Health Innovation Wessex

Maternity Triage Line Evaluation report

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Disclaimer

This report presents the findings of an independent evaluation of the Maternity Triage Line (MTL). The findings of this independent evaluation are those of the authors and do not necessarily represent the views of Southampton, Hampshire and Isle of Wight and Portsmouth Local Maternity and Neonatal System (SHIP LMNS).

This evaluation was completed before the announcement on 13 March 2025 that NHS England will be brought back into the Department of Health and Social Care (DHSC). The evaluation description of the innovation, its deployment, and the evaluation findings were accurate at the time of publication. The government decision may, in the future, alter how the report's findings and recommendations are received in this new context. We raise this issue for the reader to note.

Declaration of Interest Statement

Health Innovation Wessex supports innovators to bring their innovations to the NHS as well as provide an evaluation service more broadly to our members and others. On occasion, we evaluate innovations that we have also supported. Whilst these evaluations are independent, for transparency we disclose our dual role where applicable. Health Innovation Wessex staff have had prior involvement in the development of the Healthier Together app and the evaluation of the paediatric version.

Acknowledgements

We would like to thank all members of the SHIP LNMS steering group, all midwives delivering maternity care, service providers and other important stakeholders across the four SHIP LMNS trusts who provided information, and the women and pregnant people who participated in this evaluation.

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Table of Contents

Executive Summary

Introduction and background

Four NHS trusts, Southampton, Hampshire and Isle of Wight, and Portsmouth (SHIP) collaborate to provide a Local Maternity and Neonatal system (LMNS). This system includes Maternity and Neonatal Voices Partnerships (MNVPs) to ensure that women, pregnant people and families can actively participate in local decision-making.

As part of its service the four providers run a Maternity Triage Line (MTL), a call system supported by experienced midwives drawn from all four trusts. It was originally established as a labour line across the system since 2013 by Hampshire Hospitals Foundation Trust and later by University Hospital Southampton and Portsmouth Hospital University by 2017.
MTL is the single point of access for women and pregnant people[1] to SHIP maternity services, offering a "streamlined, standardised model of care that enables choice and empowers women, pregnant people and their families to take control of their personal antenatal journey"[2]. MTL is currently available to women over 20 weeks pregnant and was launched on 28 November 2022.
MTL is supported by two digital applications, Badgernet[3] and the Healthier Together Digital Application, all three interventions support the delivery of the Maternity Triage Service.

To streamline the SHIP LMNS maternity pathway (see **Figure 1**), the planned pathway starts with an invitation to women to register on the Healthier Together maternity app (hereafter HT app) which provides information and guides women via a symptom checklist to support and signpost. Symptoms are coded into red (emergency services), amber (e.g., care of the midwife via MTL), or green (self-support advice) categories. Triage via the MTL manages the flow of women and their access to the maternity day assessment unit (MDAU) for those who need face-to-face care. Previously, calls going direct to the MDAU were reported as distracting clinical midwives from caring for those women already present on the unit. The MTL midwives also access and update the womens maternity records (via BadgerNet), enabling clinical midwives to work across any system boundaries.

[1] For the purpose of this document, we will be referring to women and pregnant people as "women" throughout – however it is acknowledged that it is not only women for whom it is necessary to access women's health and reproductive services to maintain their health
[2] SHIP Local Maternity System Choice and Personalisation Pioneer 3 November 2016
[3] BadgerNet Maternity is an electronic maternity healthcare record system. It allows real-time recording of all events wherever they occur: in the hospital, the community, or at home. It allows women and pregnant people to access their maternity records digitally over the internet and is also available to healthcare providers.

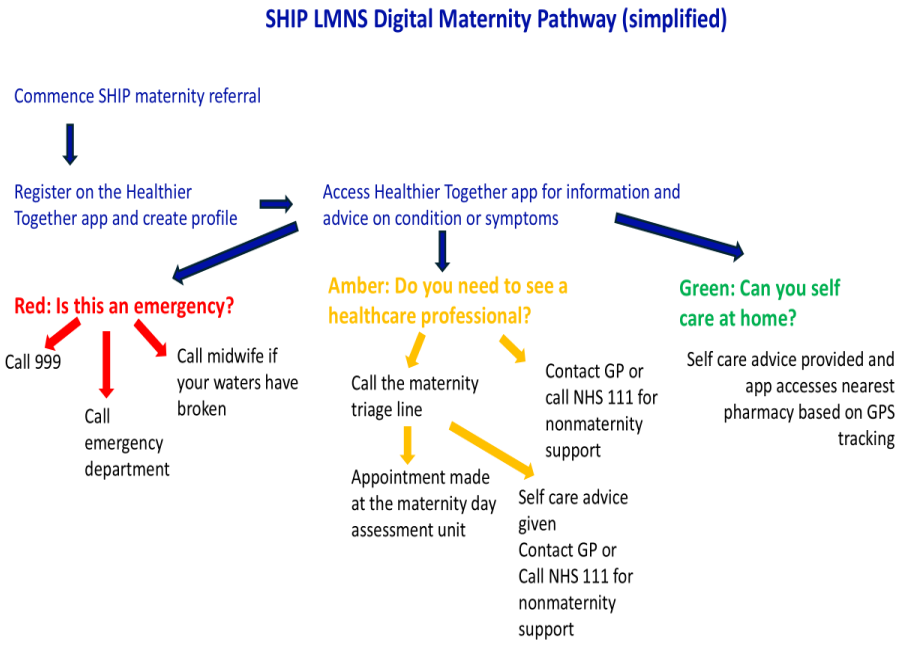


Figure 1 SHIP LMNS Digital Maternity Pathway

SHIP LMNS asked Health Innovation Wessex to undertake an evaluation of MTL impact on women, midwives, the maternity pathway and other services. This report provides an overview of the evaluation key findings.

Evaluation framework and methods

A mixed methods evaluation framework addressed perceived benefits and disbenefits of MTL, equity of access and experience of both women and midwives, impact on other key stakeholders and services to draw out transferable learning. Local routinely collected data sources were compared to nationally published statistics as a benchmark. This included conducting inferential[4] statistics to determine the impact of MTL on emergency and other support services. HT app usage data was received from the platform developers. Three surveys for women and midwives provided their perspectives on MTL and how the HT app supports MTL access. Midwives and other stakeholders were invited to participate in focus groups. Ten case studies following women and their pregnancy and use of MTL were planned; only two cases were achieved due to recruitment challenges.

[4] Inferential statistics refers to methods that can infer a causal relationship, whereas descriptive statistics quantify only by counts or proportions.

Key Findings

1. Views on the Maternity Triage Line by women
Benefits experienced

- **Over 70% who accessed MTL when they needed it would recommend the MTL.**
- **Over 50% rated MTL advice as excellent and were satisfied with their maternity care.**

Points for improvement requested by some women

- **Women felt it would be beneficial if the MTL was available to those under 20 weeks, supporting the ongoing work already occurring to progress this.**
- **Clearer guidance requested on when to contact MTL from the HT app and further consistency on advice and guidance via MTL.**

2. Views on the Maternity Triage Line by midwives and other staff
Benefits experienced
Of 20 MTL midwives surveyed:

- **65% MTL felt well-supported by colleagues.**
- **90% received training and 85% agreed the training helped them assist women.**
- **90% believe integration of MTL into the HT app enhanced their ability to provide better care.**
- **95% agreed the MTL and HT app provides equity of access to all needing maternity care.**
- **75% agreed they balanced their dual role as local trust midwife and MTL midwife.**

Overall, midwives and other staff believed MTL improved workflow, reduced stress, supported better communication and quality of care for women.

Points for improvement requested by some midwives

- **Staff reported a feeling of isolation due to unforeseen staff shortages - Further exploration of the reasons behind staff feeling isolated would help address this issue.**
- **Staff reflected that improvements to interpreting services and more support to those with low digital literacy could improve equity of access to MTL and support use of the HT app.**
- **Offering refresher training for MTL staff, along with additional guidance and clear Instruction on locating and accessing relevant training documents, could be helpful in supporting more consistent triage.**

3. Maternity Triage Line impact on secondary services

Calls to the maternity triage line

- **68% (40,667) of calls to MTL resulted in planned appointments at the Maternity Day Assessment Unit.**
- **21% of calls to MTL advised women to stay at home and follow self-care advice given.**
- **It was noted that 50% of MTL calls came via the HT app (21,421 HT app referrals to MTL) and 50% of calls came directly from the individual woman between July 2023 to August 2024.**

Emergency department attendance

- **The attendance rate at the emergency department was significantly reduced following implementation of the maternity triage line.**
- **Those on their second plus pregnancy were significantly more likely to use MTL and avoid the emergency department, a reduction of 22% following implementation of MTL.**

NHS 111 use

- **The NHS 111-call rate for pregnancy-related problems averaged 464 per 1,000 women before the implementation of MTL. After MTL was introduced, this rate dropped to 304 per 1,000 women. However, this finding was not statistically significant so needs to be considered cautiously.**

Emergency 999 use

- **Women who did not access MTL, on average, made up to two calls to 999 during their pregnancy, compared to an average of one call for those who accessed MTL, so a significant reduction in the number of 999 calls following the introduction of the MTL.**

Conclusions

The MTL provided opportunities to improve maternity care within the SHIP LMNS and delivered benefits in efficiency, access, and communication, and in the operational flow of women through their maternity journey.

Positive impacts on the use of 999, NHS 111 and the systems emergency departments were achieved. The implementation of MTL has relieved demand for other maternity services. MTL referred only a few to either 999, the emergency department ED or the local labour ward. The bulk of MTL referrals were to MDAU. Women and midwives were positive overall about both the HT app and MTL. The evaluation highlighted considerations for commissioners regarding how the MTL pathway meets the needs of women under 20 weeks pregnant, a change already being implemented by the service, and that some women bypassed the HT app and called MTL directly.

Implications for practice

1. **Findings indicate the need to further raise awareness of the HT app to support its use in the pathway:** The flow of women to the HT app and subsequently to the MTL indicates that many women are accessing MTL directly. The triage line phone number is accessible through the patients digital health record, direct from community midwives when the HT app is not assessed as appropriate, or if it is saved in the phone of a patient who has previously accessed the MTL through the HT app. Patients may also be advised by MTL staff to call back directly for a follow on conversation on the same complaint.
   The midwives on the MTL referred 21% of calls to self-care, so potentially could be filtered via the HT app. However, it is not possible to determine whether of this 21% whether they came via the HT app or accessed MTL directly.
2. **Access to those under 20 weeks pregnant**: Midwives keenly supported the extension of access criteria to include women at an earlier stage of pregnancy (i.e. less than 20 weeks). This change is in the process of being implemented by the service.
3. **Equity of access to maternity services**: Findings did not establish any specific issues with access to maternity care in SHIP LMNS due to limited data, however future evaluations need to consider a more in-depth approach to ensure equity of maternity care. Staff reflected that improvements to interpreting services and more support to those with low digital literacy could improve equity of access to MTL and support use of the HT app.
4. **MTL staff team:** Although midwives are drawn from across the four NHS trusts where they receive local training, they appreciated additional training offered by the MTL team to enable ongoing MTL practice development and support for less experienced midwives.

Implications for evaluation

1. To understand whether the MTL provided equity of access to maternity care, an individual case study approach was planned to purposely sample those women who are more likely to be excluded from services and gain their perspectives. However, recruitment was not successful. It is unclear why midwives were either not able to identify or engage consent with suitable women. Those who are seldom heard or come from marginalised communities are likely to require a different approach to traditional methods used.
2. Surveys may benefit from a longer distribution period to gain a better response rate.
3. Inclusion of primary care data (GP visits) and a reference for the total number of women in Hampshire and the Isle of Wight between November 2022 and August 2024 would improve the robustness of the analysis and findings.

1. Introduction

Four providers within Southampton, Hampshire and Isle of Wight, and Portsmouth (SHIP) NHS trusts have collaborated to provide a Local Maternity and Neonatal System (LMNS). The LMNS comprises a partnership of organisations that plan and deliver joined up health and care services as part of a local integrated care system (ICS). Integrated care boards (ICBs) also commission maternity and neonatal voices partnerships (MNVPs) which are designed to facilitate participation by women, pregnant people and families in local decision-making and are part of the local SHIP LMNS. The four providers run a maternity triage line (MTL) as part of its service, a call system supported by experienced midwives from all four trusts. This report describes the findings of an independent evaluation of SHIP LMNS by Health Innovation Wessex, commissioned by SHIP LMNS.

1.1. The SHIP LMNS context

SHIP LMNS maternity care commences with an invitation to download the HT maternity app via the Apple App store or Google Play store. The HT app triages women's presenting symptoms and where relevant direct them to a midwife via a call to the MTL either at South Central Ambulance Service (SCAS) in Otterbourne or at the Isle of Wight ambulance station. The MTL is a 24-hour, seven day a week service. The woman may then be triaged, based on assessment of their presenting symptoms, and advised to attend their local MDAU for further assessment. These units are based in each trust. Hampshire Hospitals NHS Foundation Trust MDAU is open 8am – 8pm, Portsmouth Hospitals University NHS Foundation Trust MDAU is open 24 hours, University Hospital Southampton NHS Foundation Trust is open 9am -2.30 am and Isle of Wight dedicated triage for non-scheduled care operates a 24-hour, seven day a week service. When MDAUs are not available women continue to be seen outside these hours as calls are taken by the labour wards. The MTL is an 'emergency line' and so women are seen on the same day as the call. The only exception may be when a woman's waters have broken, in which case the hospital calls them within 12 hours, and they will be invited to come in within 24 hours.

2. The Maternity Triage Line

The MTL is the single point of access to SHIP maternity services offering a "streamlined, standardised model of care that enables choice and empowers women, pregnant people and their families to take control of their personal antenatal journey"[5]. The MTL was launched on 28 November 2022. The pathway for the woman commences with digital access to the Healthier Together maternity app as the first step in a triage process to support personalised care ensuring access to maternity services when needed. The use of the HT app and subsequent use of the MTL ensures timely access to the MDAU for those who need face-to-face care. Previously, there was inconsistency in how women accessed the MDAU across SHIP. In many instances calls from women went directly to the MDAU which was reported as

[5] SHIP Local Maternity System Choice and Personalisation Pioneer 3 November 2016

distracting clinical midwives from those currently requiring care in the MDAU. **Figure 2** provides an outline of the anticipated service delivery of the SHIP LMNS Digital Maternity Pathway.

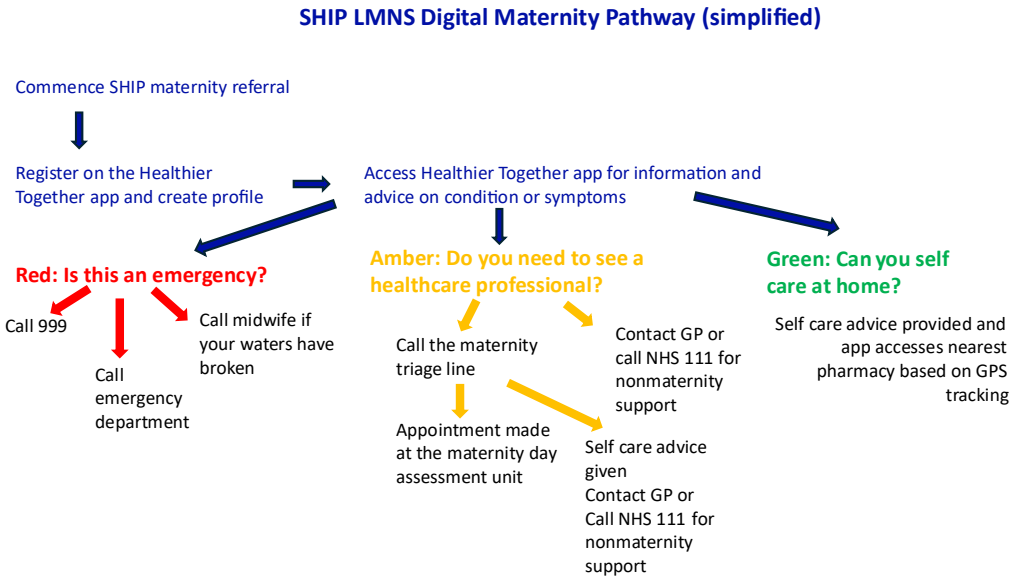


Figure 2 SHIP LMNS Digital Maternity Pathway

Women are given information on the Healthier Together Digital Application (hereafter referred to as 'the HT app'). The HT app (maternity) went live across Hampshire and the Isle of Wight in November 2022 and is available to all women across SHIP. The HT app provides information on how to manage pregnancy symptoms identified in the HT app symptom list that matches those experienced by the woman. The HT app signposts the woman to different categories of help and advice coded into a red, amber, or green categories. The outcomes of those categories are:

- **Red**: These issues will be classed as an emergency and will require the woman to call a health professional immediately, either the emergency services or the MTL.
- **Amber**: The woman will be advised to call MTL if the concern is maternity related, and they are over 20 weeks pregnant. If their concern is not maternity related or they are under 20 weeks, they will be advised to contact their GP surgery or call NHS 111 if out of hours. For both the red and amber categories the woman can press a button on the HT app, and they will automatically be connected to the service that has been recommended to them, including the MTL. The app signposting on the Isle of Wight differs from the mainland due to the service set up and capacity.
- **Green**: The user will be directed to information to enable them to self-care at home or access a local pharmacy.

2.2. The MTL service

MTL is available to women over 20 weeks gestation using the maternity services of SHIP. The MTL team also provides support to family, carers and healthcare professionals. The MTL service is operational 24 hours a day, seven days a week and accessed via the HT app. It is supported by just over 12 full time or equivalent midwives. The MTL midwives' access BadgerNet[6], an online portal and app that allows women, the midwives and other healthcare providers to access their maternity records digitally through multiple devices. Information is generated in real-time from the hospital-based maternity system. Womens details are accessed whilst on the MTL call and additional information added.

3. Evaluation framework

An initial scoping and evaluability phase identified data requirements and data sources to address the evaluation questions co-produced with the local MTL team. A straightforward evaluation framework, following a standard logic modelling process sought to identify perceived benefits and disbenefits of MTL, equity of access and experience of women, midwife experience, impact on other key stakeholders and transferable learning about the implementation of the new pathway. Both quantitative and qualitative data were collected. Different data sources provide an opportunity to triangulate data to confirm, refute or explain findings.

4. Methods

The following briefly describes the approach to data collection and methods of analysis. **Table 1** provides a summary of evaluation questions and planned data collection methods.

Table 1 Data collection method to address evaluation questions

Evaluation questions	Planned data collection method
Perceived benefits and disbenefits of use	
What is the experience of women who use MTL?	Surveys via HT app, BadgerNet and case studies (N=10 planned)
For women does MTL (supported by the HT app and Badgernet) ensure appropriate personalised care?	Surveys via HT app, BadgerNet and case studies (N=10 planned)
Does MTL standardise care[7] and direct women appropriately?	Case studies, staff and stakeholder focus groups.

[6] BadgerNet Maternity is an electronic maternity healthcare record system. It allows real-time recording of all events wherever they occur: in the hospital, the community, or at home.

[7] SHIP Local Maternity System Choice and Personalisation Pioneer 3 November 2016

Are there any adverse consequences from introducing MTL?	Events to be collated locally by the MTL team leads and pseudonymised details obtained for the data collection period.
For babies born were there any unnecessary delays or harm caused using the HT app or the MTL?	Events to be collated locally by the MTL team leads and pseudonymised details obtained for the data collection period.
Staff experience	
What is the experience of staff who deliver MTL (the core team), including training, confidence, job satisfaction of working in a different way?	Staff focus group Staff survey
What improvements can be made to BadgerNet to ensure ease of single point of access to case notes?	Staff focus group
Equity of access	
What is the impact of MTL on equity of access to maternity services for women within the population served by MTL?	Demographic data on patient level (ethnicity, Lower Layer Super Output Area (LSOA)s (of usual residency), age, religious, Index of Multiple Deprivation IMD) Usage frequency ED data, 999, NHS 111 from NHS at patient level (ethnicity, LSOAs, age, religious, IMD) MTL Data
Has MTL improved access to maternity services by streamlining access to care and providing continuity of care for women?	Case studies Focus groups Surveys
Impact on other stakeholders	
What is the impact of MTL on other stakeholders and services whose interactions with women may be affected by the introduction of the MTL (e.g., other maternity services, ambulance service, primary care)?	Staff and stakeholder focus groups
What impact does MTL have on peripheral services?	Routine data received from these services e.g., ED data, 999, NHS 111.

	Access to GP data not available to validate MTL referral outcomes.
Transferable learning	
What learning can be captured from the experience of implementing MTL that could inform further service developments (e.g., with parents and young children or other health services i.e., adult services)?	Information gathered across all datasets.

4.1. Quantitative data

Three routinely collected data sources from NHS South, Central and West Commissioning Support Unit, the Healthier Together (HT) app, and the BadgerNet team provided retrospective data. The **National Maternity Dashboard**[8] served as a benchmark to assess the confidence in the sample (MTL users) similarity to the wider population of women. Similarly, the **Maternity Annual Statistics Dashboard**[9] was employed to estimate the population of women in Hampshire and the Isle of Wight.

4.1.1. Data analysis

Key aspects of statistical analytical techniques applied included creating a matched set of controls (those who did not access MTL) to provide a comparison for use of the emergency 999 call. Trends overtime were plotted to explore whether there was a difference between NHS 111 use and emergency department attendance since 2018 before MTL was introduced and after MTL was introduced in November 2022. This compared the actual trend in the data following the introduction of MTL with a continuation of the data trend if MTL had not been introduced. Inferential statistics were used to establish whether findings from analysis occurred by chance or not, thus providing a degree of certainty about the causal analysis and its findings. HT app data was provided analysed from the provider. Other demographic descriptive statistics were conducted.

4.2. Qualitative data

Qualitative data sources collected and analysed three bespoke surveys, case studies to demonstrate equity of access to maternity care and conducted staff experience via focus groups. Two surveys one via the HT app the other via the Badgernet system addressed womens experience of maternity care via digital advice, a call service and any other care received during their pregnancy. The third survey asked midwives supporting the MTL service about their experience and job satisfaction from delivering the MTL. Findings are presented

[8] National Maternity Dashboard can be accessed from https://digital.nhs.uk/data-and-information/data-collections-and-data-sets/data-sets/maternity-services-data-set/maternity-services-dashboard

[9] Maternity Annual Statistics Dashboard can be accessed from https://digital.nhs.uk/data-and-information/publications/statistical/nhs-maternity-statistics/2022-23

in simple frequency counts and percentages for the surveys and transcripts of focus groups (or interviews) were analysed to draw out key features that related directly to the questions.

5. Findings

The findings first present data relating to women included in this evaluation and their experience of maternity care in SHIP LMNS using the HT app and MTL. The experience and views of both frontline staff and other key stakeholders follows. Finally, impacts on the planned pathway to deliver the MTL are presented, as well as the impact of MTL on other services: 999, NHS 111 and ED.

5.1. Data limitations

For the quantitative data requested from CSU/South Central Ambulance Service (SCAS) – the NHS 111 data did not cover the whole period. The data provided covered the period May 2019 to August 2024 as opposed to April 2018 – August 2024 period as requested. Therefore, there is missing data for the NHS 111 data. For the availability of the NHS Maternity Annual Statistics data 2022-2023 and 2023-2024, were available, however data for the period April 2024 to August 2024 was not available at time of analysis. For the qualitative data collected, there were fewer numbers recruited than anticipated for staff interviews and focus groups, the BadgerNet survey and in particular the case studies which were limited to initially three cases with one providing limited information only.

5.1.1. Data limitation impact

The following are noted as impacting on the findings:

Quantitative data

Secondary care NHS 111 data from 2018 to 2019 although requested was not available for analysis. All statistical analyses were conducted on data identified as relating to pregnancies of over 20 weeks' gestation, or associated issues such as abdominal pain reported by women in their post-20-week gestational period. However, there is a limitation in that not all pregnancy related conditions were included in the analysis due to incomplete data in those categories. Additionally, due dates for pregnancies initiated prior to the implementation of MTL were not available in CSU data warehouse. As a result, the pre-intervention baseline data were constructed using the best estimates of due dates based on the available data. Therefore, the results should be interpreted with these caveats in mind and are only valid with these parameters.

Qualitative data

The limitation of two detailed case studies from the ten planned prevented a fuller understanding of equity of access to maternity services across a range of demographic factors and limited an in-depth understanding of access the role of MTL to improve equity of access. A HIW form error on the BadgerNet survey directed those who had not used the HT app as part of the triage process to the end of the survey and their inclusion would have provided additional information.

Adverse events

Two evaluation questions addressed whether any recorded adverse events occurred either because of introducing MTL or whether any babies born suffered unnecessary delays or harm caused using the HT app or the MTL. These events would be collated locally and pseudonymised details provided for this evaluation, however, no data was available and therefore not reported here.

5.2. Women and SHIP LMNS maternity service

This section provides findings related to womens experience of the MTL supported by the HT app. Demographic analysis of the MTL user data provided by BadgerNet includes information on age at pregnancy, first language, religion, ethnicity, and IMD. For several parameters, the National Maternity Dashboard is used as a benchmark to evaluate the similarity of the demographic profile of those in the dataset for each trust to the wider population.

5.2.1. Women by age group

The BadgerNet data shows the age distribution of 22,492 MTL users recorded from November 2022 to August 2024, which closely aligns with the national data in the same timeframe. This indicates that the age groups are representative of the local population, as referenced in the National Maternity Dashboard. The most common age groups for pregnancy, as expected, are 25–29 years and 30–34 years. For Hampshire, the proportion of women under 20 is expected to be 2% but for those using MTL it is 12%. Likewise, for University Hospital Southampton (UHS) it is expected to be 3%; however, for those using MTL it is 9%. **This suggests that MTL users from these two trusts are younger.**

5.2.2. Women by Index of Multiple Deprivation (IMD)

The most deprived areas (decile 1) have the lowest representation in the data, while the least deprived areas (decile 10) show the highest number of MTL users. **Figure 3** illustrates the distribution of MTL users across IMD deciles for each trust. The data show that the majority of MTL users from Hampshire are from the least deprived areas (deciles 8–10). In contrast, most MTL users from Portsmouth are from the most deprived areas (deciles 1–3). Southampton serves women across all IMD deciles, while Isle of Wight predominantly provides services to users from moderately deprived areas (deciles 3–5). When comparing this data to the National Maternity Dashboard, minor differences only were observed in the proportions for each decile indicating its representativeness of the local population.

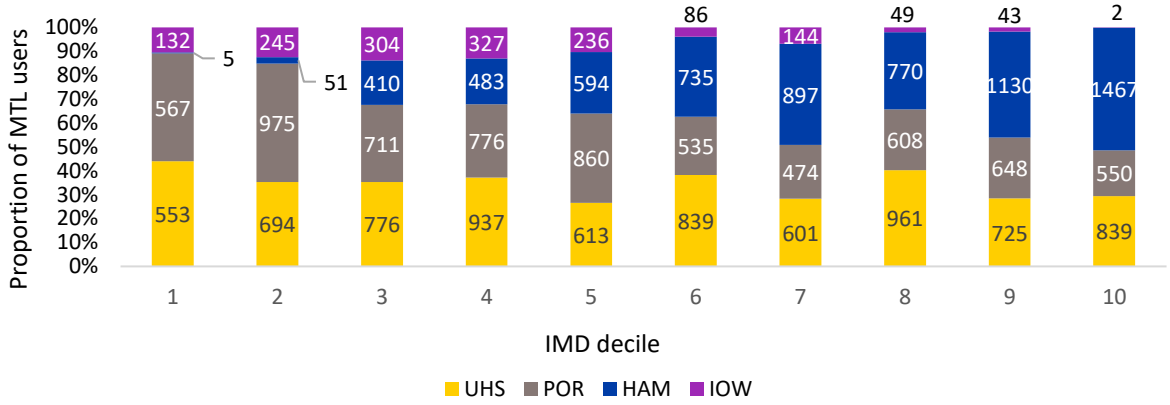


Figure 3: Number of MTL users per IMD decile in each trust

Hampshire have a larger proportion of women in the higher decile range, whereas IOW tends to mid to lower decile levels. Portsmouth IMD levels have a greater proportion of women in the lower decile range.

5.2.3. Ethnicity of women and equity of access to maternity services

The MTL pathway ensures that women have access to advice and care regardless of their location within SHIP LMNS. However, for some groups it was reported by staff in the qualitative data that the reliance on digital tools and processes revealed areas where equity of access is less consistent (e.g., for non-English speakers or for those with low digitally literacy). Access to BadgerNet data provided demographic information of 22,492 MTL users from November 2022 to August 2024, including details on their first language, religion, and ethnicity. 88% of MTL users identified English as their first language, although 77 different languages were recorded. 20 different religious affiliations were recorded with 37% of users specifying no religion and 33% of users did not disclose their religious affiliation. For ethnicity:

- 75% identified as British, followed by 7.47% identified as 'Other White'.
- 17 different ethnic groups were represented.
- The data also indicated representation of Indian and other Asian (6.7%), and Black African, Caribbean and other Black (3.4%).

5.2.4. Womens experience of using the HT app

The experience of women of using the HT app was derived from 670 survey responses. Most women found the app easy to use, appreciating its straightforward design and the ability to manage conditions from home. It was particularly valued by those who were hesitant to visit hospitals or GPs, providing a reliable resource for their concerns. Over 94% of women reported satisfaction with using the HT app, and 60% rated their experience as excellent. The majority also indicated they would recommend the app (87%) as part of maternity care, highlighting its role in offering peace of mind during pregnancy.

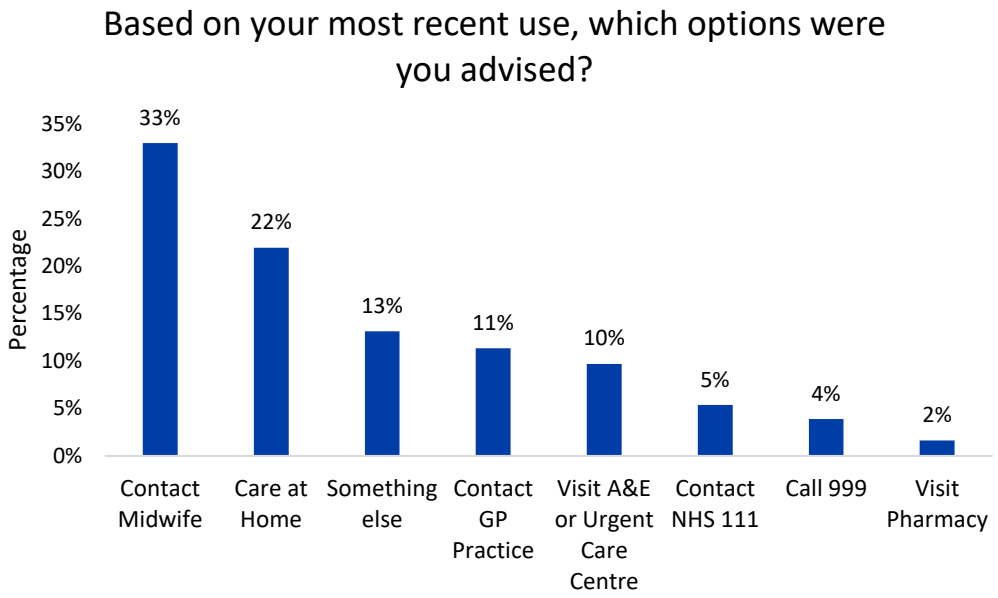


Figure 4 Proportion of actions advised on HT app

HT app data came directly from usage data from the app and the completion of the survey by women. See **Figure 4**, the most common advice reported by responders to the HT survey was to contact a midwife using the MTL (number provided on the app), accounting for 33%, followed by 22% for guidance to manage symptoms and care at home. The least frequent recommendation was to visit the pharmacy, at nearly 2%. However, this finding from survey responders contrasted with the HT app usage data where 62% of users were directed to self-care and 15% to a midwife via MTL. A rationale for this is that surveys self-select and therefore those with MTL experience seemed more likely to respond to the survey.

Some areas for improvement were noted. The app integrates with the MTL pathway, directing women to appropriate care levels and improving access, however some women found the app too basic and generic and lacks advice for more complex or specific symptoms, which affects how women use the app and the pathway. A few commented that the app often redirected women to GPs or midwives, reporting it defeats its purpose. Additionally, the lack of personal interaction (and use of digital for care) was a concern for some, as they preferred direct communication with healthcare professionals for more detailed guidance. Despite these concerns, the app overall was considered a valuable tool, especially for women seeking reassurance and information, though mixed experiences were reported depending on individual needs.

5.2.5. Women and experience with using MTL

Positive experiences and areas for improvement for MTL were drawn from the surveys and case studies.

Positive experiences with MTL

- **Supportive and compassionate care**: Many women praised the MTL midwives for their professionalism, compassionate care, and ability to provide reassurance during stressful

moments. From the BadgerNet survey, over 50% of women rated the advice provided by MTL midwives as excellent, and over 60% rated their most recent call as excellent.

- **Clear and helpful information**: women highlighted the helpfulness of MTL midwives, with clear, detailed guidance that addressed their concerns and provided much needed reassurance.
- **Prompt responses**: MTL midwives were often recognised for their responsiveness and availability, which many women found comforting and beneficial.
- **Accessibility of services**: Feedback from the two case studies showed that women found MTL services easy to access, and many other women felt the care provided was tailored to their individual needs.

Challenges experienced with MTL

- **Inconsistent communication**: Occasionally advice or communication from the midwives via MTL was reported to be inconsistent, which left women feeling uncertain or dissatisfied with their care. This created additional confusion and anxiety for certain women.
- **Issues with digital tools**: Challenges with the HT app and BadgerNet were often mentioned. These included technical difficulties, lack of guidance, lack of understanding of app's purpose, and some believed (reported from one case study and two staff members from different trusts), the HT app was inaccessible for women below 20 weeks' pregnant, which is not the case.
- **Lack of clarity on process**: It was identified that of the total number of calls received by MTL, 50% were referred by the HT app and 50% were calls made directly to MTL from July 2023 to August 2024. This indicates that many women bypassed the digital triage system after gaining access to the MTL number.

From the BadgerNet survey and two case studies, women reported both satisfaction and challenges with the MTL. While 75% of those responding to the BadgerNet survey would recommend the MTL, they also highlighted concerns with accessing timely care when they needed it (BadgerNet survey, n=9, 12.5% and comments from one case study).

Table 2 Summary of benefits and points for improvement experienced by women

Benefits to women
Demographic data indicates no differences between age, deprivation and ethnicity between the MTL user and the wider birthing population. This suggests the MTL user group is representative of the wider women in HIOW. Two trusts support more women under 20 years old than expected in the wider population.
The HT app provides reassurance and convenience to women with 94% out of 670 survey responders satisfied with their experience.
The HT app refers 62% of users to self-care and 15% to MTL with only 1% referred to GP and 2% to NHS 111 and less to 999 demonstrating triage to self-care and MTL when required.
68% of MTL calls referred women to the MDAU for further support and care and 22% of MTL calls were directed toward self-care options.
Women found midwives prompt, helpful, supportive and provided compassionate care.

Points for improvement
The HT was limited in its functionality to support complex symptoms and issues experienced by women (reported by three women out of 670 HT app survey responders). This included experiencing technical difficulties (which also included BadgerNet) and the belief that the app was inaccessible for women under 20 weeks (reported from one case study and two staff members from different trusts).
Some women found advice and guidance occasionally inconsistent when contacting MTL.

5.3. Maternity staff and other key stakeholders:

Maternity staff and other staff members highlighted both positive and negative aspects of the MTL, as reflected in insights gathered from interviews, focus groups, and the staff survey. Overall, staff experiences with the MTL were overwhelmingly positive, particularly in terms of workflow improvement, high-quality triage, team support and morale. However, challenges such as a referral that may not have been required, inconsistent guidance, and gaps in communication highlight opportunities for refinement.

Positive experiences with MTL:

- **Improved workflow and reduced stress:** Staff consistently highlighted the positive impact of the MTL in filtering and managing calls, reducing the burden on local trusts (MDAUs), and enabling staff to focus more on in-person care.

  > *"The MTL was reported to reduce the volume of calls received at local providers, alleviating the burden on staff and improving workflow."*
  > (Staff member 3_SI)

  > *"It certainly is helpful that it has cut down on the amount of triaging that we have to do ourselves because actually the phone calls… are really disruptive. So that's a real positive about it."* (Staff member 11_SI)

- **High quality triage**: Staff appreciated the MTL's ability to ensure that cases reaching local units are triaged well, leading to better outcomes and more streamlined care.
- **Positive team environment**: Many staff enjoyed the collaborative nature of the MTL team and valued the opportunity to work across different trusts. The balance between MTL and clinical roles was also highlighted as a benefit.
- **Confidence in MTL care**: According to the staff survey, 100% of MTL midwives expressed confidence in the care provided by the MTL, with 65% strongly agreeing. Additionally, 90% agreed that integrating the MTL into the HT app enhanced care delivery.
- **Training and support**: Most staff (90%) reported receiving effective training that supported their roles, with 85% indicating the training was instrumental in their ability to support women.

Challenges experienced with MTL:

Referrals that may not have been required[10]**:** Some staff perceived a cautious approach to triaging decisions and questioned the outcome. In such cases, these referrals added to the workload at local trusts.

"Certainly, things like chest pain, shortness of breath, we seem to be getting more of those recently… Why is this person here? This is not the correct pathway."
(Staff member 3_SI)

"Weirdly, the one referral we get that could be managed conservatively, bleeding, so things like spotting and things like that which we would have on the phone if it were appropriate…We've noticed an increase in people coming through. Certainly, you can't deny that."
(Staff member 2_SI)

- **Lack of consistent guidance**: Although triage guidance documents are available, some staff emphasised the need for standardised training materials or a refresher on where to find resources, such as scripts or flowcharts, to standardise triage processes across MTL and local trusts, and to build confidence for less experienced midwives.

"If we had something like a script… that continuity, that continuous right information for the right people, would really help."
(Staff member 10_SI)

- **Patient education and communication:** Some staff reported that women often lacked sufficient information about the MTL from their trusts, leading to confusion and inefficiencies in the pathway.

- **Impact of staff sickness:** Staff shortages due to sickness disrupted the flow of care, forcing local trusts to take back calls and increasing workload pressures.

- **Training gaps:** While initial training was well-received, some MTL midwives expressed a need for more regular refresher courses, particularly in emergency scenarios, to maintain confidence and high standards of care.

"Refresher training, especially for emergencies, would be really helpful to maintain confidence and ensure consistency." (Staff member feedback)

- **Lack of role recognition:** Some MTL midwives felt their contributions were not fully recognised or valued by local trusts, which occasionally affected morale.

[10] It is acknowledged that some symptoms may change between an MTL call and a woman's arrival at MDAU, however staff still expressed that there was an opportunity for further discussions on the referral process.

Table 4 Summary of benefits and concerns with MTL use perceived by midwives and other staff

Benefits of MTL
90% of the MTL team surveyed believe the MTL service and use of the Healthier Together app ensures maternity care is easily available to all those who need maternity care irrespective of age, ethnicity and social circumstances.
MTL improves workflow by filtering and managing calls before they reach the local trust and their teams, therefore reducing calls to local trusts and improving staff ability to focus on in-person care.
Staff reported higher quality triage and were confident with care provided.
MTL midwives valued training provided, with 85% agreeing that training was instrumental in their ability to support women.
Points for Consideration
Perception of referrals from MTL to MDAU were better suited for other services or management at home.
Some midwives reported an increase demand at MDAUs was perceived as due to referral that may not have been required at MTL.
Staff emphasised the need for consistent guidance and regular training to ensure alignment between the MTL team and their trust teams.
MTL staff sickness impacts on local trusts to take back their calls.

5.4. Impacts on the maternity pathway and secondary care services

The following describes MTL usage by women, however it is not possible to determine what proportion MTL users represent of the total population of women. Secondly, impact findings on secondary services NHS 111, attendance at emergency departments and use of 999 of the introduction of MTL are presented.

5.4.1. MTL usage

Between November 2022 and August 2024, MTL supported 22,492 women during their antenatal journeys, managing a total of 59,965 calls with each woman contacting MTL on average 2–3 times.

Figure 5 shows that from the specific period of July 2023 to August 2024 the HT app referred women on 21,421 occasions to the MTL following symptom decisions. During this same period, MTL received 49,575 calls showing a discrepancy of more than double the number expected through this planned digital maternity pathway. This represents a 50% difference between HT app referral and those women obtaining the MTL number and calling directly. The analysis covers the period from July 2023 to August 2024, as the HT data is only available retrospectively for one year from the data cut-off point (August 2024), hence the difference between the total number of calls above 59,965 and 49, 575 for this period.

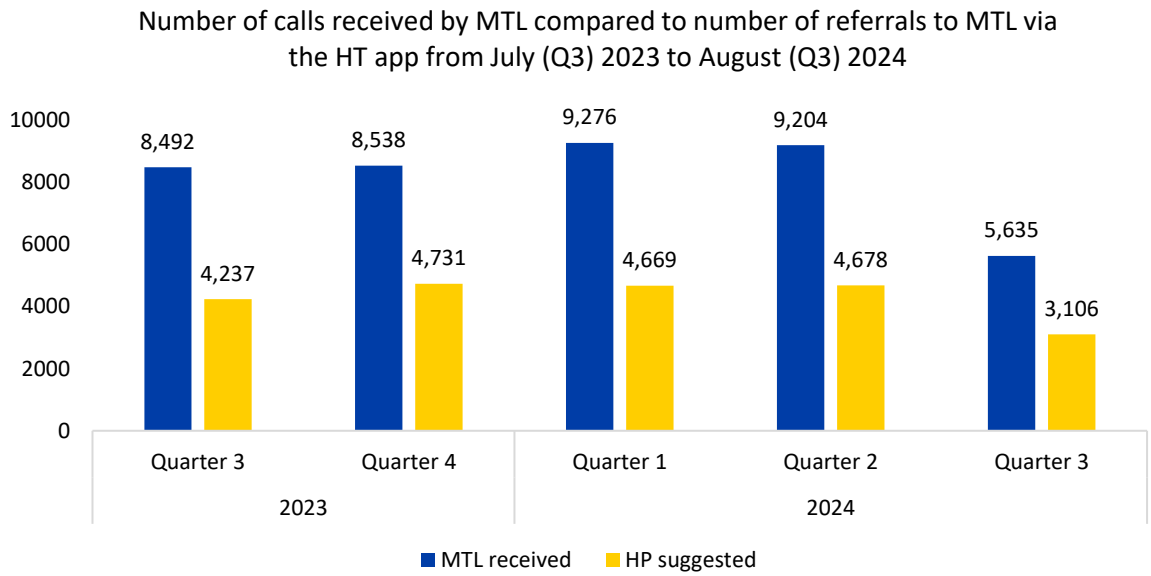


Figure 5: Number of calls received by MTL compared to number of clinical cases suggested contacting MTL on HT app from July (Q3) 2023 to August (Q3) 2024

During each call, a midwife assesses the woman's presenting symptoms and provides guidance. From November 2022 to August 2024, analysis of call outcomes (**Figure 6**) shows that approximately 68% of calls (40,667) resulted in appointments at the MDAU. Additionally, 2% of calls (2,032) were referred to secondary care services, such as emergency department (ED), 999, NHS 111, or primary care providers like general practitioners (GP). Finally, 21% of callers were advised to stay at home and follow self-care advice given.

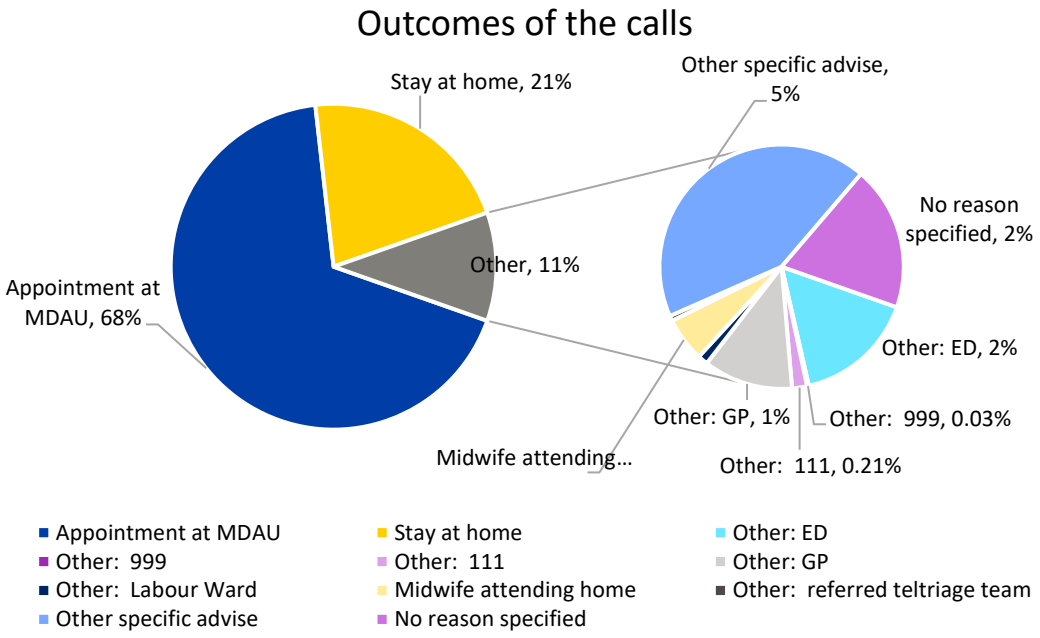


Figure 6 Outcomes of calls to MTL

5.4.2. Impact on secondary care

The section provides a detailed analysis of the impact of implementing MTL on secondary care including emergency department, 999, NHS 111 and MDAU, using descriptive and statistical methods.

Emergency department visits

From April 2018 to October 2022, the systems emergency departments attendance rate for maternity care was 387 per 1,000 women before the implementation of MTL, indicating that on average, 387 women per 1000 women attended the emergency department each quarter for pregnancy-related problems occurring after 20 weeks of gestation. Following the implementation of MTL, the rate dropped to 284 per 1,000 women, representing a 26% in reduction. As demonstrated in **Figure 7,** the blue line represents the variability in emergency department attendance rates before the implementation of MTL which range from 230 to 610. The yellow line reflects the actual emergency department visit rates following the introduction of MTL, while the red broken line represents the trend of attendance based on the pre-MTL and the post-MTL monthly attendance rate. This corresponds to an estimated decrease of approximately 167 emergency department visits per 1,000 women per month. Analysis shows an instant reduction in the emergency department visit rate among MTL users after the implementation of MTL. Statistical testing shows the results are not chance finding and therefore the result is significant. This reduction occurs at the point of MTL introduction.

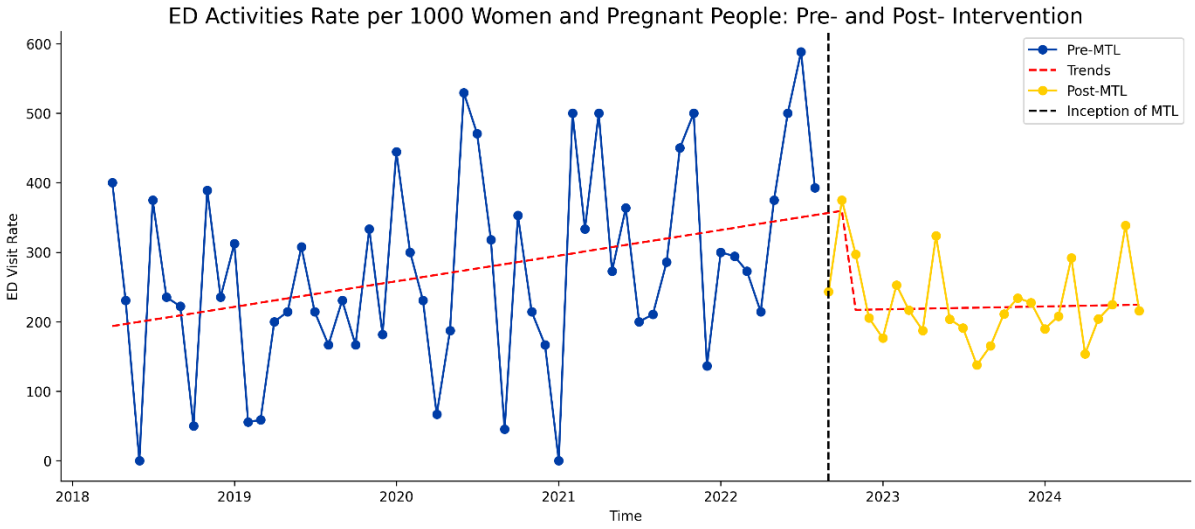


Figure 7: Emergency department (ED) activity rate per 1000 women: pre- and post MTL introduction comparison

Further analysis indicated the reason for the reduction occurred due to women who were pregnant before November 2022 and became pregnant again after the implementation of MTL contributed the most to this reduction in emergency visits. Approximately 121 women visited the ED between April 2018 and October 2022 for post 20 weeks pregnancy-related issues, but only eight of them returned for the same reason after MTL was implemented.

In contrast, women experiencing their first pregnancy just before or after the implementation of MTL were still likely to utilise both ED and MTL for the same reason. However, the frequency of these visits tended to decrease as their pregnancies progressed. This suggests that the overall reduction in ED visits may be partially attributed to improved familiarity with MTL, particularly among repeat users.

NHS 111 Calls

From May 2019 to October 2022, the NHS 111 call rate for pregnancy-related problems occurring after 20 weeks of gestation averaged 464 per 1,000 women before the implementation of MTL. After MTL was introduced, this rate dropped to 304 per 1,000 women.

Figure 8 illustrates the call rate before implementation (blue line), the actual call rate after MTL (yellow line) and the trend based on pre-MTL and post-MTL monthly attendance rate (red broken line), Analysis indicates an instant reduction in NHS 111 call rates among MTL users following the implementation of MTL. This corresponds to an estimated rate decrease of approximately 71 calls per 1,000 women per month, which was not found to be statistically significant. However, it is important to note that the analysis was limited by the inclusion of only 286 MTL users, which may affect the reliability and power of the findings to produce a result that is statistically significant. It is also possible that the reduction is partly influenced by other factors, such as the continued use of NHS 111 services to handle after-hours inquiries for the MDAU. According to the official MDAU website, this pathway remains available to women outside working hours and may have impacted the call rates after the implementation of MTL[11].

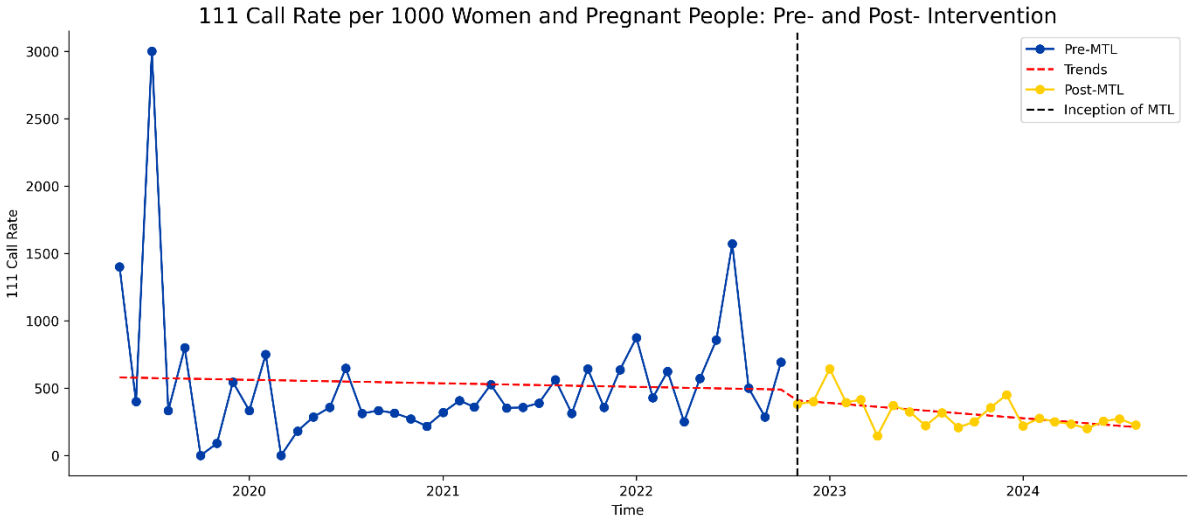


Figure 8: NHS 111 Call Rate per 1000 women: Pre- and Post- Intervention

999 Calls

[11] For more details, access the UHS MDAU website: https://www.uhs.nhs.uk/departments/maternity-services/departments-and-services/maternity-day-assessment-unit-mdau

After the implementation of MTL, 119 non-MTL users beyond 20 weeks gestation contacted 999 for pregnancy-related issues, averaging nearly two calls per person during their pregnancy. In contrast, 286 MTL users contacted 999 for similar issues, averaging one call per person. Therefore, MTL users on average called one time less than non MTL users. Statistical testing indicates that this is not chance finding therefore the results are significant.

MDAU

Figure 9 shows MTL is responsible for referring approximately 70% of its callers to MDAU for an appointment. Approximately 30% of women are referred to other options. Approximately 22% of these calls advised staying at home and self-care. This both suggests a potential decrease in unnecessary visits to the MDAU and other services if recommendations are followed.

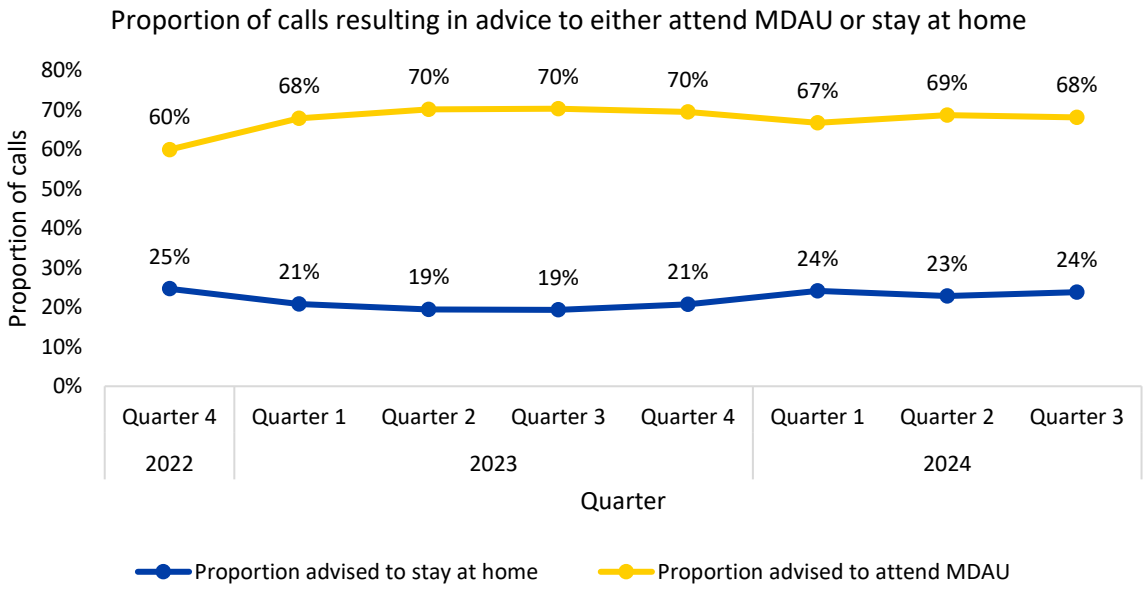


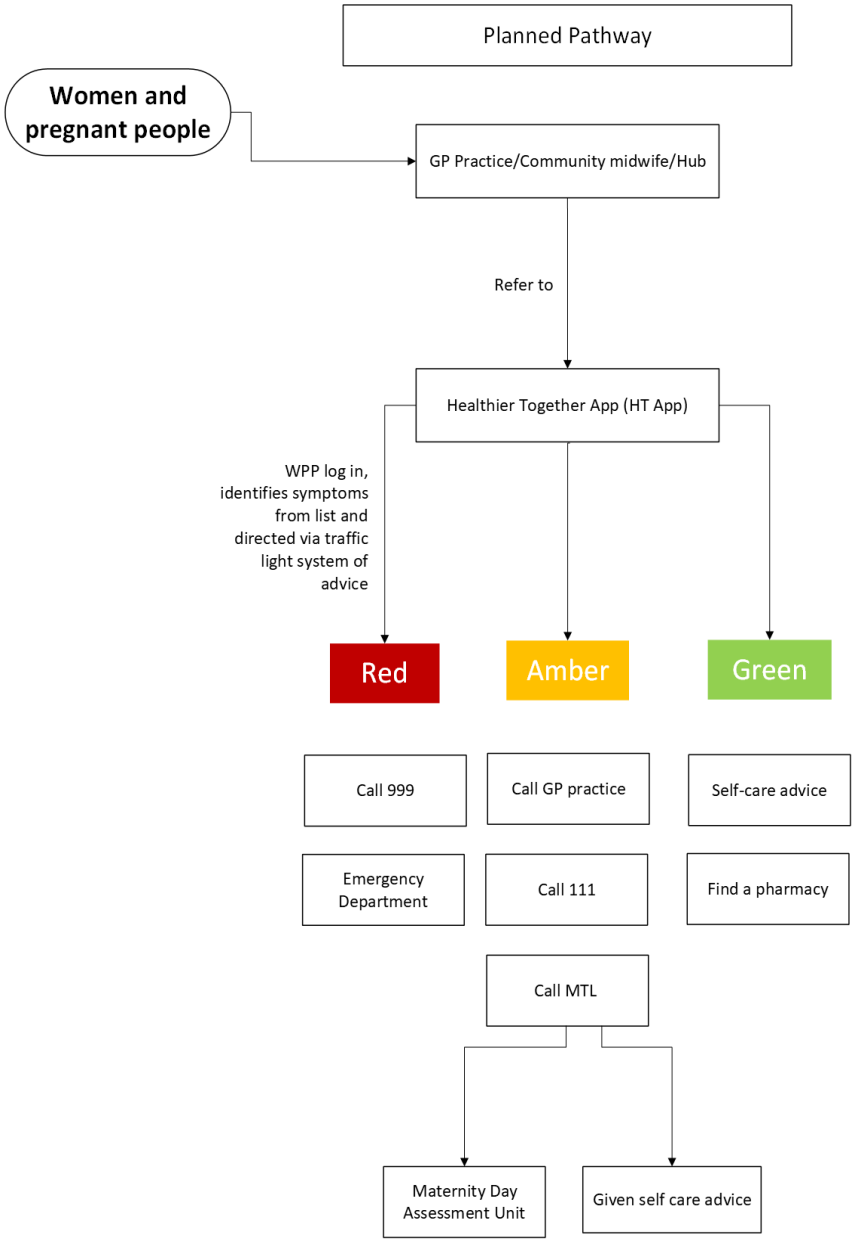
Figure 9: Percentage of women not attending MDAU following advice given in MTL call

Table 5 Summary of the impact of MTL introduction to the maternity pathway

Benefits of MTL introduction
• Since inception in November 2022 to August 2024, MTL responded to 59,965 calls which supported 22,492 women in that period. This shows the individual women uses MTL approximately 2 to 3 times after 20 weeks of gestation.
• 68% (40,667) of these calls to MTL resulted in planned appointments at the Maternity Day Assessment Unit (MDAU).
• 21% of these callers to MTL were advised to stay at home and follow self-care advice given.

- From July 2023 to August 2024, 50% of MTL calls received originated via the HT app (21,421 referrals to MTL) traffic light triage. The remaining 50% of calls originate directly from women themselves.
- The ED attendance rate reduced by 142 women per 1000 of MTL users following implementation of MTL. This finding is statistically significant and therefore is not a finding achieved by chance.
- On average, 387 per 1000 women attended the ED each quarter for pregnancy-related problems occurring after 20 weeks of gestation before the MTL launched. Following implementation of MTL, this dropped to 284 per 1,000 women, representing an overall 26% reduction. Women before November 2022 who became pregnant again after the implementation of MTL contributed the most to this reduction in ED visits. This suggests that the overall reduction in ED visits may be partially attributed to improved familiarity with MTL, particularly among repeat users.
- The NHS 111 call rate for pregnancy-related problems occurring after 20 weeks of gestation averaged 464 per 1,000 women before the implementation of MTL. After MTL was introduced, this rate dropped to 304 per 1,000 women. However, this finding following a statistical test was not statistically significant so needs to be considered cautiously.
- Women who did not access MTL, on average, made nearly two calls to 999 during their pregnancy, compared to an average of one call for people with MTL access. This was a statistically significant reduction in the number of 999 calls made by women with MTL access and therefore is not a finding achieved by chance.

In summary, a two-step maternity triage process involves providing a digital app that uses a traffic light approach to redirect women to the most appropriate care based on symptom selection. Options include information to either self-care or advice to contact emergency care – 999. If these options are not appropriate, access to a midwife via the MTL is another option. This evaluation has shown that the HT app and MTL provide effective approaches to triage in maternity care. However, the original plan (see **Figure 2**) was to provide women access to a digital solution subsequently followed up with access to MTL, and where necessary from MTL to the MDAU. Thus, managing flow and booking of appointments at MDAU. **Figure 10** demonstrates a version of the MTL pathway from the data alongside the proposed pathway at the start of the evaluation. This pathway demonstrates that women are coming both from the HT app and elsewhere, as well as the MTL midwives advising women to self-care or attend MDAU. Not all HT app options are listed, just those relevant and for which we have data.


Planned Pathway
Women and pregnant people
GP Practice/Community midwife/Hub
Refer to
Healthier Together App (HT App)
WPP log in, identifies symptoms from list and directed via traffic light system of advice
Red
Amber
Green
Call 999
Call GP practice
Self-care advice
Emergency Department
Call 111
Find a pharmacy
Call MTL
Maternity Day Assessment Unit
Given self care advice

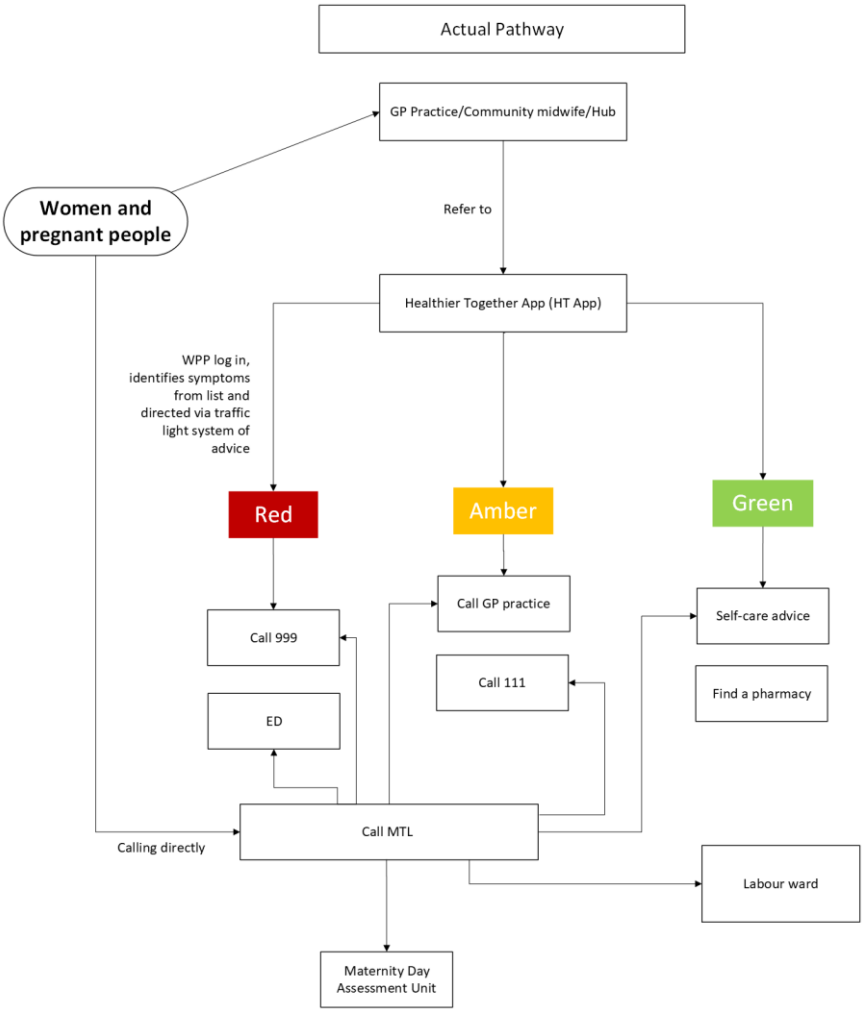


Figure 10 planned and actual pathways

6. Transferable learning

A key objective of the evaluation was to draw out lessons for future development of the MTL pathway. Overall findings have indicated the following as potential options to improve the quality of the MTL pathway for both women and staff.

- **Integrating digital solutions and equity of access**. The importance of enhancing digital integration in service development emerged as a key consideration going forward. Some staff members expressed interest in engaging digital teams more actively to ensure the MTL pathway is as robust and efficient for staff and women as it can be. Addressing equity in access to digital services was a recurring theme, emphasising the importance of not excluding any group/cohort.
- **Clarifying roles and escalation pathways**. Greater clarity around roles and responsibilities between MTL senior leadership, midwives involved with MTL, and senior MDAU staff at local trusts could help enhance operational efficiency. Strengthening communication pathways and raising awareness of existing and well-defined escalation processes may support better coordination and reduce potential misunderstandings.

- **Enhanced communication support for digital tools**. A gap in comprehensive guidance for digital tools such as the HT app and BadgerNet app was highlighted. Feedback revealed that women often struggle to use these tools effectively or understand their purpose fully. Providing detailed user-friendly guidance or information packs could significantly improve their experience and engagement.
- **Formal feedback systems for staff**. Establishing a structured feedback mechanism for staff working on MTL was suggested. This would enable staff to voice concerns and contribute improvement ideas, fostering a culture of reflective learning and continuous improvement. For example, multiple channels of feedback could include anonymous surveys, staff forums/focus groups or occasional one-on-one check ins.
- **Addressing pathway flows**. It was noted that the pathway is not functioning as intended in some cases, with nearly 50% of women bypassing the online triage system (HT app) and directly contacting MTL. In addition to note an improvement to the pathway has led to reduced call volumes to local MDAUs.
- **Staffing adjustments for consistent service delivery**. Proactive staffing strategies, such as reallocating trust- level staff from shifts to cover MTL services, have ensured consistent operational coverage. This prioritisation of MTL staffing demonstrates a commitment to maintaining service reliability.
- **Consideration on guidance to eliminate referrals that may not be required.** Suggestions were made to improve guidance for triage staff to minimise referrals that may not be required. This would ensure that women receive the most appropriate care in a timely manner.
- **Access to the SHIP LMNS maternity triage pathway.** Women may wish to access the maternity pathway and MTL before 20 weeks gestation. In addition, nearly half of women accessing MTL are not coming via the HT app; this results in MTL midwives also advising some of those to self-care. Further pathway development may be beneficial, noting the change to allow access before 20 weeks gestation has already begun.

7. Conclusions

The implementation of the MTL pathway provided opportunities to improve maternity care within the SHIP LMNS and was well received by both women, midwives and other staff. It delivers benefits in efficiency, access, and communication, while also improving the operational flow of women through to MDAU and face to face care. The introduction of the new pathway also impacted positively on other secondary services which resulted in reduced use of 999 and NHS 111 calls and attendance at Emergency Departments. The evaluation highlighted considerations for commissioners regarding how the MTL pathway meets the needs of women under 20 weeks gestation and that some women bypassed the HT app and called MTL directly.

The planned objective of using the HT app as a first step in the pathway may need further review because many women were not contacting MTL via the HT app.

Figure 11 summarises the key findings from this evaluation.

Figure 11 Summary of key findings

1.Views on the Maternity Triage Line by women
Benefits experienced

- **Over 70% who accessed MTL when they needed it would recommend the MTL.**
- **Over 50% rated MTL advice as excellent and were satisfied with their maternity care.**

Points for improvement requested by some women

- **Women felt it would be beneficial if the MTL was available to those under 20 weeks, supporting the ongoing work already occurring to progress this.**
- **Clearer guidance requested on when to contact MTL from the HT app and further consistency on advice and guidance via MTL.**

2. Views on the Maternity Triage Line by midwives and other staff
Benefits experienced
Of 20 MTL midwives surveyed:

- **65% MTL felt well-supported by colleagues.**
- **90% received training and 85% agreed the training helped them assist women.**
- **90% believe integration of MTL into the HT app enhanced their ability to provide better care.**
- **95% agreed the MTL and HT app provides equity of access to all needing maternity care.**
- **75% agreed they balanced their dual role as local trust midwife and MTL midwife.**

Overall, midwives and other staff believed MTL improved workflow, reduced stress, supported better communication and quality of care for women.

Points for improvement requested by some midwives

- **Staff reported a feeling of isolation due to unforeseen staff shortages - further exploration of the reasons behind staff feeling isolated would help address this issue.**
- **Staff reflected that improvements to interpreting services and more support to those with low digital literacy could improve equity of access to MTL and support use of the HT app.**
- **Offering refresher training for MTL staff, along with additional guidance and clear Instruction on locating and accessing relevant training documents, could be helpful in supporting more consistent triage.**

3. Maternity Triage Line impact on secondary services

Calls to the maternity triage line

- **68% (40,667) of calls to MTL resulted in planned appointments at the Maternity Day Assessment Unit.**
- **21% of calls to MTL advised women to stay at home and follow self-care advice given.**
- **It was noted that 50% of MTL calls came via the HT app (21,421 HT app referrals to MTL) and 50% of calls came directly from the individual woman between July 2023 to August 2024.**

Emergency department attendance

- **The attendance rate at the emergency department was significantly reduced following implementation of the maternity triage line.**
- **Those on their second plus pregnancy were significantly more likely to use MTL and avoid the emergency department, a reduction of 22% following implementation of MTL.**

NHS 111 use

- **The NHS 111-call rate for pregnancy-related problems averaged 464 per 1,000 women before the implementation of MTL. After MTL was introduced, this rate dropped to 304 per 1,000 women. However, this finding was not statistically significant so needs to be considered cautiously.**

Emergency 999 use

- **Women who did not access MTL, on average, made up to two calls to 999 during their pregnancy, compared to an average of one call for those who accessed MTL, so a significant reduction in the number of 999 calls following the introduction of the MTL.**

8. Implications of findings

The following draws out from the findings, implications for practice for the ongoing MTL service that includes the use of the HT app. Secondly, implications for evaluation are discussed.

8.1. Implications for practice

1. **Promote use of the HT app as a first course of action**: The flow of women to the HT app and subsequently to the MTL indicates that many women are accessing MTL directly because they can obtain the MTL number initially via the HT app or the number is shared as clinically required or dictated demographically. The triage process of the SHIP Digital maternity for those that called who were not referred by the HT app, it was not possible to determine how they were able to gain access to the MTL call number, possibly from an appointment with the local trust midwife. The midwives on the MTL referred 21% of calls to self-care, so potentially could be filtered via the HT app. However, it is not possible to determine whether of this 21% whether they came via the HT app or accessed MTL directly.
2. **Access to those under 20 weeks pregnant:** There is a suggestion from midwives that MTL could also benefit those at an earlier stage of pregnancy if the access criteria were extended. This change is in the process of being implemented by the service.
3. **Equity of access to maternity services**: Findings did not establish any specific issues with access to maternity care in SHIP LMNS due to limited data, however future evaluations need to consider a more in-depth approach to ensure equity of maternity care. Staff reflected that improvements to interpreting services and more support to those with low digital literacy could improve equity of access to MTL and support use of the HT app.
4. **MTL staff team:** Although midwives are drawn from across the four NHS trusts where they receive local training, they appreciated additional and refresher training offered by the MTL team to enable ongoing MTL practice development and support for less experienced midwives.

8.2. Implications for evaluation

1. To understand whether SHIP LMNS's MTL service provided equity of access to maternity care, an individual case study approach was planned to purposely sample those women who are more likely to be excluded from services and gain their perspectives. However, recruitment was not successful. It is unclear why midwives were either not able to identify or engage consent with suitable women. Those who

are seldom heard or come from marginalised communities are likely to require a different approach to traditional methods used.

2. Surveys may benefit from a longer distribution period to gain a better response rate.
3. Inclusion of primary care data (GP visits) and a reference for the total number of women in Hampshire and the Isle of Wight between November 2022 and August 2024 would improve the robustness of the analysis and findings.

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Version Control

Version	Status	Key Changes	Authorised by
V1 DR3	Closed	HIW Internal QA actioned	J Chandler
V1 DR4	Closed	Client amendments actioned see table of changes	R Bailey
V2 DR1	Live		R Bailey
Final	Closed	Signed off by client 02/05/25	M Beattie