with the BSB programme and the BSB Innovation Hub (through attending meetings, being present at their offices), helped to ensure I had good working relationships with key members of staff when it came to the point of designing my studies and when asking for their assistance in recruitment. Their awareness of my work also may have contributed to positive responses when contacted about taking part. The evaluation benefited from representation of pregnant women from ethnic minority backgrounds, including Eastern European as well as South Asian populations. Methods supported inclusion by offering different ways in which women could get involved and language support within the smartphone app where required. The research was carried out with sensitivity and an understanding of the needs of the local population, considering what was already known about the concerns of different communities (e.g.: quality of practitioner contact, language support). Patient and Public Involvement and Engagement (PPIE) activity was undertaken with local families, to obtain an understanding of the best use of wording when involving them in focus groups for the systems mapping work. The outcomes of this also informed wording for ethnographic tools.

The selected methodology and applied research methods (systems mapping and ethnography) recognises the complexity and the messiness of people's lives, allowing sense checking of ideas within an accepted variation of what might make a difference to one individual's motivations. The consideration of rival theories (Chapter 6) acknowledges these variations. Although programme theory cannot be used as a basis to claim that something will definitely work or fail, it provides strands of ideas or concepts to try that might create attendance. The context of one local area may be completely different to another and the one size fits all approach with interventions does not always work[141]. This thesis has delivered a set of theories that are sympathetic to/reflective of the communities living with the BSB area, while also offering more general data about encouraging engagement that contributes to the literature base.

7.5 Main Limitations of the Thesis

Realist evaluation is a subjective interpretation of one reported reality. However, this PhD research used well-known and published realist processes for developing, testing and refining

theory. The impact of the researcher needs to be recognised, in that they can contribute their interpretations to the findings. Another researcher could carry out the same approach, employing the same methods and come up with a different understanding and potentially, different theory[126]. However, the core theories would still be developed from existing literature and well-designed fieldwork that was purposive and theoretical in its design[169]. In terms of the review of literature, an RRR aims to identify detail related to programme theory but does not necessarily cover every piece of relevant published or grey material, which is why I intended to also supplement its findings with the systems mapping. Unlike a full realist review, it does not aim to uncover linked literature and related material to reach theory saturation. As this was a PhD study, such extensive citation searches were excluded. The use of systems mapping in identifying solutions to health problems has been heavily discussed in the field of public health and is widely accepted as a useful means of visualising and brainstorming how such problems can be influenced[135]. However, maps are developed through a process of co-production with relevant stakeholders, with an interest in delivery of and access to interventions. They are the product of different perceptions and interests. My maps were qualitative in nature and provided a facilitative tool for discussing issues. They were produced as part of the overall realist evaluation approach to help further develop understanding of the inter-relationships between contexts, mechanisms and outcomes. A quantified element of analysis may have helped to identify the most influential variables (e.g.: network analysis), but was outside of the scope of this PhD.

Although a large proportion of the demography in the BSB area comprises South Asian populations and that was supported by a large proportion of women from these backgrounds in the sample, it would have been useful to involve more women from other ethnic groups to obtain a greater insight into potential variations in experiences and how these impacted the programme theory. The impact of COVID-19 on planned fieldwork meant that it was not possible to observe two of the contact points where women may have been told about BSB's projects during the ethnography (GTT clinics, midwifery 'booking' appointments). These observations may have provided useful information about the behaviour of practitioners and women, their interactions and how women had responded to being told about the provision, rather than having to rely on examples reported in interviews. The approach would also have benefited from additional sampling in level 2 after analysis of the findings from the realist interviews, to further identify specific characteristics of pregnant women, to help further test the theories that were less well developed. Although theory was tested with pregnant women and stakeholders involved in designing and delivering the projects, they have not been tested with the partners of women or wider family networks (of which pregnant women are in context with, their lives are influenced by them). For partners, it would have been useful to understand their lifestyles, motivations and the relevance of certain elements of the programme theory e.g.: the importance of flexibility in timings of sessions; needing to know details of sessions upfront so they could ask permission from employers to attend.

This realist evaluation has progressed understanding of some areas of take up of community antenatal projects, that might help to spur an interest in attending. However, there are still some gaps in what is known. One of these gaps is detail about staff training as an input of the interventions and the availability of this, including what difference this might make in helping to ensure the use of compassion and respect and the giving out of information about BSB's services that was perceived by women to be useful. Theory around priority of survival needs appeared to be a narrative that came from practitioners involved in the research, rather than the women themselves. Because of this, it was difficult to identify potential mechanisms.

7.6 Implications of the PhD for Community Antenatal Programmes

The results of this PhD have been disseminated to stakeholders in the BSB Programme Management Group, involving: programme management; academic experts; and practitioners, including community workers. The confirmatory systems map of the entire programme was presented to staff at The National Lottery Community Fund (funders of the regional Better Start programmes), to aid their discussions about the provision in Bradford.

BSB's projects, like all health interventions, have been delivered within a wider backdrop of different structures, environments, and resources. Systems changes will continue to impact on the delivery of antenatal programmes, as statutory arrangements change in line with policy decisions. I wanted this research to provide actionable results, recommendations that programmes could try out with pregnant women and their partners that recognise what is going on in their lives including, societal as well as behavioural factors.

Recommendations for community antenatal programmes are outlined here, integrating the findings of this research to help improve accessibility:

1. Developing additional time for contact- commissioning bodies to work with programmes and stakeholders including local Integrated Care Systems (ICSs⁵¹) to consider extending standard antenatal appointments with women through additional specifically-funded staff time, in line with personalised midwifery pathways, to facilitate time to ask women questions about their lives and improve their knowledge of their needs, to help offer projects that are most appropriate for them. This is an ambitious recommendation and would involve consideration of the additional barriers already faced by midwives, including large caseloads[98, 122]. *Links with Confirmed Preliminary Theory (CPPT) 1. Time taken by practitioners to get to know the woman and to understand her life situation.* Appropriate amounts of time are important because this helps women to feel they have been understood and may help to facilitate referrals.

⁵¹ Integrated Care Systems are 'partnerships of organisations that come together to plan and deliver joined up health and care services, and to improve the lives of people who live and work in their area' and replaced Clinical Commissioning Groups in 2022 (<https://www.england.nhs.uk/integratedcare/what-is-integrated-care/>).

2. Supporting communication--programme management and commissioning teams to work with training providers (eg.: education institutions; private providers) about developing training materials for health practitioners and programme delivery staff about:
 - a. Communication skills – to ensure that women feel they have been listened to and understood so they are more likely to trust the referral or signposting to a particular project and expect that provision will also help them to feel understood. *Links with CPPT 2. The extent to which the woman feels understood by the practitioner, including the level of compassion employed.* Women were more likely to trust advice if they felt they had been respected.
 - b. Linked provision to personal circumstance-the importance of conveying what women can expect from sessions (such as who is the facilitator, that sessions will be with other Mums) and how exactly that provision will help them in their lives, with specific examples. *Links with CPPT 5. Time available to explain what support is available to her and why this may be relevant to that woman with her individual needs.* Where women are made aware of the relevance of the content and exact timings they might see it as worth their time.
 - c. Reinforcing the value of midwives' opinions - programme management staff to work with local NHS Trusts and community midwifery teams to reinforce to midwives through specific training that their opinion is valued by pregnant women and that their recommendations for antenatal care carry weight and could help to improve take up of projects. *Links with CPPT 6. Perception of health professionals as trustworthy, more reliable than others.* Women can see it as worthwhile if the midwife has judged it to be valuable to them.
3. Material to support accessibility of services-programme marketing teams to develop specific messaging to give to practitioners about support available in terms of help with costs of travel or internet costs/costs of devices for accessing online sessions (this could involve printed marketing and communication via digital marketing). *Links with CPPT 3. Prioritisation of other, significant needs in that woman's life (above antenatal care) which may be requiring daily attention.* Some women feel they do not have the resources to take part.
4. Work on generational projects with families-programme management and engagement teams to link with local authorities to conduct consultation activities with different generations of families in local areas :
 - a. about why antenatal provision is helpful, looking after baby before he or she is born and why it is ok to ask for help in this role. *Links with CPPT 4. Beliefs about whether antenatal sessions are 'needed' in their lives.* Women may feel they are not supported by family members in attending provision.
 - b. about their views regarding their local community centres and what is 'familiar' and safe to them about these places, as well as how they would

usually travel there. *Links with CPPT 7. Convenience of local venue where sessions may be being held (location, familiarity).* Women may be more likely to access a venue they already know and feel safe in, including the route there.

5. Transport-programmes to offer transport support to pregnant women, including organising and paying for taxis on their behalf where needed, to help address this barrier to attendance. *Links with CPPT 8. Potential impact of more complex travel requirements (if not walking distance, how will I get there?).* Women may not have the money to pay for transport or have the knowledge or confidence to organise private travel.
6. Staff recruitment-programmes to allocate funding for recruitment of:
 - a. staff from similar backgrounds as project staff and facilitators .Pregnant women need to know that they will be understood and supported at sessions and some may feel more comfortable knowing others with the same backgrounds and needs may also be there. Ensure staff reinforce that those running the sessions will treat women with compassion and respect. *Links with CPPT 9. Will 'people like me' be there? Is there likely to be a concern about being judged by others?* Some women may feel reassured if others with similar needs and priorities will be there as they might be better understood.
 - b. programme management teams to work with commissioners to secure specific funding to support additional staffing and other resources that enable a wider variety of session timings, having these on at different times of day and evening so partners can attend. *Links with CPPT 11. Available in a time and format that suits women and partners.* A range of options for sessions may allow women and their partners to feel this is 'for them'.
7. Venues-programme management teams to liaise with local authorities and community groups to identify community venues where there is the offer of private rooms for sessions, with no input or involvement from other organisations on site, to help families feel reassured that there is no sharing of information. *Links with CPPT 10. Associations made with venues, based on experiences and judgements.* Some women may feel uncomfortable if venues host other agencies, mainly because of a fear of some sort of action about their home life.

Specific Recommendations for the Better Start Bradford Programme

8. Management and community engagement teams to conduct co-production work, involving BSB staff and pregnant women and their families, to discuss the feasibility of these recommendations, in terms of the context of the design and delivery of the projects and how these would work with the target groups in question.
 - This would benefit from involvement from a range of different demographic groups, including those from White British and Eastern European backgrounds.

9. Management staff to add any key feedback from this work into the existing systems maps to update understanding of take up as a system and to help identify any new points for intervention.

7.7 Implications of the PhD for Research

The application of systems thinking and mapping to realist evaluation is a very new field, with only a few papers published in this area to date (Dalkin et al, 2016, 2018, Renmans et al, 2020). Hitchcock et al (2022) note that some studies have previously used systems thinking to fully understand the complexity of potential new interventions and that this has been applied to realist evaluations in healthcare[179]. A few examples exist of using this approach in maternal care, to develop IPTs and identify mechanisms (e.g.: developing capacity building in maternal and child health[180]; creating a process evaluation plan for assessing a community-based maternal health intervention[181]). However, production of a visual map to support understanding of programmes and how the context in which the interventions are being delivered can influence outcomes had not previously been attempted for a specific antenatal public health intervention. My contribution to the field is that I have uncovered some of the key mechanisms to encouraging access to community antenatal projects. This realist evaluation has also been multi-faceted in that it has looked at access to a wide range of different projects, with different inputs and target outcomes. This contrasts with many published studies that tend to look at just one programme design, rather than a suite of interventions. Other researchers can adopt my approach, incorporating systems maps and applying these methods as part of their own realist evaluations, where complexity of programmes is a large consideration. My use of smartphone app technology has demonstrated that this can be a useful way of encouraging reflections in the moment. It has wider applications in other areas of research, where an integral element is to explore participants' daily lives and their lived experiences. The app also supported inclusivity within the ethnography. The research has shown it is a useful method for this population (pregnant women), providing a means for them to respond to tasks, but also a way for them to express their thoughts and ideas in a way that is non-intrusive for them. It also offered the option for women to participate in their chosen language.

The findings of this research suggest that use of compassion can help to generate a feeling of safety amongst pregnant women, mainly through feeling understood, that they had been listened to and therefore accepted. Further research could be conducted on the importance of sensitivity and compassion shown by practitioners in antenatal provision, specifically whether the assurances that this will be in place is enough to create a safe space for pregnant women and their partners attending. It would be useful for practitioners to have evidence about whether these assurances are sufficient, without a need to have staff and other parents present from a similar background, with similar needs, as suggested by most of the existing literature, including wider realist papers on access to healthcare in high income countries[182].

This would inform how provision is planned and explained to expectant parents. This research adds to other studies that have developed and refined CMO configurations in terms of improving access, including engagement with maternity services, to provide a foundation for the design of future interventions[183].

It would be useful to the field if a study could be conducted with a population that includes a range of ethnic backgrounds to capture any differences in experiences or attitudes to this. This would allow the testing of these theories within the context of different heritage and beliefs and would allow maternity services to obtain a wider view as to which issues are experienced across the board and which may be specific to certain cultures. In addition, research questions could be included on the 'tipping point' for pregnant women with large barriers to attendance such as overwhelm and financial issues, to consider if small changes on the ground could relieve some of this burden and encourage take up. This 'tipping point' might be spurred by a minor change such as arranging for a taxi to collect women and take them to the antenatal session. They may then attend because this small hassle has been removed and did not require any additional thought or action on their part. This could potentially then change their attitude or assumption about whether this really was a difficult task to achieve or barrier to overcome. These recommendations could be tested in future research.

7.8 Conclusion

This PhD has shown that some factors contribute to whether parents-to-be access community based antenatal programmes, namely: whether they feel listened to and understood and whether they feel comfortable in the idea of attending. These mechanisms are facilitated by inputs of the projects such as time and space to discuss their needs and previous experiences, including of particular environments. In some circumstances, projects do not reach their target audience because these stated mechanisms are not present. These are related to the basic human need to feel reassured and confident in their actions and are likely to apply to the considerations of pregnant women living in other areas.

The findings of this thesis have suggested that pregnant women's lives are complex enough to be experienced as hectic and stressful and create a substantial barrier to take up, regardless of what is on offer. This needs to be recognised within the overall context of rising costs of living and increased social deprivation. Strains on statutory maternity provision have been compounded by the pandemic and have clearly impacted on pregnant women's experiences of receiving information at some contact points. However, other structures, or provision, for example, community organisations, can alleviate some of this pressure and enhance opportunities to find out about what is available. The application of recommended actions for helping to support further engagement will help to transfer lessons learned, enhancing service delivery of community antenatal programmes.

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Appendix A Reference Group Membership

Individual	Specialism	Knowledge user or content expert?
Supervisor	Realist methodology, University of Leeds	Content expert
Supervisor	Programme knowledge and systematic reviews, University of York	Both
Supervisor	Ethnography, University of Leeds	Content expert
Head of Programme (supervisor)	Better Start Bradford	Knowledge user
Programme Director (supervisor)	Born in Bradford, Co-Director of Better Start Bradford Innovation Hub	Both
Community Engagement Co-ordinator	Better Start Bradford	Knowledge user
Specialist Midwife	Better Start Bradford	Knowledge user
Senior Research Fellow	Community engagement, realist practitioner, ActEarly	Both
Programme Manager	Better Start Bradford Innovation Hub	Both

Appendix B Search Strategy

FOR EACH SEARCH (January 1990-April 2020):

- Family + antenatal
- + *[insert specific term(s) for study design – see below terms included as individual searches]*
- + outcome terms⁵²
- + DeJean[62] qualitative filter⁵³ (where relevant eg: not in quantitative searches)
- + Booth & Carroll[61] theory filter
- (in some cases + engagement terms⁵⁴)

Terms included (as variations within this cascade search), using Medline subject headings as an exemplar:

- Qualitative (MESH), qualitative (key word)
- Program evaluation, public health systems research, community based participatory research (MESH), case studies, quasi-experimental (key words)
- Observation, observational study (MESH), observation, ethnography (key words)
- Focus groups (MESH), focus group (key words)
- Surveys and questionnaires (MESH), quantitative (key word)
- Clinical trial protocol, randomized controlled trial, twin study, validation studies (MESH), randomized controlled trial, non-randomized controlled trial (key words)
- Meta-analysis, Systematic Review (MESH), meta-analysis, systematic review (key words)
- Program evaluation, evaluation studies (MESH), evaluation, research design, critical analysis (key words)

Individual searches were conducted for each of the above in the following databases;

- Ovid MEDLINE
- Ovid Embase
- Ovid PsycINFO
- EBSCO CINAHL
- PubMed
- Web of Science
- Cochrane Database of Systematic Reviews

⁵² Health equity, socioeconomic factors, culturally competent care (MESH), access, inequity, equity, inequality, equality (key words).

⁵³ Variations of the DeJean filter were applied to different databases, notably Medline, CINAHL and Web of Science, as recommended in the original source article.

⁵⁴ Take up, service utilisation, improved parental engagement, improved engagement, father involvement, effective delivery, impact service users (key words).

Appendix C Data Extraction Form

Type of document (eg: journal article; report; website article; blog)	
Type of paper (eg: systematic reviews, commentaries, opinion pieces, editorials)	
Covidence reference	
Recommendation?	
Source (Google Scholar, database, websites, practitioner, personal library etc)	
Author(s)	
Title	
Year of publication	
Country of origin	
Aims/purpose	
*Study population and sample size (if applicable)	
*Methods (if applicable)	

<p>Suggested programme theories of “community antenatal” within document/paper (IPT reference or new label for new theories) – description of what is working, how, for whom, in what circumstances</p>	
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*Systematic reviews

Appendix D Specifically Designed Community Antenatal Interventions

	Intervention	Ethnic minorities, Indigenous	Fathers/Dads	Weight M'ment	Vulnerable ⁵⁵	Country
1.	Midwives' experiences of referring obese women to one of two weight management services (<i>one home-based one-to-one service, one community-based group service</i>)[85]			Y		England
2.	Evaluation of women's experiences of the 'Mellow Bumps' antenatal intervention (<i>group-based intervention for vulnerable pregnant women</i>)[87]				Y	Scotland
3.	Assessment of the impact of the 'Father-Friendly Initiative within Families (FFIF)' programme on health professionals' practices with fathers (<i>supporting and promoting</i>		Y			Canada

⁵⁵ Included general high risk factors associated with adverse birth outcomes, infant morbidity and mortality, as well as vulnerability due to social deprivation.

	<i>father involvement</i>)[89]					
4.	Assessment of a home-based antenatal breastfeeding pilot (<i>breastfeeding education and support for South Asian families</i>)[90]	Y				England
5.	Process evaluation of a multiple-risk factor perinatal programme for a hard-to-reach minority group: 'Happy Mothers, Happy Babies perinatal education programme' (<i>first and second generation pregnant Turkish women</i>)[95]	Y				The Netherlands
6.	Comparison of recruitment methods for an intervention targeting mothers 'Growing Healthy Programme' (mHealth intervention, <i>mobile phone app and website promoting healthy infant feeding practices</i>)[122]				Y	Australia
7.	Grounded theory study of the implementation of	Y				Australia

	the 'Cape York Baby Basket' programme <i>(use of baskets of maternal and baby goods to promote attendance of indigenous women at antenatal and postnatal clinics)</i> [100]					
8.	'Milwaukee Birthing Project' to enhance birth outcomes <i>(community-based health promotion to improve health outcomes for pregnant African American women, using peer-mentoring)</i> [103]	Y				U.S.A.
9.	Men's experiences of father-only antenatal preparation classes: 'Bubs and Pubs' (one-night session about childbirth in a pub); and 'Good Beginnings Australia Dad's Connect (GBADC)' programme <i>(one-night parenting support groups run by male facilitators)</i> [105]		Y			Australia
10.	Qualitative study of fathers' and		Y			Australia

	programme facilitators' experiences of a community based programme 'Antenatal Dads and First Year Families Program'[108]					
11.	Qualitative study of women and providers connected to 'Healthy Moms Healthy Babies', a community-based perinatal programme <i>(facing at least two difficult life circumstances, such as low income, teen pregnancy)</i> [110]				Y	Canada
12.	Review of the 'SAPlings project' as an amended format of the centering pregnancy model <i>(weekly group sessions with a midwife, aimed at women with complex needs, from disadvantaged or vulnerable families)</i> [111]				Y	England
13.	Review of cultural safety for refugee background women attending group pregnancy care	Y				Australia

	'Healthy Happy Beginnings' (<i>group pregnancy care for Karen women from Burma</i>)[112]					
14.	[dissertation] Pilot community antenatal education programme based on the Iowa Model of Evidence-Based Practice to Promote Quality Care[119]				Y	U.S.A.

Appendix E Mapping Programme Interventions

Maps can vary significantly in terms of their construction and also their focus. Existing literature on systems mapping within a public health setting has focused on mapping the intricacies of the health problem itself, rather than corresponding actions. For example, the much-cited key reference map for obesity represents many contributors to development of this disease in thematic clusters. These clusters included: food production; food consumption; societal influences; individual psychology; biology; individual activity; and activity environment[184]. This map highlighted the complexity of the problem and created a number of ongoing discussions about the best means to implement changes. However, it is also very large and complex with limited practical use. Although it fully maps the elements influencing obesity, it does not provide a guide for identifying the extent of influence of each variable and which areas would be most appropriate for intervening, producing the most effective results (Figure E.1).

Map 0
Full Generic Map

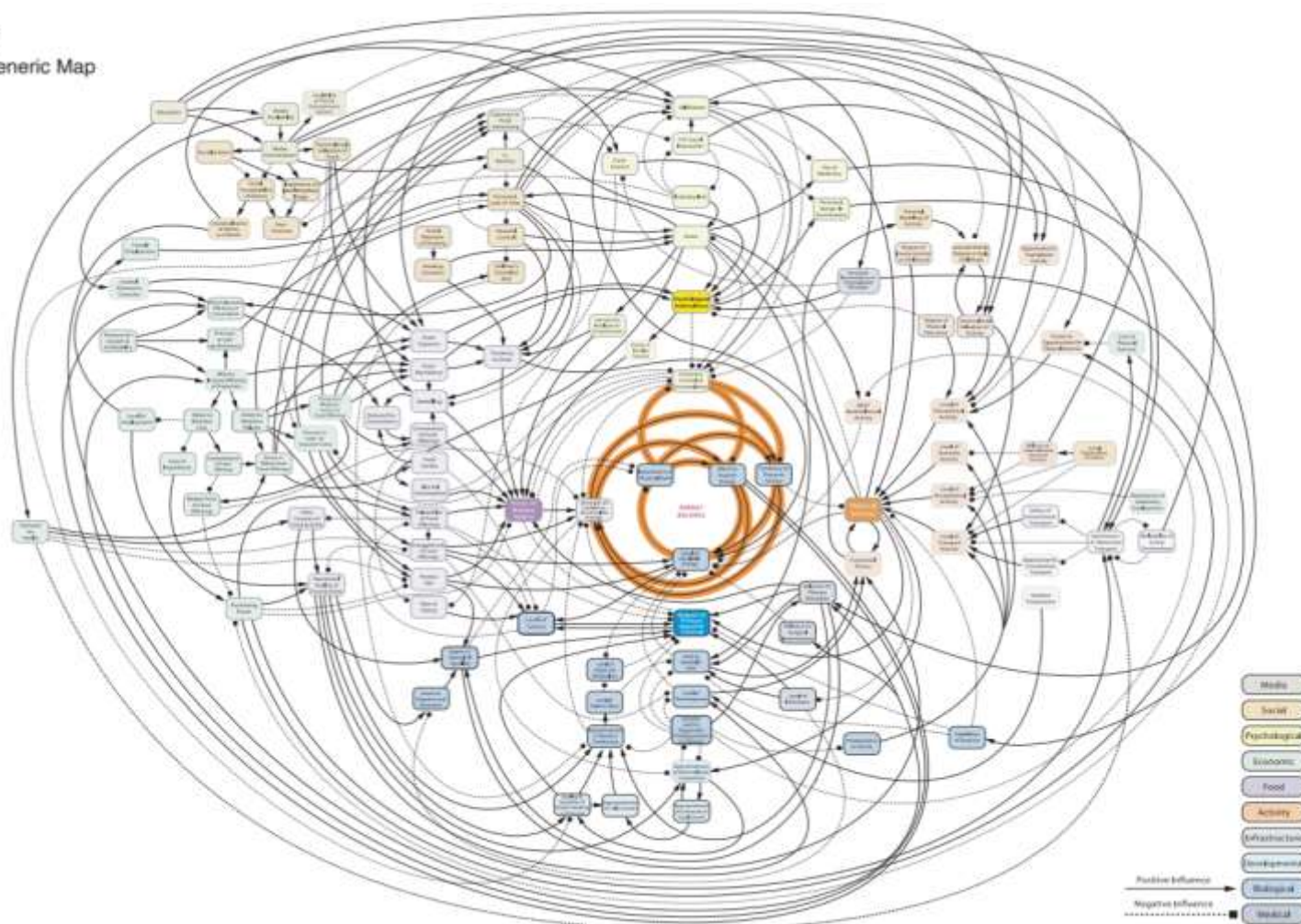


Figure E.1 Obesity Systems Map (Tackling Obesities: Future Choices – Project Report, 2007)[184].

Other maps have sought to highlight the input of one specific ‘type’ of contributor and its impact on health issues, which in itself can create many changes to a system [138] e.g.: deliberate commercial sector interferences in health and its impact on increased consumption of unhealthy commodities, leading to development of non-communicable disease (NCDs) [135]. These attempts to map a system are expected to point towards ‘multiple sites of intervention beyond individual-focused health education’ [185]. Existing literature in the area suggests that some maps are flat, some hierarchal. Most provide details of contextual factors, such as: levels of awareness; access to healthy choices; cultural factors; deprivation (e.g.: low income levels); national and local policy changes; and quality of care. Very few papers suggest that systems focus on actions rather than issues, or the delivery of specific interventions and highlight barriers faced in accessing these (two examples are: Moore et al’s, 2019 [153] work on the feasibility of expanding a food outreach programme in the local community; Beaton et al’s, 2019 [129] study on supporting Maori organisations to respond to pre-diabetes). These tend to be focussed on one organisation, a group of organisations or one intervention only. Although clearer in highlighting linkages and different stakeholder groups, they do not necessarily identify which of these are more important or influential in affecting changes or indeed outcomes or resilience or resistance to these.

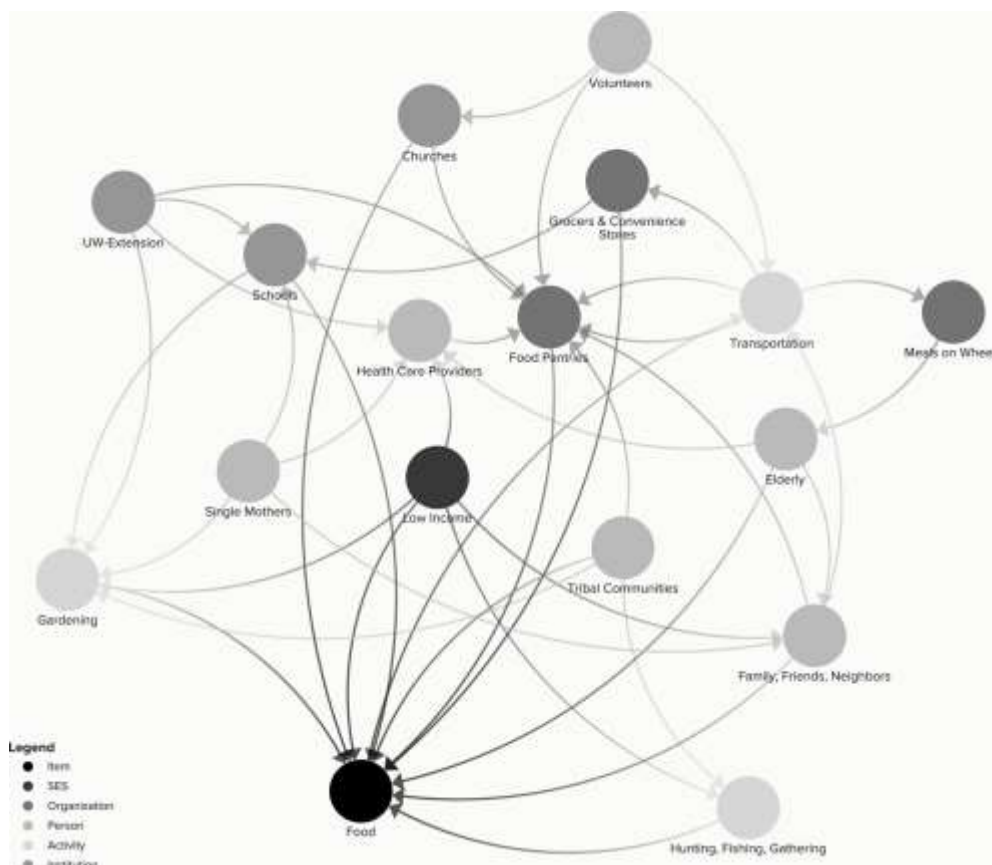


Figure E.2 Food Insecurity Systems Map (Moore et al, 2019)[153].

Appendix F Systems Mapping Topic Guide: Staff, Third Party Providers, Midwives

Topic Guide:

‘Your Views on Local Community Antenatal Services’ Focus Group

**BSB STAFF, THIRD PARTY PROVIDERS (smaller group discussions with
midwives to follow the same format)**

Introduction

Welcome. Thank you for agreeing to take part in this focus group. I am an independent researcher at the University of Leeds. I am carrying out this group as part of my PhD research on the Better Start Bradford programme.

I am researching peoples’ experiences of Better Start Bradford’s community antenatal projects in Bradford. My work will ask different people about what they think of these projects, including health practitioners and those designing and delivering them. I am also involving pregnant women and their partners, as well as those who have recently had babies. The work will result in some recommendations about how these types of support for women and their families can be improved. This is about your opinions of Better Start Bradford’s local community antenatal projects delivered in the local target areas of: Bowling & Barkerend; Little Horton and Bradford Moor (eg: Welcome To The World; Baby Steps; HAPPY). This is completely voluntary.

Questions I am going to ask you will be around your experiences of these antenatal projects and what you think are important things that need to be considered when designing these services ie: to help encourage people to attend.

We collected some personal information from you at the start to help recruit you to the groups. This information is never shared with anyone outside of the research team and will be deleted from our records. All your responses will be treated in strict confidence and anything we produce as a result of this research (eg: reports on websites; journal articles; presentation at conferences) will not identify you. We may decide to use some of your responses as quotes in the report. We may also use some of the other written or visual material you will produce in this group. You will not be identified in any of this material.

As is always the case with research, you have the right to withdraw your consent to take part at any time. You can ask for any information/responses you have already given to not be used and to be deleted. Otherwise, any data collected up to the point of withdrawal will still be used. If you withdraw after the focus group starts then we will still use your data as it will be difficult to isolate and delete your responses.

This group will take no longer than one and half hours.

There are no right or wrong answers. We are looking for a range of views, so expect there to be debate and some disagreement.

Check permission to use audio recorder - recorded only for the purposes of this research. Any questions?

Introduction [5 mins]

[Icebreaker]

- Name, role, how long been working in your role?
- What's the best thing about your job? Why?
- What do you like doing for fun in your spare time? This can include meeting with friends, watching TV, anything
 - Any hobbies?

Overview of BSB projects [10 mins]

[Where required - researcher to provide an overview of the Better Start Bradford programme and the range and type of projects BSB are delivering]

- In general, what do you think Better Start Bradford's projects are aiming to achieve – through all of their projects?
 - Collect general comments on main aims and how they've been designed
 - Expected outcomes
- Do you feel BSB are on track to achieve this?
 - Why?
 - If unsure, why is that not clear?

Overview of BSB community antenatal projects [10 mins]

[Record comments on flipchart collecting as much information as possible]

- Thinking about BSB's antenatal projects specifically, what do you think these ones are aiming to achieve?
 - [list as a prompt where needed]
 - Baby Buddy
 - Baby Steps
 - Bradford Doulas
 - ESOL for Pregnancy
 - HAPPY
 - Personalised Midwifery
 - Welcome to the World
- Have you seen or heard about particular results emerging from these projects?
- What can be difficult/what can be the challenges in delivering this type of project activity?
 - Why?

What influences whether people attend these projects [50 mins]

This group discussion will help me to think about all the different things that can impact on how these projects are delivered – and specifically – whether women and partners actually engage in these projects. My work is looking at which elements are most significant in improving access for women and which may actually be acting as barriers to them taking part.

Once we've collected which elements are important, we can start to 'map' them out and see how they fit together and influence whether people attend.

[example]

Let's use a car as a general example. Let's think about how a car fits together, you need several things to get it to work and drive at a certain speed eg: a steering wheel, clutch, gearstick, handbrake, engine etc.

[Map out some of these variables on the flipchart paper or show a pre-prepared map using the online software to show how they can be linked together to contribute to the overall system of a working car that is able to move and be driven down the road]

So we are going to use this group to develop a map that looks similar to this, but for why people are accessing or not accessing BSB's community antenatal projects. To start, we are going to do an exercise to help you think of all the reasons for engaging or not engaging that might be important.

Change Over Time (BOT) graphs exercise

[BOT graph templates to be handed out for self-completion – enough for six graphs per participant [x2 per page]

[refer to BOT graph example slide projected at front of the room – these will be referred to as 'change over time' graphs with participants]

This graph allows us to think about each influence/reason that might be impacting on the take up of BSB's community antenatal services and how attendance might change over time if this does not change in any way. In this example (accessibility of venue) the person completing the graph felt that over time – if nothing else changed (eg: if bus times or crime in the area didn't change) – that the number of people attending would go up slightly and then would start to gradually decline.

[10 minutes] Please spend ten minutes filling in your own graphs about what influences/reasons you feel are important in terms of take up of these projects - using the templates on the table – fill in as many as you like. This should be one graph for each thing that you want to mention. Please write in what you are thinking about eg: accessibility of venue at the top of the graph. Feel free to write any other comments on the graph itself.

There is no right or wrong answer here – it's just an exercise to get you thinking about how significant these influences/reasons/things are.

[researcher to go around the table during this and check that participants understand the task and to answer any questions].

[10 minutes] Please now share your thoughts with the rest of the table – what influences/reasons/things you chose and how attendance at projects may or may not change over time.

[15 minutes] Please now tell me what things you discussed and why?
[List these on flipchart paper]

Introducing 'If...Then...Because' statements about what is working or not working in encouraging take up of projects

[Introduce theories identified from the rapid realist review, pre-prepared on flipchart paper or on slide]

- How do these ideas, fit with the influences/reasons/things we have mentioned?
- Why?
- Would you adapt/tweak any of these? How?
- Are there any on this list that don't fit with what we've talked about or don't seem right?
- Why?
- Would you adapt/tweak any of these? How?

[15 minutes]

I'm now going to add the influences/reasons to my laptop and as I add each one, the software will start to create a 'map' of these [*researcher to add each element onto the online live systems mapping tool: STICKE, using laptop and projector*].

For each reason/thing:

- How does this influence whether families engage in BSB's community antenatal projects?
- Why?
- What other influences/reasons/things does x [element just mentioned/in question] connect to?
- Why?
- Do these have a positive or a negative impact on each other?
- Why?

Summary [10 mins]

- Are there any other elements that we haven't discussed? [add onto map]
- Is there anything you would change about the connections between them?
- Which have the strongest connections/have the strongest links between them?
- Why?
- What are the key learnings here/what do you think are the most important take away points about this draft map, in terms of implications for improving families' engagement in projects?

[*Share with the group that researcher will post up a hard copy of this map at BSB's offices for one month and that participants can write any additional comments on post its that will be provided in the room and can stick these directly on the map*].

Thank and close

Appendix G Systems Mapping Topic Guide: Pregnant Women

Topic Guide:

'Your Views on Local Community Antenatal Services' Focus Group

PREGNANT WOMEN

Introduction

Welcome. Thank you for agreeing to take part in this focus group. I am an independent researcher at the University of Leeds. I am carrying out this group as part of my PhD research on the Better Start Bradford programme.

I am researching peoples' experiences of Better Start Bradford's community antenatal projects in Bradford. My work will ask different people about what they think of these projects, including midwives and those who are delivering the projects, as well as parents. The work will result in some recommendations about how these types of support for women and their families can be improved. This is about your opinions of Better Start Bradford's local community antenatal projects delivered in the local target areas of: Bowling & Barkerend; Little Horton and Bradford Moor (eg: Welcome To The World; Baby Steps; HAPPY). This is completely voluntary.

Questions I am going to ask you will be around your experiences of these antenatal projects and what you think are the important things to think about when designing these services ie: to help encourage people to attend.

We collected some personal information from you at the start to help recruit you to the group. This information is never shared with anyone outside of the research team and will be deleted from our records. All your responses will be treated in strict confidence and anything we produce as a result of this research (eg: reports on websites; journal articles; presentation at conferences) will not identify you. We may decide to use some of your responses as quotes in the report. We may also use some of the other written or visual material you will produce in this group. You will not be identified in any of this material.

As is always the case with research, you have the right to withdraw your consent to take part at any time. You can ask for any information/responses you have already given to not be used and to be deleted. Otherwise, any data collected up to the point of withdrawal will still be used. If you withdraw after the focus group starts then we will still use your data as it will be difficult to isolate and delete your responses.

This group will take up to [45 minutes/no longer than one and half hours].

There are no right or wrong answers. We are looking for a range of views, so expect there to be debate and some disagreement.

Check permission to use audio recorder - recorded only for the purposes of this research. Any questions?

Introduction [5 mins]*[Icebreaker]*

- Name, age, best thing you like about where you live?
- What do you like doing for fun in your spare time? This can include meeting with friends, watching TV, anything
 - Any hobbies?

Overview of BSB projects [10 mins]*[Where required - researcher to provide an overview of the Better Start Bradford programme and the range and type of projects BSB are delivering]*

- What do you think Better Start Bradford's projects are aiming to achieve – through all of their projects?
 - Collect general comments on main aims
 - Expected outcomes
- Do you feel BSB will achieve this?
 - Why?
 - If unsure, why is that not clear?

Overview of BSB community antenatal projects [10 mins]*[Record comments on flipchart collecting as much information as possible]**This research is about BSB's antenatal projects...**[explain definition of 'antenatal': support and advice in looking after your baby in the womb, preparing for birth, looking after your baby when he/she is born, bonding with your baby, looking after yourself and your own health']*

- Thinking about BSB's antenatal projects, what do you think these ones are aiming to achieve/what are they aiming to do for people?
 - [list as a prompt where needed]
 - Baby Buddy
 - Baby Steps
 - Bradford Doulas
 - ESOL for Pregnancy
 - HAPPY
 - Personalised Midwifery
 - Welcome to the World
- Have you seen or heard about particular comments or news from these projects?
 - Has anyone said anything to you about these projects? (friend, partner, health professional, community member?)
 - If so, what have they said to you about them?
- What can be difficult/what can be the challenges in delivering this type of project activity?
 - Why?

What influences whether people attend these projects [50 mins]

This group discussion will help me to think about all the different things that can impact on how these projects are delivered and whether mums and partners actually engage in these projects.

Once we've collected which elements are important, we can start to 'map' them out and see how they fit together and influence whether people attend.

[example]

Let's use a car as a general example. Let's think about how a car fits together, you need several things to get it to work and drive at a certain speed eg: a steering wheel, clutch, gearstick, handbrake, engine etc.

[Map out some of these variables on the flipchart paper or show a pre-prepared map using the online software to show how they can be linked together to contribute to the overall system of a working car that is able to move and be driven down the road]

So we are going to use this group to develop a map that looks similar to this, but for why people are accessing or not accessing BSB's community antenatal projects. To start, we are going to do an exercise to help you think of all the reasons for engaging or not engaging that might be important.

Change Over Time graphs exercise

[BOT graph templates to be handed out for self-completion – enough for six graphs per participant [x2 per page]

[refer to BOT graph example slide projected at front of the room – these will be referred to as 'change over time' graphs with participants]

This graph allows us to think about each influence/reason that might be impacting on the take up of BSB's community antenatal services and how attendance might change over time if this does not change in any way. In this example (accessibility of venue) the person completing the graph felt that over time – if nothing else changed (eg: if bus times or crime in the area didn't change) – that the number of people attending would go up slightly and then would start to gradually decline.

[10 minutes] Please spend ten minutes filling in your own graphs about what influences/reasons you feel are important in terms of take up of these projects - using the templates on the table – fill in as many as you like. This should be one graph for each thing that you want to mention. Please write in what you are thinking about eg: accessibility of venue at the top of the graph. Feel free to write any other comments on the graph itself.

There is no right or wrong answer here – it's just an exercise to get you thinking about how significant these influences/reasons/things are.

[researcher to go around the table during this and check that participants understand the task and to answer any questions].

[10 minutes] Please now share your thoughts with the rest of the table – what influences/reasons/things you chose and how attendance at projects may or may not change over time.

[15 minutes] Please now tell me what things you discussed and why?
[List these on flipchart paper]

Introducing 'If...Then...Because' statements about what is working or not working in encouraging take up of projects

[Introduce 'If...Then...Because' statements identified from the rapid realist review, pre-prepared on flipchart paper or on slide]

- How do these ideas fit with the influences/reasons/things we have mentioned?
- Why?
- Would you adapt/tweak any of these? How?
- Are there any on this list that don't fit with what we've talked about or don't seem right?
- Why?
- Would you adapt/tweak any of these? How?

[15 minutes]

I'm now going to add the influences/reasons to my laptop and as I add each one, the software will start to create a 'map' of these [*researcher to add each element onto the online live systems mapping tool: STICKE, using laptop and projector OR draw on flipchart paper*].

For each reason/thing:

- How does this influence whether families engage in BSB's community antenatal projects?
- Why?
- What other influences/reasons/things does x [element just mentioned/in question] connect to?
- Why?
- Do these have a positive or a negative impact on each other?
- Why?

Summary [10 mins]

- Are there any other influences/reasons/things that we haven't talked about? [add onto map]
- Is there anything you would change about the connections between them?
- Which have the strongest connections/have the strongest links between them?
- Why?
- What does this map tell us about how to encourage more families to get involved in these projects?

Thank and close

Appendix H Observation Guide

OBSERVATION GUIDE

Observation Guide: V.1

Location: **Date:**

Start time:

Stop time:

Exact site of observation: *[description and draw map where relevant – map out room, where people are seated, where staff are operating, other objects in room, movement within the room] [if observing online activity – platform used for sessions, how individuals are ‘included’ in discussions, details of websites, social media feeds, mind map of surrounding conversations and debates]*

Organisational and structural context: *[procedures that seem apparent, how the ‘work’ is organised and divided, conditions and constraints on activities, action]*

General context: *[what activities are going on at that time, day of week, time of day, frequency of events, duration, ‘busyness’, holiday periods]*

Participants: *[who is there, what role do they have, who is not there...]*

Behaviour: *[of women, partners, staff – whom is doing what and where]*

Conversations: *[what is being discussed, by whom, where, reactions]*

Observer comments: *[researcher’s ideas, views or theories about what is happening, methods used in this observation, anything that needs to be followed up regarding data collection at a later time]*

Informal discussions with women and practitioners/staff/facilitators: *[record of number of discussions, type of individual and key comments]*

Reflexive comments:

Open notes: *[open fieldnotes – may be many pages in length]*

Appendix I Ethnography: Topic Guide for Realist Interviews: Practitioners

Topic Guide:

'Your Views on Local Community Antenatal Services' Interview

PRACTITIONERS

Introduction

Welcome. Thank you for agreeing to take part in this interview. I am an independent researcher at the University of Leeds. I am carrying out this research as part of my PhD research on the Better Start Bradford programme.

I am researching peoples' experiences of Better Start Bradford's community antenatal projects in Bradford. My work will ask different people about what they think about these projects, including health practitioners and those designing and delivering them. I am also involving pregnant women and their partners. The work will result in some recommendations about how these types of support for women and their families can be improved. This is about your opinions of Better Start Bradford's local community antenatal projects delivered in the local target areas of: Bowling & Barkerend; Little Horton and Bradford Moor (eg: Welcome To The World; Baby Steps; HAPPY). This is completely voluntary.

Questions I am going to ask you will be around your experiences or thoughts of these antenatal projects and what you think are the important things to think about when designing these services ie: to help encourage people to attend.

All data are anonymized. Anything I produce as a result of this research (eg: reports on websites; journal articles; presentation at conferences) will not identify you. Quotes will also be anonymized.

This interview will take up to one hour. There are no right or wrong answers.

Check permission to record discussion (via Microsoft Teams or using an encrypted audio recorder if telephone or face-to-face discussion) - recorded only for the purposes of this research.

Any questions?

Introduction [2 mins]

- Name, role, how long been working in your role?
- What's the best thing about your job? Why?

Overview of BSB community antenatal programmes [10 mins]

[Where required - researcher to provide an overview of the Better Start Bradford programme and the range and type of projects BSB are delivering]

[Record comments in written notes, collecting as much information as possible]

- Thinking about BSB's antenatal programmes specifically, what do you think these ones are aiming to achieve?
 - [list as a prompt where needed]
 - Baby Buddy
 - Baby Steps
 - Bradford Doulas
 - ESOL for Pregnancy
 - HAPPY
 - Personalised Midwifery

- Have you seen or heard about particular results emerging from these programmes?
- What can be difficult/what can be the challenges in delivering this type of programme activity?
 - Why?

General areas for discussion [45 mins]

The discussion will be semi-structured. As this is qualitative research, the guide will include general prompts in each area, such as: 'can you tell me more about that?' or 'how can that be improved?' Questioning will also allow for the testing of draft programme theories and will follow a realist-interviewing approach, using the idea of the teacher-learner cycle. The researcher introduces a theory and then the interviewee is invited to confirm, refine or refute this. For example the researcher may explain it as follows: 'during the interview, I will be asking questions about how BSB's community antenatal projects have worked or not worked in encouraging people to access them. We will discuss x number of areas (eg: marketing you may have been given about the projects; explaining this information to pregnant women; signposting or referrals)'.

- What information is given to you about BSB's community antenatal programmes and where does this detail come from (eg: BSB staff; general staff briefings; direct contact from individual programmes)?

- How have the last two sessions/clinics been run – including timings, involvement of staff, what information is given out about community antenatal programmes?

- Format of information that is given out (eg: verbal; leaflets/pamphlets; links to online sources of information)

- Have there been any variations in how these sessions/clinics have been run, in terms of how such information was given out and responses or queries from pregnant women and their partners?

[Note: This type of interviewing is about testing programme theories against responses from interviewees, new theories may also emerge inductively, from what is being said by them]

I will now ask some questions about how BSB's community antenatal programmes have worked or not worked in encouraging people to access them. We will discuss 6 areas: (1) time available to get to know women and their needs (including whether they feel understood by them); (2) beliefs about whether they need support and their view of practitioners; (3) feelings of safety when attending (being with people 'like them', views on venue); (4) getting to the venue; (5) availability of projects (times and formats that suit women); and (6) any additional, unexpected effects.

Introduce each theory e.g.: "there is this idea that..." "some people think that..."

[Note: paraphrase or re-iterate their responses, introduce any new theories that appear to be emerging from what the participant is saying]

- (1) Time available to get to know women and their needs (including whether they feel understood by them)

Some people think that it is important to have a sufficient amount of time that allows the practitioner (midwife, facilitator etc) to get to know the woman, time to ask questions about their life situation, priorities and concerns. If there is enough time to ask this information, this helps them to understand their needs. Because of this they can then offer information about programmes that might be most appropriate for them – how does this relate to your experience?

Some say that if they have enough time in an appointment or session to explain to the woman or parent what support is available to them and how this could help, this may encourage them to think about the potential benefits and they might see it as 'worth' their time in attending – how does this relate to your experience?

Some people believe that the use of compassion and respect with women is important to helping build a trusted relationship, with the parent trusting that practitioner because they feel their needs and concerns have been listened to. This also leads to clearer communication between them and greater satisfaction on behalf of the parent. It can also encourage them to attend antenatal sessions – what is your experience of this?

- 2) Beliefs about whether they need support and their view of practitioners

Some are concerned that there are many different pressures, that can take up women's time and make them feel they don't have time for antenatal sessions (e.g.: securing living status; care for other children; financial constraints). Because of this, they might not even consider the idea of attending – how does this relate to your experience?

What about influences from family members and cultural beliefs? Some think other opinions when a woman lives in a family where antenatal care is considered as being less important than other activities or simply not needed, the woman is more likely to feel it is not something they 'should' be doing and so is less likely to attend – what is your experience of this?

Some say that some women make a decision with their partner about whether the woman will attend an antenatal session and that this can directly influence whether a woman will take up the programme.

Some say that women might listen to the opinions of a midwife and will consider an antenatal programme if they have suggested it to them, because this appears to be something the midwife has judged to be valuable for them to do and therefore must be important – how does this relate to your experience?

(3) Feelings of safety when attending (being with people 'like them', views on venue)

I've read that women and their partners might find group sessions with other people from similar backgrounds, needs, priorities (e.g.: same cultural background; with other Dads or birth partners) more appealing as they think their views will be understood, which helps them to feel 'safe' and not judged. This might make them more likely to try the sessions – do you find this to always be the case – prompt positive and negative examples?

Some feedback I have had is that the use of venues that can also include social services, to deliver community antenatal support, can create worry amongst women about being judged or asked questions about their home life and that this could create a sense of concern or distrust with the sessions – how does this relate to your experience?

(4) Getting to the venue

Some say that where sessions are delivered at venues that are easy to get to in relation to the woman's house (walking distance or easily accessible by public transport), women might see this as taking little effort to plan their attendance and might think it is fairly easy to attend as a result – how does this relate to your experience?

Some are concerned that if some form of public or private transport is needed to get to the venue, then the cost of travel or need to organise a taxi can make this feel like more effort and in some cases, can make women feel uncomfortable if they need to organise a taxi that may have a male driver. This can cause women to feel that travelling there would be too difficult – how does this relate to your experience?

(5) Availability of projects (times and formats that suit women)

Some say that it's important to offer a range of timing options for attending programme sessions, including daytime, evening and weekend slots. This is because families have to look after other children and have work commitments. Availability of sessions at different times may help women and their partners to feel that this provision is 'for them' as it is available at times they can attend, so they might feel more mentally 'free' to think about attending – do you find this to always be the case – prompt positive and negative examples?

Some are concerned that where programme sessions are only available at particular times (because that is when community venues are available), women and partners might think the programme is not fully considering their needs, if they have other children to look after or are working. This could mean they are less likely to think about attending or it isn't possible for them to attend – how does this relate to your experience?

Some say that women and partners sometimes struggle with the use of online technology (e.g.: Zoom) for attending sessions, needing support to download this and understand how to use it, including how to get into the meeting 'room'. This creates a need for additional time from staff to provide this guidance – do you find this to always be the case – positive and negative examples?

Some say that it helps likelihood of attending if women are told upfront (on first being told about the session), the details of the venue, location, date of first session, start times, number of weeks and how long each session lasts as they can then understand straight away if they would be able to commit to attending. It also allows the possibility of them speaking to employers and with their families about whether they can fit it in with everything else in their lives – how does this relate to your experience?

Any additional, unexpected effects.

Summary [3 mins]

- Are there any other influences/reasons/things that we haven't talked about that can affect whether people go to antenatal sessions?
- What are the key learnings here in terms of improving families' engagement in projects?

Thank and close

Appendix J Ethnography: Topic Guide for Realist Interviews: Pregnant Women

Topic Guide:

‘Your Views on Local Community Antenatal Services’ Interview

PREGNANT WOMEN

Introduction

Welcome. Thank you for agreeing to take part in this interview. I am an independent researcher at the University of Leeds. I am carrying out this research as part of my PhD research on the Better Start Bradford programme.

I am researching peoples’ experiences of Better Start Bradford’s community antenatal projects in Bradford. My work will ask different people about what they think of these projects, including midwives and those who are delivering the projects, as well as parents. The work will result in some recommendations about how these types of support for women and their families can be improved. This is about your opinions of Better Start Bradford’s local community antenatal projects delivered in the local target areas of: Bowling & Barkerend; Little Horton and Bradford Moor (eg: Welcome To The World; Baby Steps; HAPPY). This is completely voluntary.

Questions I am going to ask you will be around your experiences or thoughts of these antenatal projects and what you think are the important things to think about when designing these services ie: to help encourage people to attend.

All data are anonymized. Anything I produce as a result of this research (eg: reports on websites; journal articles; presentation at conferences) will not identify you. Quotes will also be anonymized.

This interview will take up to one hour. There are no right or wrong answers.

Check permission to record discussion (via Microsoft Teams or using an encrypted audio recorder if telephone or face-to-face discussion) - recorded only for the purposes of this research.

Any questions?

Introduction [5 mins]

[Icebreaker]

- What do you like doing for fun in your spare time? This can include meeting with friends, watching TV, anything...
 - Any hobbies?
- What is the best thing you like about where you live?

Overview of BSB community antenatal projects [10 mins]

[Where required - researcher to provide an overview of the Better Start Bradford programme and the range and type of projects BSB are delivering]

[Record comments in notes/flipchart collecting as much information as possible]

- Thinking about BSB's antenatal projects specifically, what do you think these ones are aiming to achieve?
 - [list as a prompt where needed]
 - Baby Buddy
 - Baby Steps
 - Bradford Doulas
 - ESOL for Pregnancy
 - HAPPY
 - Personalised Midwifery
 - Welcome to the World
- Have you seen or heard anything about these projects and what they are achieving/what they are doing for local communities?
- What can be difficult/what can be the challenges in offering this type of project activity?
 - Why?

General areas for discussion [45 mins]

The discussion will be semi-structured. As this is qualitative research, the guide will include general prompts in each area, such as: 'can you tell me more about that?' or 'how can that be improved?'. Questioning will also allow for the testing of draft programme theories and will follow a realist-interviewing approach, using the idea of the teacher-learner cycle. The researcher introduces a theory and then the interviewee is invited to confirm, refine or refute this. For example the researcher may explain it as follows: 'during the interview, I will be asking questions about how BSB's community antenatal projects have worked or not worked in encouraging people to access them. We will discuss x number of areas (eg: marketing you may have been given about the projects; how this was explained to you by the midwife or other practitioner; locations and timings of the sessions)'.

Ask them to talk about one or two posts they have made, connected with following *[this will help them to feel more at ease with the interview]*:

- ❖ Stage of pregnancy and feelings about it
- ❖ Experiences to date of contacts with various pregnancy services and programmes
- ❖ Information received about community antenatal programmes
- ❖ Experiences of any BSB community antenatal provision such as Welcome To The World, Baby Steps, Doulas, ESOL for Pregnancy, HAPPY
- ❖ Barriers and facilitators to them taking part

- ❖ Feelings and any concerns moving forward, including needs for antenatal support (eg: practical, social, emotional)

[Note: This type of interviewing is about testing programme theories against responses from interviewees, new theories may also emerge inductively, from what is being said by them]

I will now ask some questions about how BSB's community antenatal programmes have worked or not worked in encouraging people to access them. We will discuss 6 areas: (1) time available to get to know women and their needs (including whether they feel understood by them); (2) beliefs about whether they need support and their view of practitioners; (3) feelings of safety when attending (being with people 'like them', views on venue); (4) getting to the venue; (5) availability of projects (times and formats that suit women); and (6) any additional, unexpected effects.

Introduce each theory e.g.: "there is this idea that..." "some people think that..."

[Note: paraphrase or re-iterate their responses, introduce any new theories that appear to be emerging from what the participant is saying]

[Within these, incorporate or capture/follow up on any mention of partner's experiences e.g.: when talking about accessibility of venues (timings etc)]

- (2) Time available to get to know women and their needs (including whether they feel understood by them)

Some people think that it is important to have a sufficient amount of time that allows the practitioner (midwife, facilitator etc) to get to know the woman, time to ask questions about their life situation, priorities and concerns. If there is enough time to ask this information, this helps them to understand their needs. Because of this they can then offer information about programmes that might be most appropriate for them – how does this relate to your experience?

Some say that if they have enough time in an appointment or session to explain to the woman or parent what support is available to them and how this could help, this may encourage them to think about the potential benefits and they might see it as 'worth' their time in attending – how does this relate to your experience?

Some people believe that the use of compassion and respect with women is important to helping build a trusted relationship, with the parent trusting that practitioner because they feel their needs and concerns have been listened to. This also leads to clearer communication between them and greater satisfaction on behalf of the parent. It can also encourage them to attend antenatal sessions – what is your experience of this?

- 2) Beliefs about whether they need support and their view of practitioners

Some are concerned that there are many different pressures, that can take up women's time and make them feel they don't have time for antenatal sessions (e.g.: securing living status; care for other children; financial constraints). Because of this,

they might not even consider the idea of attending – how does this relate to your experience?

What about influences from family members and cultural beliefs? Some think other opinions when a woman lives in a family where antenatal care is considered as being less important than other activities or simply not needed, the woman is more likely to feel it is not something they 'should' be doing and so is less likely to attend – what is your experience of this?

Some say that some women make a decision with their partner about whether the woman will attend an antenatal session and that this can directly influence whether a woman will take up the programme.

Some say that women might listen to the opinions of a midwife and will consider an antenatal programme if they have suggested it to them, because this appears to be something the midwife has judged to be valuable for them to do and therefore must be important – how does this relate to your experience?

(3) Feelings of safety when attending (being with people 'like them', views on venue)

I've read that women and their partners might find group sessions with other people from similar backgrounds, needs, priorities (e.g.: same cultural background; with other Dads or birth partners) more appealing as they think their views will be understood, which helps them to feel 'safe' and not judged. This might make them more likely to try the sessions – do you find this to always be the case – prompt positive and negative examples?

Some feedback I have had is that the use of venues that can also include social services, to deliver community antenatal support, can create worry amongst women about being judged or asked questions about their home life and that this could create a sense of concern or distrust with the sessions – how does this relate to your experience?

(4) Getting to the venue

Some say that where sessions are delivered at venues that are easy to get to in relation to the woman's house (walking distance or easily accessible by public transport), women might see this as taking little effort to plan their attendance and might think it is fairly easy to attend as a result – how does this relate to your experience?

Some are concerned that if some form of public or private transport is needed to get to the venue, then the cost of travel or need to organise a taxi can make this feel like more effort and in some cases, can make women feel uncomfortable if they need to organise a taxi that may have a male driver. This can cause women to feel that travelling there would be too difficult – how does this relate to your experience?

(5) Availability of projects (times and formats that suit women)

Some say that it's important to offer a range of timing options for attending programme sessions, including daytime, evening and weekend slots. This is because families have to look after other children and have work commitments. Availability of sessions at different times may help women and their partners to feel that this provision is 'for them' as it is available at times they can attend, so they might feel more mentally 'free'

to think about attending – do you find this to always be the case – prompt positive and negative examples?

Some are concerned that where programme sessions are only available at particular times (because that is when community venues are available), women and partners might think the programme is not fully considering their needs, if they have other children to look after or are working. This could mean they are less likely to think about attending or it isn't possible for them to attend – how does this relate to your experience?

Some say that women and partners sometimes struggle with the use of online technology (e.g.: Zoom) for attending sessions, needing support to download this and understand how to use it, including how to get into the meeting 'room'. This creates a need for additional time from staff to provide this guidance – do you find this to always be the case – positive and negative examples?

Some say that it helps likelihood of attending if women are told upfront (on first being told about the session), the details of the venue, location, date of first session, start times, number of weeks and how long each session lasts as they can then understand straight away if they would be able to commit to attending. It also allows the possibility of them speaking to employers and with their families about whether they can fit it in with everything else in their lives – how does this relate to your experience?

Any additional, unexpected effects.

Summary [10 mins]

- Are there any other influences/reasons/things that we haven't talked about that can affect whether people go to antenatal sessions?
- How can families be further encouraged to get involved in these projects?

Thank and close

Appendix K Development of Nodes and Child Nodes in NVivo

The screenshot displays the NVivo interface with the following components:

- Quick Access:** Files, Memo, Nodes.
- Data:** Files (Diary study - level 1, 2; Documentary review; Observations; Observations of social; Rapid Realist Review; Staff interviews - level 2; Systems mapping), File Classifications, External.
- Codes:** Nodes, Sentiment, Relationships, Relationship Types.
- Nodes Table:**

Name	Files	References
Associations made with venues, based on experience and judgements	3	5
Time to get to know the woman and understand her life situation	6	9
Perception of health professionals (eg midwife) as more trustworthy, reliable	6	10
Beliefs about whether they 'need' support eg thought systems about value of antenatal care, influence of family memb	7	11
Woman feels understood by practitioner, use of compassion	7	9
Social media level 1	0	0
Systems mapping, population	0	0
Systems mapping, programmes	0	0
Observations	1	2
Systems mapping, staff	1	1
Rapid Realist Review literature	2	2
Diary study, level 1	3	4
POTENTIAL NEW (level 1) knowing date and time upfront so know if can commit to it	7	8
Impact of more complex travel requirements	9	16
Time to explain what is available and why this may be relevant to that woman with her needs	10	17
POTENTIAL NEW (level 1) Use of personal technology to enable access	11	19
Available at a time and in a format that suits women and partners	13	15
Prioritisation of other, significant needs	15	41
Convenience of local venues	15	31
Will people 'like me' be there (no judgement)	16	28
- Node View (CMO_Woman feels understood):**

Original IPT (health, educated guests)

2. (Compassion and respect are employed by practitioner (resource), then this can create feeling of trust on behalf of the parent (reaction) leading to clear individual-practitioner communication and improved satisfaction (outcome), because they feel their needs and concerns have been listened to/acknowledged).

Evidence from literature review and systems mapping (need to specify whether evidence based or evidence informed)

1. If compassion and respect are employed by the practitioner (resource), then this can create a feeling of trust on behalf of the parent (reaction), leading to clear individual-practitioner communication and improved satisfaction with the process (outcome).

Original IPT (health, educated guests)

2. If the text of the marketing materials is in a specific language or states that different languages can be understood (resource), then parents with English as a Second Language may feel their needs will be understood (reasoning) because facilitator and other parents will be aware of experiences and may be able to offer responses (outcome).

Evidence from literature review and systems mapping (need to specify whether evidence based or evidence informed)

2. If a practitioner states that different languages can be understood and that conversations are possible using these languages (resource), then parents with English as a Second Language may feel that their needs will be understood (reasoning).

Revisiting CMO (to be tested via study 3)

A/B) Woman feels understood by practitioner, use of compassion (from draft theory 1 and 2 in this memo)

Where compassion and respect are employed by the practitioner (mechanism: resource), this can help to create a feeling of trust on behalf of the parent, as they feel their feelings, needs and concerns have been listened to (mechanism: reaction), which can lead to clearer individual-practitioner communication, improved satisfaction with the process and a likelihood they will consider attending (outcomes).

Red - comments/suggestions from PhD supervisory team

[try out colour coding for source of change - so source of data, including supervisors and RG as well as RRR, systems mapping etc, see if it works]

Figure K.1 Development of Nodes and Child Nodes in NVivo (draft CMO and data type), Inspired by Dalkin's (2021) [168] Approach