the behavioural ist

Local Government Association

Sunderland City Council

LGA Behavioural Insights Programme 2019-2020

Behavioural insights project to improve breastfeeding rates in Sunderland

Scoping Report

Jay@thebehaviouralist.com
Manuel@thebehaviouralist.com

Purpose of the scoping report

We were commissioned by Sunderland City Council to develop an intervention to increase the use of the online tool Breastfeeding Friend (BFF) and evaluate its impact on the rates of breastfeeding continuation in Sunderland. This project is part funded by the Local Government Association (LGA) as part of its behavioural insights funding programme.

The purpose of this scoping report is to provide insights from the fieldwork conducted during the scoping phase, outlining the feasibility of delivering an impactful and evidence-led research project with Sunderland City Council (SCC). This report provides initial ideas for interventions while outlining trial design, sample size, statistical power analysis, and timelines. The purpose of these high-level ideas is to prompt discussion with SCC and partners. The contents of this scoping report do not represent the final plan for the project.

Scoping Phase: Aims

Our project aims for the scoping phase were as follows:

- To scope opportunities for potential interventions and to scope the feasibility of developing, delivering and robustly evaluating each of these interventions.
- To engage SCC and project stakeholders through face-to-face meetings and semi structured interviews to understand and define project goals and outcomes of interest.
- To identify any ethical approvals or requirements that may be needed, including approvals from local Research Ethics Committees and the Health Research Authority.
- To provide high-level intervention ideas including trial design, sample size and statistical power calculations, for further discussion with SCC and stakeholders.

Scoping Phase: Fieldwork

The fieldwork activities carried out during the scoping phase were as follows:

1. Project kick-off meeting - A kick-off meeting was held to define project goals and outcomes of interest, confirm the key personnel and stakeholders to work with, establish project management protocols, and provide relevant context about breastfeeding in Sunderland. Due to the COVID-19 pandemic, we were unable to conduct the kick-off meeting in person. This was conducted via teleconference instead, with the project lead from the Public Health team at SCC.

2. Internal review of documents and academic literature - We reviewed all the documents provided to us by Sunderland City Council and stakeholders, as well as relevant studies from the academic literature to fully understand the context (e.g., services provided to mothers, cultural factors that influence breastfeeding) and previous efforts to encourage breastfeeding among similar populations.

Scoping Phase: Fieldwork

3. Stakeholder interviews – We conducted semi-structured interviews with key stakeholders in Sunderland with the purpose of encouraging buy-in into the project and assessing the capabilities and interest of potential partners. Due to the COVID-19 pandemic, we were unable to conduct these interviews in person, and conducted them via teleconference instead. We conducted interviews with the following teams/organisations:
    - Public Health - Sunderland City Council
    - 0-19 Child Services - Sunderland, Harrogate and District Foundation Trust
    - Public Health Midwifery - South Tyneside and Sunderland Foundation Trust
    - Sunderland Children's Centres

4. Email Correspondence - We carried out email correspondence with Public Health England, to understand some of the features on Breastfeeding Friend (BFF) which will help inform intervention and evaluation design.

Background and context

Breastfeeding initiation and continuation rates in Sunderland are significantly lower than the national percentage. According to the Sunderland Child Health profile (March 2020), the breastfeeding initiation rates are 48% (percentage of new-borns receiving breast milk as their first feed). This percentage decreases to 25.9% by 6 – 8 weeks after birth.

Start4Life, Public Health England's national programme, provides a range of tools to support breastfeeding including the Breastfeeding Friend range. Breastfeeding Friend uses artificial intelligence and voice assistant technology to provide breastfeeding mothers with 24/7 support and information. National surveys conducted by Public Health England show positive feedback for Breastfeeding Friend, making mothers more likely to have a positive experience of breastfeeding, and more likely to breastfeed for longer.

This project focuses on improving breastfeeding continuation rates in Sunderland by incentivising mothers to take-up Breastfeeding Friend (BFF).

Feasibility: Touchpoints

the behavioralist

Touchpoint	Responsible Team	Sample Size (mothers)	Is information about breastfeeding already provided?	Feasibility and Impact
Antenatal health visits (28-32 weeks of gestation)	0-19 Sunderland, Health Visits service	Universal health check – government mandated, so we will have access to all new mothers. N = ~200 mothers per month (~2,000 mothers assuming trial runs for 10 months)	Yes – there is discussion about infant feeding, and information about breastfeeding is provided. Currently, information about BFF or signposting is not provided.	Very good opportunity to provide an intervention about BFF – antenatal period is when mothers do most of the reading and are more receptive to information that is provided. Will have access to all new mothers in the region. Highly feasible as it can be administered through the health visiting service and data can be easily recorded.
One week after birth	0-19 Sunderland, Health Visits service	Will depend on how many mothers consent to receiving visits or information.	No	Good opportunity to reinforce the intervention and provide reminders about using BFF – as most breastfeeding challenges and drop-off are likely to happen here. Intervention will have to be done through text messages or online communication as there is no mandated health visit at this time.

Feasibility: Touchpoints

the behavioralist

Touchpoint	Responsible Team	Sample Size (mothers)	Is information about breastfeeding already provided?	Feasibility and Impact
New birth health visit (10-14 days after birth)	0-19 Sunderland, Health Visits service	Universal health check – government mandated, so we will have access to all new mothers. N = ~200 mothers per month (~2,000 mothers assuming trial runs for 10 months)	Yes – there is discussion about infant feeding, and information about breastfeeding is provided. Currently, information about BFF or signposting is not provided.	Good opportunity to reinforce the intervention and provide reminders about using BFF – may be useful to encourage mothers who have dropped off to decide to try again or sustain continuation among mothers who are breastfeeding. Highly feasible as it can be administered through the health visiting service and data can be easily recorded.
6-8 weeks assessment (6-8 weeks after birth)	0-19 Sunderland, Health Visits service	Universal health check – government mandated, so we will have access to all new mothers. N = ~200 mothers per month (~2,000 mothers assuming trial runs for 10 months)	Yes – there is discussion about infant feeding, and information about breastfeeding is provided. Currently, information about BFF or signposting is not provided.	Good opportunity to administer survey about breastfeeding and/or the use of the BFF tool.

Feasibility: Touchpoints

the behavioralist

Touchpoint	Responsible Team	Sample Size (mothers)	Is information about breastfeeding already provided?	Feasibility and Impact
Midwife Home Visits (28 week antenatal home visit)	Public Health Midwifery	All mothers receive the 28-week antenatal midwife home visit. N = ~200 mothers per month (~2,000 mothers assuming trial runs for 10 months)	Yes – there is discussion about infant feeding, and a lot of information about breastfeeding is provided. The conversation depends on mother's existing knowledge and previous experience with pregnancies. Currently, information about BFF or signposting is not provided.	Good opportunity to encourage use of BFF – antenatal period is when mothers do most of the reading / more susceptible to information that is provided. Will have access to all new mothers in the region. Feasible as it can be administered through the midwifery service and data can be easily recorded. Potential challenges due to workload of midwifery team.
Local Children's centres (Initial visit up to 4 to 6 weeks after birth)	Sunderland Children's Centres	All mothers receive initial visit (up to 4 to 6 weeks after birth) N = ~200 mothers per month (~2,000 mothers assuming trial runs for 10 months)	Only mothers who request/agree to receive breastfeeding information get additional support after the initial visit.	Potential as a reinforcing intervention. Mothers seem to have already settled on how to feed their child by the time that the initial visit takes place. Potential challenges due to data collection capabilities.

Feasibility: Channels of communication

the behavioralist

Channel	Main touchpoints	Will be administered through	Behavioural Science principles that can be used	Feasibility and Impact
Face-to-face intervention	Antenatal Visits, new birth visits	Health visitors, Health Visits service	Messenger effect, salience, commitment	Likely to lead to bias and errors, cross contamination between groups, low standardisation of treatment
Behaviourally designed letters / brochure / communication about BFF	Antenatal Visits, new birth visits	These communications will be given out by health visitors, can also be sent via email	Incentives, loss aversion, social norms, salience, affect, ego	High feasibility – communications can be effectively designed using behavioural principles and easily distributed by Health Visits team.
Text messages	Antenatal Visits, one week after birth, weekly reminders, new birth visits	Health Visits service	Incentives, loss aversion, social norms, salience, affect, ego	High feasibility – Health Visits team can send text messages to mothers. Need to consider how many mothers consent to receiving text messages.
E-mail communications	Antenatal Visits, one week after birth, weekly reminders, new birth visits	Health Visits service	Incentives, loss aversion, social norms, salience, affect, ego	High feasibility – Health Visits team can send emails to mothers. Need to consider how many mothers consent to receiving these emails.
Facebook page (survey delivery)	Antenatal Visits, new birth visits, 6-8 month visits	Health Visits service	Incentives, administering an online survey experiment	High feasibility - Health Visits team can administer surveys through their Facebook page or other survey platforms. Need to consider survey response rates.

Feasibility: Outcomes of interest

the behavioralist

Outcome of Interest	How this will be measured	Feasibility of data collection
Breastfeeding continuation rate (this will be the primary outcome of interest)	Breastfeeding status recorded during health visits – at new birth visit and 6-8 weeks visit.	Highly feasible – this is already done by the Health Visits team.
Breastfeeding continuation rate – on a weekly basis, from initiation until 6-8 weeks or end of trial period	In addition to breastfeeding status recorded at health visits, self-reported status via text messages or surveys.	Is feasible – but may not have data for everyone, will depend on response rates / how many agree and consent to this.
Breastfeeding Friend (BFF) sign up rates	Number of downloads of the app	Yet to be determined – awaiting confirmation from Public Health England (PHE), otherwise can be measured through surveying mothers
Emotional and well-being indicators of mothers	Through surveys conducted by Health Visits surveys or in-app through Breastfeeding Friend.	Highly feasible – Health visits service has the capacity to conduct surveys
School readiness / learning and speech development	Will not be feasible to measure during the course of the project.	We can provide SCC with a framework they can use going forward.

Feasibility: Interventions

the behavioralist

We have identified a number of potential interventions in the table below. For all intervention ideas, the main outcome would be breastfeeding status recorded during health visits. **We will continue to generate additional concepts and develop these concepts in the next phase of the project.** We have expanded on a few of the opportunities in the following slides.

Concept	Touchpoint	Practical Feasibility	RCT Feasibility
Behaviourally designed leaflet about the BFF app	Can be delivered at 28-week midwife home visit or antenatal health visit.	Yes – low staff resource required	Yes – can randomise at individual mother / baby level.
Incentive to download BFF app – Provide mothers with an incentive to download the app (can be delivered via a leaflet, emails, or text messages).	Can be delivered at 28-week midwife home visit or antenatal health visit.	Yes – low to no staff resource required.	Yes – can randomise at individual mother / baby level.
Behaviourally framed text messages or emails to encourage downloading the BFF app	Antenatal health visit, reminders can be sent at appropriate time intervals	Yes – no staff resource required	Yes – can randomise at individual mother / baby level.
In-person demonstration of the BFF app	Can be provided at antenatal health visit and new birth home visit.	Would require training health visitors/midwifery team	Yes – can randomise at individual mother / baby level.
Commitment device to adhere to a breastfeeding plan or checklist that includes the use of BFF app (plan can be outline in print or online materials)	Can be delivered at 28-week midwife home visit or antenatal health visit.	Yes – low staff resource required	Yes – can randomise at individual mother / baby level.

Concept 1: Nudging mothers through leaflets

(and other communications)

Concept

Can physical and/or digital communications nudge mothers to take up the Breastfeeding Friend?

Communications could be delivered as early as the 28-week midwife visit or antenatal health visit and throughout the last weeks of pregnancy and first weeks after birth. They could be delivered in person by midwifes or home visitors as well as online via email or through text messages.

These communications would be developed using principles from behavioural science intended to increase the saliency and reduce stigma about breastfeeding, prompt action, and reduce the perceived costs of breastfeeding.

RCT Feasibility

An RCT would be feasible as we can deliver the intervention and measure outcomes of interest – metrics related to BFF sign ups are still to be determined. We discuss with the SCC team and the wider stakeholders to assess the best channel of communication, the frequency and the content of the communications.

Concept 2: Incentivising mothers to use the BFF

Concept

Can the provision of incentives have an impact on the uptake of the Breastfeeding Friend App and in turn have an effect on sustained breastfeeding practices? We would trial one or more different types of incentives such as in-kind (e.g., care kits, nappies), monetary, or supportive (e.g., advise from specialist, a free consultation).

These incentives could be provided conditionally on signing-up or usage of the app for a determined amount of time. Also, we could communicate these incentives through a range of channels (e.g., email, health visitors). Further discovery work would help us assess the trade-offs between different incentive types, framings of the incentives, and communication channels.

RCT Feasibility

An RCT would be feasible as we can deliver the intervention and measure outcomes of interest – metrics related to BFF sign ups are still to be determined. We would also have to determine what are the most cost-effective incentives.

Concept 3: Breast feeding check list

Concept

Can simplified information in a step-by-step plan (check-list) encourage new mothers to take action on services and advice provided to them such as the use of the Breastfeeding Friend? Additionally, does making a pledge to follow the plan make them more likely to sign up for the app?

We would continue to work with key stakeholders and apply concepts from behavioural science to develop an simple yet informative, engaging, and salient physical or digital material that provides a road map to breastfeeding for mothers. This material could be delivered by home visitors or by the midwifery team, who could ask the mother to make a pledge to follow the check list.

RCT Feasibility

An RCT would be feasible as we can deliver the intervention and measure outcomes of interest – metrics related to BFF sign ups are still to be determined. We discuss with the SCC team and the wider stakeholders to assess the best channel of communication and the content of the check list.

Feasibility: Trial design

Randomisation

Randomised allocation of treatment would feasibly take place in batches on a monthly basis. The sample of mothers would include all mothers registered to receive an antenatal health visit in a given month. The treatment assignment would only be revealed to health workers if they are required to deliver the treatment.

Measurement of outcomes

Main outcome of interest (breast feeding status) is already measured at new birth visit and 6-8 weeks visit. We will continue to work with SCC to ensure that we can measure secondary outcomes of interest (e.g., wellbeing and emotional indicators for mothers, BFF sign up rates).

Feasibility: Trial design

Statistical power

We calculate the statistical power of the trial using breast feeding status at the 6-8 week home visit (i.e., the continuation rate) as the outcome of interest.

Assuming that 2,000 mothers participate in the trial (200 per month for 10 months) and the continuation rate for mothers in Sunderland is 25.9% (Public Health England, 2020), we would have 80% statistical power at 95% confidence level to detect an increase of 5 percentage points.

COVID-19: Risk Assessment

the behavioralist

The recent developments around Coronavirus (COVID-19) has drastically impacted organisations around the world and created disruptions in the workforce. We have discussed the impact that COVID-19 could have on this project and have identified the following main project risks:

Identified Risk	Likelihood (L)	Impact (I)	Risk Factor (Lx)	Mitigation Strategy
Disrupting the ability to start the RCT on time and causing project delays.	5	2	10	TB will discuss with Sunderland council whether the best course of action is to delay the start of the RCT by a couple of months, or to go ahead with an intervention option that does not involve, or reduces face-to-face contact.
Changes to business-as-usual operations of the Health Visiting services (such as changing some in-person visits to telephone or video).	3	2	6	During phase 2 of the project we will discuss and review the situation with Sunderland council, and can implement alternative versions of the interventions to accommodate any of the health visits that may change their operations.
Reductions in the capacity of staff to dedicate resource to running the intervention.	4	3	12	TB will work with SCC to assess staff capacity and develop a range of interventions, ranging from “light touch” approaches requiring low staff management to more resource heavy interventions.
Changes to TB business operations (e.g. reduced face-to-face meetings, ability to conduct workshops)	5	2	10	We have our business continuity plan in place and staff are adequately prepared to work from home. We are conducting most of the usual internal meetings and workshops via telephone. Currently we do not see this as impacting the primary aims of the project delivery.

COVID-19: Contingency planning

We will continue to work with SCC to ensure that we mitigate the risks of disruptions due to the ongoing COVID-19 outbreak. We are considering the following strategies to adjust to the current circumstances:

- We will look to minimise the burden on health workers (home visitors, midwifery team, etc) by prioritising interventions that can be delivered with very low or no effort by staff. This includes interventions that are delivered automatically or via channels that are already in place.
- We will have alternative plans to deliver interventions via communications that do not require face-to-face interactions in the event that home visits are no longer conducted in person.
- We will rely on metrics that are already collected for our main outcomes of interest and thus will not place extra burden on health workers or SCC staff.

Scoping Phase: Results and next steps

We have the following key recommendations and main takeaways from the fieldwork carried out during the scoping phase:

- The Behaviouralist recommends that the trial goes ahead.
- There are multiple feasible interventions which could be developed and trialled robustly across the health visiting service and midwifery service in Sunderland.
- There is existing data collection protocols which would enable us to conduct a randomised controlled trial (breastfeeding initiation data, data on breastfeeding status, demographic characteristics of the mother).
- Project stakeholders have indicated they are 'in principle' engaged in the project and have the capacity to assist with the intervention. Data sharing agreements and gaining permission(s) from the stakeholders around data sharing could also be achieved.
- Following the delivery of the scoping report we will discuss the intervention ideas presented with Sunderland Council and stakeholders, revise project plan and timelines if necessary, and take into consideration any changes that need to be made due to COVID-19.

Indicative project timelines

The timeline will be adjusted to take into account delays and disruptions due to Covid-19 in the event that the project is affected.