Health Innovation West of England

EXECUTIVE SUMMARY

Preparing to implement a digital breastfeeding app:

A survey of maternity staff views and beliefs on smartphone use to support breastfeeding

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[Executive Summary] Preparing to implement a digital breastfeeding app: A survey of maternity staff views and beliefs on smartphone use to support breastfeeding.

A copy of the full report can be found on our website, by clicking here.

Real-world evaluation project team
The evaluation and implementation of the Anya app is supported by staff across several organisations. Health Innovation West of England acknowledges and thanks the following members of the project team: Rhian Boase[3], Rebecca Bury[3], Lara Covill[5], Emma Cronin-Preece[2], Kay Davis[4], Rachel Davis[5], Nathalie Delaney[5], Zeisha Foord[3], Kyle Gatier[1], Emilie House[1], Alex Leach[5], Dawn Morrall[4], Benjamin Newton[5], Elizabeth Parkes[2], Genevieve Riley[5], June Samm[3], Peter Wathen[6] and Jo Witchard[3].

Affiliations
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Declaration of interests
Health Innovation West of England supports innovators such as Anya, to bring their innovations to the NHS. This may, where appropriate, include supporting evaluation delivery to our member organisations, and innovations we have supported.

Whilst these evaluations are independently conducted and reported, for transparency we disclose our dual role where applicable. In this report, we note the dual role of Health Innovation West of England to facilitate and evaluate Anya.

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Executive Summary

1. Background

Breastfeeding is recommended by the World Health Organisation (WHO) as the exclusive source of feeding for the first six months of an infant's life. However, the UK has one of the lowest breastfeeding rates worldwide. To increase breastfeeding rates, smartphone technology can offer healthcare providers an alternative form of breastfeeding support. Gloucestershire Local Maternity & Neonatal System (LMNS) has purchased 500 licences for the Anya app[a] and Health Innovation West of England agreed to conduct a real-world evaluation[b] as part of our commission from the Office for Life Sciences.

2. Aims and objectives

To facilitate a successful implementation of Anya, we undertook a survey of NHS maternity staff. The survey sought to understand staff views, feelings and experiences of breastfeeding support and technology. Specifically, we sought to find out:

- Staff views on the current provision of breastfeeding support and information.
- How confident staff are in using smartphone apps.
- Staff beliefs about the potential benefits and challenges of using breastfeeding apps.
- Staff beliefs and feelings about implementing a breastfeeding app, specifically in their routine clinical practice.

3. Methods

An online survey on the Zoho platform was distributed to an estimated 766 individuals working in maternity services across two NHS Trusts in Gloucestershire. A mixture of Likert-scales and open-ended questions were used. The survey questions covered the following topics:

- Demographics.
- Use of smartphone apps.
- Confidence in using apps.
- Ease of finding breastfeeding information.

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[a] The Anya app is a parenting and breastfeeding app for smartphones. Further information can be found on their website. Anya has previously been known as LatchAid. For consistency, some responses referring to LatchAid have been changed to Anya.

[b] The evaluation is running until 2024 and a final report will follow this. See our website for further details.

- Use and availability of breastfeeding resources.
- Views and feelings on Anya and using it with patients.
- Perceived challenges of using Anya.
- Perceived ease and confidence in using Anya.

The survey received its first response on 26 April 2023 and its last response on 16 May 2023. A total of 81 people completed the survey. This represents a response rate of 11%. Of the 81 responses, 53 responses (65%) were recorded by Zoho Survey as completed responses and 28 responses (34%) were marked as partial responses.

Descriptive statistics and crosstab reports were generated on Zoho Survey as part of the analysis. We analysed free-text data thematically. As not all participants answered every question, actual numbers of respondents are listed (n=) as we present specific results.

The results of this survey are discussed through the lens of the COM-B model[c]. The three core components of this model are capability, opportunity and motivation. For behaviour to happen, individuals must feel capable, have the opportunity and the motivation to engage in the target behaviours.

4. Findings

4.1. Demographics
All survey respondents were female (total n=76). Nearly 80% (n=59) were aged between 30-59 years and 84% (n=64) had five or more years' experience working in maternity services.

4.2. Mobile phone usage
Over half of respondents did not have a work mobile phone provided by their employer (57%, total n=72). Over 90% (n=11) of Health Visitors and 100% (n=9) of Community Midwives had work mobile phones, whilst none of the respondents identifying as Hospital Midwives had work phones.

4.3. Staff confidence in using smartphone apps
Most respondents were confident using smartphone apps, with 86% (n=45) feeling confident or very confident in using apps at work. More respondents were confident using the iOS platforms associated with phones created by Apple[d] (68%, n=48) compared to Android phones[e] (53%, n=38). The pattern of greater confidence with iOS smartphones was replicated when staff were asked how confident they felt supporting mothers to use different phone platforms: for the Android platform, 48% (n=34) felt confident or very confident, whilst for the iOS this was 66% (n=47).

We asked staff what would increase their confidence using smartphone apps and qualitatively analysed their responses. Three themes were derived from the data: (i) having access to phones and practicing; (ii) overcoming technical issues; and (iii) receiving support.

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[c] Michie S, van Stralen MM, West R. The behaviour change wheel: A new method for characterising and designing behaviour change interventions. Implementation Sci. 2011 Apr 23;6:42. Available from: https://doi.org/10.1186/1748-5908-6-42

[d] iOS is a trademark or registered trademark of Cisco in the U.S. and other countries and is used under license by Apple Inc. Apple is a trademark of Apple Inc. This survey report is an independent publication and has not been authorized, sponsored, or otherwise approved by Cisco or Apple Inc.

[e] Android is a trademark of Google LLC. This independent survey does not imply affiliation or endorsement by Google LLC.

4.4. Breastfeeding information and resources

We asked staff to rate how easy they believed it was for mothers to find breastfeeding information. Staff were given several domains to rate. Respondents described finding information that accurately describes the challenges of breastfeeding the most difficult information to find, with 62% (n=38) rating this as 'not at all easy' or 'somewhat easy'.

Staff were asked to list the breastfeeding resources they were currently using with women. 44 respondents listed 122 items. The most popular breastfeeding resource respondents used was WHO or UNICEF material, (11%, n=14), followed by national NHS resources (11%, n=13), Gloucestershire Breastfeeding Supporters' Network (10%, n=12) and Breastfeeding Network or National Breastfeeding Helpline (9%, n=11).

The types of breastfeeding resources that respondents identified as missing include professional and round-the-clock support, accurate or responsive guidance, visual-based media and app- and group-based support.

4.5. Potential benefits of Anya

We asked staff how they thought the Anya app might benefit pregnant women, those who have recently given birth, and professionals supporting the mother and baby.

Some of the perceived benefits of Anya, for women, were easily accessible information, helping mothers to be prepared for the challenges of breastfeeding, having an app accessible all hours, and empowerment. For professionals, the perceived benefits of the app were the availability of information in one place for professionals to send out and being able to empower women to breastfeed.

Overall, there were three common types of benefits, which spanned across the groups we asked staff about (pregnant women, new mothers and professionals): (i) the 24/7 availability of the Anya app; (ii) the user-friendly nature of the app; and (iii) the empowering nature of the app.

4.6. Potential challenges of Anya

Staff were asked about the potential challenges of introducing Anya to new mothers and were given nine options they could select. Over half of respondents (53%, n=27) selected the statement "I am wary of introducing a commercial app". Nearly half of respondents (43%, n=22) identified the challenge around poor internet coverage in the community, with the same number of respondents agreeing they may forget to introduce the app.

We invited staff to propose solutions to these problems. 30 respondents provided suggestions that were qualitatively analysed. Nine respondents identified that information should be provided in a range of formats, whilst four respondents addressed issues of transparency that could be addressed through information provision. Six respondents offered suggestions that addressed the infrastructure or organisation surrounding the use of the Anya app, whilst five respondents identified the need for further support or training. Other suggestions include the antenatal introduction of the app, suggestions around the design or functionality of the app, the need for senior approval, staffing considerations and using the mother's mobile phone.

4.7. Feelings about Anya

We invited staff to write one word that described how they felt using a breastfeeding app with mothers. Data were tidied and formatted as a word cloud. The largest words in this word cloud (representing the most frequent) include: *interested, excited, good, helpful, confident, happy, hopeful* and *unsure.*

In addition, we explicitly asked staff about their feelings on introducing the Anya app to pregnant people or new mothers, offering them a list of 12 options. Staff could select multiple options and 49 staff responded. The most common feeling respondents selected was 'positive', with 65% (n=32) of respondents identifying with this. Other feelings respondents frequently selected include 'helpful' (53%, n=26), 'professional' (49%, n=24) and 'enthusiastic' (35%, n=17). A minority of respondents identified with neutral or negative feelings such as 'indifferent' (16%, n=8), 'uncertain' (12%, n=6), and 'unprepared' (8%, n=4).

4.8. Supporting mothers with the Anya app

We asked staff to rate how confident they felt supporting mothers to use the Anya app. Almost four in five respondents (79%, n=38) had a confidence level of at least 'somewhat confident'. When we explored confidence ratings among workforce groups, we found Health Visitors rated their confidence levels lower (2.8; total n=10) than Community Midwives (4.3; total n=7).

Staff were asked to rate how easy they thought it would be to introduce Anya to mothers in their clinical work. A total of 48 respondents provided responses. The most common rating was 'somewhat easy' (48%, n=23), which represented almost half of respondents.

When looking at these rating across workforce groups, Community Midwives (n=7) perceived the app to be easier to introduce in clinical practice than three other staff groups, namely Health Visitors (n=10), Hospital Midwives (n=9) and Specialist Midwives/Health Visitors (n=5).

4.9. Staff comments on implementation

The last survey question invited staff to offer any other comments that could influence how Anya is implemented in clinical practice. A total of 17 respondents commented and four themes were identified, relating to the movement of the implementation. In the first theme, 'move forward', there was a sense of momentum or enthusiasm for Anya to be implemented. The second theme, 'here's a suggestion', consisted of constructive suggestions respondents made. The third theme, 'show us first', reflects respondents views regarding the importance of seeing or practicing Anya before it is implemented. The final theme, 'hold on', can be understood as expressions of concern, reservation or scepticism surrounding the introduction of Anya.

5. Discussion

The findings of the survey were considered through the perspective of the behaviour model, COM-B, to understand the factors that could affect staff capability, motivation and opportunity to participate in the implementation of Anya.

5.1. Capability and self-efficacy: the impact on adoption of technology

Our survey offers unique insight into the confidence staff have around using and implementing mobile technology in their healthcare practices. The data indicates that this workforce is highly

experienced in maternity care and in using smartphone apps. However, just over half of respondents (52%) rated themselves as 'somewhat confident' or 'unconfident', suggesting a mixed picture of staff confidence to use smartphone apps. Alongside this, a significant proportion of the workforce anticipated some difficulties in introducing Anya. Once the app is implemented in the maternity system, continuous monitoring of its successful deployment is essential. This will enable us to determine whether there are specific staff or teams who need support. Enabling staff to grow in confidence and exposing them to successful experiences of introducing the app will contribute to a successful implementation.

5.2. Opportunity with constraints

Overall, the survey data indicated community-facing staff have good opportunity to introduce Anya. However, there are personal, resource and structural barriers that should be considered. There were capacity limits around supporting women to breastfeed. Staff reported they lacked access to breastfeeding resources that accurately acknowledges the challenges of breastfeeding, whilst staff also lacked resources that demonstrated successful latching or offered reliable sources of practical breastfeeding support. Meanwhile, a small minority of survey respondents noted the infrastructure challenges of poor phone platforms with respect to software and hardware, alongside poor internet connectivity that could hinder the opportunity to introduce Anya. Finally, some staff believed there were policies in place that prohibit the use of phones in work with patients.

5.3. Motivational and attitudinal barriers to staff engagement

Many respondents indicated they felt positive and enthusiastic about introducing Anya. However, one of the more concerning findings in our survey was that nearly 20% of those with work phones would not consider using them to demonstrate Anya. Our survey also revealed staff attitudes might be a barrier to implementing Anya, as over half of staff reported being wary of introducing a commercial app. Whilst most staff reported positive feelings around introducing Anya to mothers, there are evidently motivational barriers that should be addressed to facilitate the successful implementation of Anya.

5.4. Strengths and limitations

Strengths of this survey include the opportunity it has provided for staff to have voice and input into the implementation of Anya. Limitations include the overall low response rate, the lack of any male responses, the possibility of self-selecting bias and a lower response rate among Community Midwives and Health Visitors.

6. Conclusion

6.1. Summary

Healthcare systems are complex environments and we do not expect an intervention to be successfully implemented merely because it is available. We undertook this staff survey to generate key insights that would lay the groundwork for successful implementation and evaluation of Anya.

6.2. Recommendations

We offer the following recommendations to mitigate the potential challenges staff have identified in this insight piece.

6.2.1. For senior NHS and LMNS staff

i) As Hospital Midwives do not have work mobile phones, consideration should be given by LMNS and Trust Managers as to how staff can demonstrate Anya, if requested to by women.

ii) To address staff concerns about the supporting infrastructure for phones, conversations between LMNS and Trust IT departments should take place. These should explore whether IT departments can test the capability of work mobile handsets and Trust wifi to ensure that Anya can be used and demonstrated.

iii) Senior NHS staff should provide clarity on local Trust policy regarding the use of personal or work phones to demonstrate Anya. This policy should then be communicated to staff and the project FAQs should be updated.

6.2.2. For Anya project staff[f]

iv) To address lower confidence levels among Health Visitors, familiarisation sessions with this staff group could encompass the demonstration of Anya.

v) Consideration could be given to making regular support sessions available to all staff, perhaps in the early stage of implementation. This could support staff whose confidence in using digital technology is reduced.

vi) During familiarisation, steps should be taken to reassure staff regarding the commercial nature of Anya. Project staff should emphasise the app has DTAC and ORCHA approval; it has been approved by senior NHS colleagues and has been used in other NHS systems. Furthermore, consideration could be given to highlighting how the Anya app was conceived following the innovator's own personal struggle to find appropriate breastfeeding support.

vii) Finally, to ensure staff remember to introduce Anya, the implementation should consider how to facilitate staff prompts within the maternity pathway.

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[f]   Namely, staff in Health Innovation West of England who are managing the delivery of the real-world evaluation of Anya.

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