SUSQI PROJECT REPORT
Enhancing sustainable value of the first obstetric antenatal appointment

Start date of Project: 20/10/24
Date of Report: 31/01/25

Team Members:

- Marisa Taylor-Clarke, Obstetric Consultant, QCCH (marisa.taylor-clarke@nhs.net); Project Lead
- Mene Tzafetas, Safety Improvement Fellow and O&G ST5, QCCH; Project Lead
- Violet Conidi - Outpatient Supervisor, QCCH
- Emily Barrow, O&G ST7, QCCH
- Shahanaz Rahman, Maternity Outpatients Ward Manager, QCCH

Background:

At Queen Charlotte and Chelsea Hospital (QCCH), just under 1000 patients come through Obstetric-led antenatal clinics per month. These outpatient antenatal appointments take place face to face in the hospital. From a previous audit (2023), approximately 20% are unnecessary face to face appointments for women in the first trimester identified as requiring obstetric led care at midwife booking for reasons including: having had a previous Caesarean Section (CS); having had a previous 'small' baby; having had a previous postpartum haemorrhage (PPH); being a grand multip; having had a previous 'large' baby etc**,** as well as duplication of appointments for patients under multiple specialist teams.

These appointments happen within the general antenatal clinic setting along with women attending for follow up at later gestations. The needs of this first trimester group are different to others at later gestations. Whilst risk assessment, history taking, explanation and counselling are required, there is rarely a requirement for physical examination or immediate additional investigation at this early gestation.

For these 200 women, the appointments can be inconvenient requiring time off work, long waits in the clinic, childcare requirements for bringing children with them. It is not uncommon for women to not know what the appointment is for. This creates frustration for patients at early gestation with

perception of wasted time attending appointments and increased likelihood of an unnecessary follow up. In an already stretched antenatal clinic, clinicians are less likely to spend time counselling, instead arranging a potentially avoidable follow up obstetrician appointment, further compounding the primary issue of wasted time and resources and staff time (both clinical and non-clinical such as reception and maternity support workers).

This leads to lack of capacity in the antenatal clinic - a consequence for the remaining 800 women at later gestation who have less choice in terms of appointment availability to align with other outpatient assessments at later gestations such as ultrasound scans. This often results in multiple trips to the hospital within short time periods. There are further consequences in that clinics are fully booked many weeks in advance and so there is no capacity for urgent or time-sensitive appointments. This results in increased pressure and long waits in the maternity day assessment unit (MDAU) for unscheduled review at late gestation. These are often then out of hours with less senior support and supervision, missed opportunity to identify these patients as having different needs / focus (consistent counselling and determination of overall pathway of care).

This problem principally relates to 'valuing people's time' for both patients and their families as well as clinical and administrative staff. It represents a missed opportunity to optimize the care of women with potentially complex pregnancies, many of whom may already be at risk by virtue of belonging to pre-existing groups experiencing worse maternity outcomes. In addition, the current setup does not maximally support informed choice while increasing patient perception of inefficiencies, dissatisfaction, frustration and a loss of confidence in the system. Improving this is crucial, particularly at this time of loss of confidence in and scrutiny of maternity care, notable through recent enquiries.

For women in the first trimester, there is an opportunity to reduce the environmental impact of travel to and from the hospital by offering appointments via the telephone. In addition, consumable waste from urine samples, processing and disposal of samples would be avoided as it is standard to test urine at all appointments. For women in later trimesters, there is potential to reduce duplicate appointments (from unnecessary follow up) and reduce travel from these appointments and Maternity Triage attendances by freeing up clinic space.

The problem is a frequent source of direct feedback to clinicians working within the clinic with complaints about time wasted and inefficiency. It is apparent at appointments at later gestations, and following incident investigation, that gaps exist in comprehensive counselling earlier in pregnancy leading to poor understanding of options and risks as well as adherence to treatment recommendations. In addition, the consequences of long waits for ad hoc reviews in Maternity Triage as a result of over-subscribed in person clinics and lack of clinic capacity for urgent reviews are frequent themes in complaints and incident investigations. Patients cite inefficiency and apparent frustration of staff at clinic structure in complaints and compassionate engagement conversations with patients following incidents.

Many pathway efficiency improvements were made from necessity during the Covid-19 pandemic in terms of analysing the purpose and value of in person appointments. As mandated limitations

eased, there has been a return to the pre-existing models of working in many areas such as antenatal outpatient care. This represents an avoidable step backwards in environmental, financial and social sustainability and we seek to use this opportunity to retain and build on valuable lessons learned during that period.

Specific Aims:

Improve the sustainable value of appointments for patients in the first half of pregnancy identified as requiring obstetric led care at midwife booking at Queen Charlotte's hospital, by utilising virtual consultations in place of in person appointments for a selected antenatal population.

Methods:

Studying the system

We undertook a process mapping exercise and engaged with staff (obstetric, midwifery and administrative) to generate insight into the current issues and generate suggestions for change. We conducted analysis of all obstetric clinic referrals to generate demand data and sought patient perspectives through surveys.

Our understanding of our current processes included the following:

1.) Review of policies and current referral practices:

- extensive antenatal care trust policy based on NICE guidance - prescriptive list for midwives of criteria for referral following booking appointment to consultant-led ANC or other specialist obstetric care (see appendix) that is poorly adhered to
- referrals and further appointments requested by the midwife at the booking appointment – additional complexity created by different locations of midwife booking clinic (in hospital and in community) with different admin teams and booking request systems in each setting
- midwives will write who appointment is with and at what gestation required - no reason written down, just gestation for which appointment requested – makes it hard to understand urgency / necessity therefore midwifery engagement is essential in any change process

2.) In depth analysis of 1 week of consultant-led antenatal clinic attendances (from 2023 audit) to identify the proportion of appointments that could have been suitable to conduct over the phone

- 48% of appointments under 20 weeks did not require physical examination and in person attendance could have been avoided
- A significant proportion (13%) were referred without an indication specified by the local antenatal care guidance for referral
- Identified women attending for first obstetric appointment on day of anomaly scan, sometimes after 20 weeks.
- Less than 10% of women receive any written information relevant to consultation. Risk factors documented but content of discussion not clear (eg 'PPH discussed').

3.) Direct feedback from antenatal clinic booking midwife staff

- referrals for indications not in line with local guidance reflects unease or impression that woman would benefit from obstetric review, feeling that better to have a 'safety net' of obstetric oversight in some cases (eg IVF pregnancy, advanced maternal age, parity >3, risk assessment recommendation for aspirin). This is a contributor to overbooked clinics and patient anxiety
- lack of in person obstetric clinic availability leads to booking appointment at 20 weeks because it is further away from midwifery first trimester booking appointment which may delay initiation of treatment and can lead to anxiety over several weeks regarding the content of the appointment

4.) Patient experience of the in person clinic and appetite for virtual appointments :

- Survey of patients attending in person antenatal clinic over 2 weeks (60 responses)
- Median gestation was 30 weeks (38% less than 24 weeks gestation)
- 32% did not know the purpose of their visit to the Obstetric antenatal clinic before the appointment took place
- Median waiting time 31 minutes (range 0 to 90 minutes)
- Following the appointment, one third said they would have preferred a virtual appointment

5) Consolidation and reflection on the above information from the clinic assessment, midwifery and patient feedback:

- From prior experience rejecting requests or cancelling perceived inappropriate referrals to obstetric antenatal clinic creates anxiety and dissatisfaction for the patient and anxiety for the midwife, usually resulting in a repeat referral at a later stage.
- The strategy of booking a mid-second trimester obstetric review with the anomaly scan creates a long gap between the initial midwife appointment and the first obstetric appointment.
- This may cause a long period of potential anxiety waiting for the appointment and a missed opportunity to inform and counsel about risks, pregnancy impact and options early on. An example of this would be starting aspirin as we have seen from incident report data.
- Whilst the attempt to align the obstetric appointment with the anomaly scan seeks to improve convenience for the patient, it frequently results in most or all of the day spent in hospital waiting for appointments.
- Broad range of indications for obstetric appointments that could be suitable for an initial virtual appointment.

<u>Implementing changes</u>

1) A new triage process:

We have implemented Obstetric Consultant (MTC) triaging of referrals for new obstetric antenatal clinic appointments at <24 weeks received from the QCCH antenatal clinic midwives via outpatient admin supervisor. Referrals would be sent via email to the Obstetric Consultant. The triaging required reviewing the electronic patient record and midwifery booking record to assess risk factors

and indication for obstetric appointment and suitability for telephone appointment. The time taken for triaging averaged 2-3 hours per week.

Telephone appointments were limited to:

- Women not previously seen in obstetric antenatal clinic
- Singleton pregnancy
- Indications taken from local antenatal care guideline section limited to subset of previous obstetric or gynaecological history and current obstetric factors
- Requests from booking midwife that did not meet any listed indication were assessed on a case-by-case basis for suitability
- No hearing impairment identified

Challenges and learning:

250 referrals at less than 24 weeks to the obstetric antenatal clinic were screened for suitability for a telephone appointment based on previous obstetric or gynaecology history and not having previously been seen in the obstetric antenatal clinic. These referrals were made over 8 weeks from 4th November 2024. 68% were suitable for a telephone clinic.

Email forwarding of all booking requests was made through the outpatient admin supervisor. This was then extended to include the community midwife booking clinic referrals as well as referrals made via the screening midwife team. This resulted in a high volume of emails from multiple sources and following discussion with the admin supervisors, it was agreed to consolidate into batch emails from each area.

As approximately 3 hours of Consultant time was required each week, consideration of how to ensure this is sustainable long term was required.

2) Pilot telephone clinic

A pilot telephone clinic started on 19th November 2024 and ran for 6 weeks, initially 1 afternoon / week of 8 patients. An 8 patient list was run by a single Obstetric Consultant. This was expanded to 16 patients for the last 3 weeks, run by the Obstetric Consultant and an Obstetric registrar. In total 72 appointments were offered.

Team review of feedback and patient follow up after each clinic supported in identifying issues and areas for further improvement.

Challenges and learning:

There was a 5% DNA occurrence due to miscarriage in between midwifery booking and obstetric appointment. This led to a shift in timing of the telephone appointment offered: ie appointment only offered after 11-14 week dating scan that confirmed pregnancy viability (unless there was an indication for starting a medications eg aspirin – commonly recommended from 12 weeks to reduce pre-eclampsia risk).

Popularity of the clinic and demand for earlier appointments led to unscreened and inappropriate bookings from midwives and managers with access to the booking system outside of admin team. This identified the need for clearer communication about the role of the clinic and the importance of a co-ordinated triage reinforced through messaging.

15% women DNA or turned up for an in-person appointment due to confusion over type of appointment. This was particularly an issue as the clinic numbers expanded and more than one appointment scheduler made the bookings.

- for duration of pilot ensuring a member of obstetric team performed telephone clinic on site to complete appointment in person if patient turned up
- additional appointment confirmation text message sent on day of appointment highlighting telephone nature of clinic and not to attend the hospital
- communication to Maternity Helpline regarding project and telephone clinic to avoid conflicting messages if patients call to confirm
- text message confirmation uploaded to electronic notes so clear to all reviewing that appointment takes place on the phone
- above short-term solutions and acknowledgement that in the long term if permanently adopted and increased numbers of appointments that a clinic template and letter detailing appointment type will need to be created

3) Consultation template and staff training:

After an initial 2-week period, a consultation template was created to ensure a standardised approach to the appointment with similar areas covered. This increased consistency of content and approach across additional clinicians, facilitating expansion of appointment numbers. Each new member of staff that carried out the clinic received 20-minute briefing in personalised care and risk assessment with an emphasis on providing an overview of the anticipated pathway of care across pregnancy and anticipation of how their specific set of issues identified may influence their experience and birth choices, with clear indication management of expectation.

<u>Intended long-term changes:</u>

- Expand telephone clinic capacity: during the Green Challenge project this was 1 Consultant led clinic of 8 patients per week, with ad hoc additional SpR led 8 patient lists when staffing capacity allowed. From the triaging data of 250 referrals during the Challenge with 68% deemed suitable for a telephone appointment, it is envisaged that 3 clinic slots per week, allowing 24 women to be seen virtually, would meet the demand. Long term job planning approval from CD is in progress.
- Amend obstetric clinic referral system to include indication to facilitate triaging.
- Explain indication for appointment to patient. This could be appointment letter that includes the indication for the appointment and rationale to reduce anxiety.
- Review referral criteria in local guidance – fewer indications for obstetric review, support senior midwives with risk assessment and counselling

Measurement:

A questionnaire was completed for each patient that attended a telephone appointment:

- How they would have travelled to an in-person appointment
- Did they know the reason for their appointment
- Would an in-person appointment have been preferable
- Rate usefulness / value of appointment on scale of 1-10
- Would they have liked information in advance of the appointment, and if so, what information would have been supportive.

Patient outcomes:

1.) Patient perception of value of appointment as an indirect measure of appointment effectiveness (quantitative survey as above)

2.) Appointment availability in obstetric antenatal clinic (we asked the admin team when the next available in-person appointment was at the start of the project and again at the end of the project)

3.) Adherence to treatment (e.g. aspirin): More time is required to collect data which could be captured through a survey of aspirin compliance or comparison of deliveries in last month to those delivering that were booked into telephone clinic. We anticipate that improved counselling early in pregnancy would increase understanding of the benefit of medication such as aspirin and so improve adherence and potentially pregnancy outcome.

4.) Birth choices after previous CS: Needs longer term measurement however we can compare birth choice (Elective repeat CS vs vaginal birth after CS (VBAC) rates) in those that received information and counselled early in telephone clinic, as well as satisfaction with birth choice after birth against those on standard pathway pre-implementation.

Environmental sustainability:

The carbon footprint of an in-person antenatal clinic appointment was compared to a telephone clinic appointment.

This included:

- Patient travel (calculated for 58 of the 72 patients attending telephone clinic based on their postcode and reported mode of travel if they would have attended in person)
- Consumables for urine analysis (urine catcher and bottle, urine dipstick, disposable gloves). Urine catcher and bottle, urine analysis dipstick and paper towels carbon footprint were calculated using a bottom-up approach including production, packaging, transport and disposal, based on the following emissions factor data (table 1). The carbon footprint of disposable gloves was taken from Rizan et al (2021).
- Water use for flushing toilet (once / patient)
- Handwashing (patient and staff x1 each)

- Paper towels (patient and staff – x2 per handwashing episode and x1 for holding urine bottle by patient)
- Energy use for consultation room and waiting area
- Paper for admin staff follow up booking

Table 1: emissions factor data and source

Material	Unit of measurement	Emission Factor (EF) (kgCO2e/unit)	Source
Plastics: average plastic rigid	tonne	3,165	DESZN 2024
Plastics: Polypropylene	tonne	2,569	DESZN 2024
Plastics: PET	tonne	3,855	DESZN 2024
LDPE	tonne	2,959	DESZN 2024
Paper	tonne	1,339	DESZN 2024
Paper board	tonne	1,194	DESZN 2024
Pair of gloves	pair	0.052	Rizan et al. 2021
Clinical waste	tonne	1,074	Rizan et al. 2021
Recycling	tonne	6.41	DESZN 2024
Container ship (average)	tonne.km	0.0198	DESZN 2024
Van (average, unknown fuel)	tonne.km	0.78	DESZN 2024
HGV (non-refrigerated, average laden, all HGV)	tonne.km	0.12	BEIS 2023

Electricity, gas and oil, consumption data were taken the Estates Return Information Collection (ERIC) data (draft 2023-204, apportioned per metre squared based on measurement of the floor area of a consultation room (15sqm) and reception waiting area (85sqm) and divided by the number of patients using each area per day (40 and 70 respectively). The carbon footprint of water use were calculated using standardised emission factors as below (table 2).

Table 2. Energy and water emission factors

Item/material	Unit of measure	EF (kgCO2e)	Source
Electricity	kWh	0.275	DESNZ 2024
Gas	kWh	0.213	DESNZ 2024
Oil	kWh	0.327	DESNZ 2024
Water	m3	0.302	DESNZ 2024

Economic sustainability:
Staff salaries were considered equivalent across in person or telephone appointments and therefore excluded from analysis. Consumable costs were obtained from ward manager's data on ordering through our organisation's procurement team for urine bottles, catchers, dipsticks, paper towels and paper reams. Gloves were excluded as data were not available.

Telephone clinic was considered only to have a staff cost associated which remains costs regardless of location of appointment. No implementation or ongoing maintenance costs were anticipated.

Social sustainability:
A patient questionnaire was conducted to explore preference for telephone or face to face appointments and value and awareness of indication for appointment.

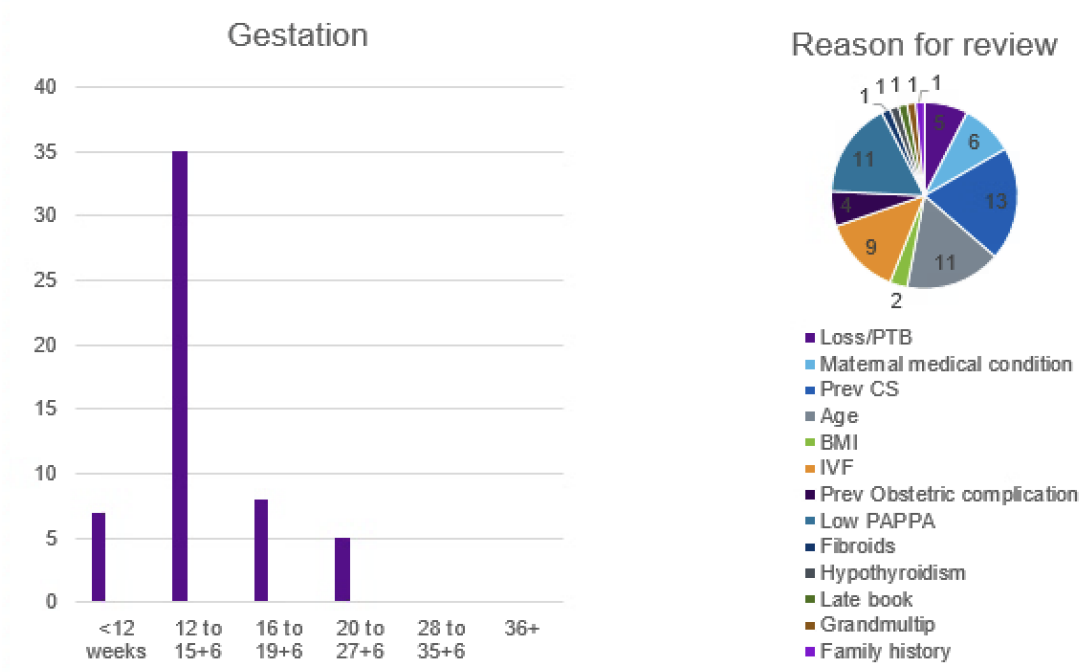
Staff feedback was gathered through engagement sessions.

Results:

72 patients were invited to a telephone obstetric antenatal clinic over 9 clinics running for 6 weeks from 19/11/24. 59 attended, and 13 did not attend due to the reasons outlined previously (miscarriage, DNA or attending in person). Of those that attended, 56 completed all or some of the questionnaire feedback.

Median gestation at the time of the telephone appointment was 14 weeks (range 9 to 21 weeks gestation). Range of gestations and primary indications for review are shown in the charts below (figure 1):

Figure 1. Gestation and indications for review in the obstetric telephone clinic during the project period.



Patient outcomes:
When patients were asked 'How useful was the appointment today on a scale of 1 (not at all) to 10 (extremely)?", average score was 9.6 (range 8-10) demonstrating a high patient perception of value. Feedback comments were highly positive citing a '*much better understanding of what to expect*',

'really reassured', and *'useful to be prompted to start thinking about what might need discussion later on'.*

When asked if they knew the reason for the obstetric appointment, 24/55 replied that they had been made aware of or felt they knew the reason. Of these, the understanding of the reason was accurate in only 17 patients. Lack of awareness of the reason for appointment was cited as a source of anxiety and stress, with several commenting that they had thought it was a problem with blood tests or screening results. The majority would have liked clearer information about the purpose of the appointment. Of those that had been identified as requiring aspirin prophylaxis at midwife booking, the majority did not understand what the reason or intended benefit was and had not started taking it. Two would have liked information in advance of appointment specific to the condition discussed.

The project has demonstrated improved timeliness of care. Triaging of referrals meant that patients who also need referral to other specialist clinics (obstetric medicine, birth options etc) were identified and referred earlier. For the wider population who require in-person obstetric antenatal clinic appointment, availability of appointments significantly improved, from waiting 6 weeks to 3 days from start to end of project period). This allows timelier care with availability of shorter notice appointments. It also allows reviews to take place in an appropriate ANC setting rather than MDAU/Triage.

Environmental sustainability:

There has been a significant reduction in carbon emissions as a result of running a virtual clinic. We calculated a carbon footprint of 12.96 kgCO2e / patient for in person ANC, which reduces to 0.1kg CO2e / patient for a telephone ANC (table 3).

Over the duration of the project this equates to a saving of 933 kgCO2e, which is equivalent to the emissions of 4,425 km of car travel, for the 72 patients seen in the telephone clinic.

Based on the anticipated demand from 2 months of screening referrals at < 24 weeks with over two thirds suitable for a telephone appointment, 24 telephone clinic appointments per week would meet demand for the selected obstetric cohort. This would equate to 1248 appointments per year. Extrapolating from clinic audit data in 2023, an additional 0.5 in person follow up appointments per patient could be eliminated altogether with appropriate pregnancy schedule planning at the first appointment. Therefore, implementing screening of referrals at less than 24 weeks to the obstetric antenatal clinic, alongside a dedicated first appointment telephone clinic, could save 1872 in person appointments per year.

This equates to an annual CO2e saving of 24,262 kgCO2e.

This is equivalent to 62 return flights to Munich.

Table 3. Summary of carbon emissions data for in person (F2F) and telephone appointments

Carbon footprint of in person outpatient appointment	
Activity data	**Carbon footprint/patient (kgCO2e)**
Patient travel	9.86
Staff commuting	1.23
Urine bottle & catcher	0.067
Dipstick	0.004
Gloves	0.052
Energy use consultation room & reception area	1.72
Water use (flushing toilet)	0.002
Handwashing	0.001
Paper towel (3/patient - 2 for drying hands, 1 for holding urine bottle)	0.015
A4 paper	0.008
Total per antenatal appointment	**12.96**
Carbon footprint of telephone appointment	
Activity data	**Carbon footprint/patient (kgCO2e)**
Phone consultation	0.1

This reduction is largely attributable to the saving in patient travel, with 1,939km of travelling distance saved over the duration of the project. The second highest contributor was a reduction in energy use in the consultation and waiting rooms.

Patient travel carbon emission was calculated based on the data collected from 58 of the 72 telephone clinic patient's reported mode of transport, if they had been attending in person (table 4), and the distance based on their postcode. This produced an average kgCO2e per patient. Staff travel was calculated by dividing the average patient kgCO2e by 8 (ie the number of patients a member of staff would see in a clinic). This assumed that staff travel the same average distance as patients with the same range of transport modes. Travel for associated staff eg reception and support worker staff was not included as these members of staff are required on site regardless.

Table 4. Mode of travel for telephone clinic patients if they had attended in person

Average travel distance (Km)		10.2
Travel type	Walk	6%
	Train	8%
	Tube/bus	37%
	Taxi	11%
	Car	38%

Additional environmental impacts:

- Air quality improvement associated with reduced road travel
- Reduced waste volume and impact on landfill

Economic sustainability:

The cost associated with an antenatal clinic appointment excluded staff costs as obstetricians are still required to carry out the appointment and allied on site staff will still be required to attend to support existing in person clinics. A small cost saving to the organization of £1 per appointment was calculated based on savings from consumables, energy and water, equating to £1,872 annually.

To implement a referral triaging system and to see an improvement in availability of antenatal appointments would require additional staff investment of an extra three telephone lists of 8 patients each per week. Staff costs associated with running this would equate to approximately £300/week.

The improvement as a result from ability to offer timelier in person appointments, reduce inappropriate attendance in maternity triage and financial implications of improved staff wellbeing through flexible working are harder to quantify. However, given the high costs associated with incident investigation, complaints and litigation, even a small positive impact here would equate to economic sustainable value.

Social sustainability:
Patients:
There has been a positive uptake for virtual appointments. Of the 54 patients that responded to the question "*Would you have preferred to have been seen in person?"* the overwhelming preference was for virtual appointments: 3/54 preferred in person; 6/54 no preference and 45/54 preferred virtual.

Comments on impact reflected:

- less time off work
- easier with childcare
- partner being able to participate
- less frustrating waiting at home or at work for the appointment than in clinic
- cheaper. An average of £11.35 saved per patient based on the average travel distance of 10km and weighted across the recorded reported modes of transport used.

Staff:
Feedback has been very positive as the change reduces pressure on in person antenatal obstetric appointment staff. Key positives from staff included:

- The team liked the clinic triaging element
- Resident specialist registrars (SpRs) reported finding the prioritisation and allocated time for counselling rewarding
- Reducing frustration from patients waiting

- Potential benefits of flexible working
- Midwives valued being able to offer virtual clinics
- Admin teams valued guidance on timing of appointments

Some challenges from staff have also been highlighted:

- Awkwardness when patients don't know what the appointment is for
- Remote session working may not work with shift patterns / other clinical commitments
- Potential use of interpreters requires double appointment
- Potential for vulnerability to lack of IT support for remote working

Discussion:

Using previous obstetrics / gynaecology history and current pregnancy risk factors as selection criteria, over half of referrals to the obstetric antenatal clinic at less than 24 weeks were identified as suitable for a virtual appointment and did not need to be in person. Extrapolating from the project period would equate to approximately 1872 appointments per year.

Additional weekly telephone clinics were run over the duration of the project implementation phase and 72 patients participated over 6 weeks. Patient survey feedback showed a strong preference for telephone appointments with significant perceived positive social impact. Less time off work, easier to include birth partner and easier for childcare were particularly commented upon as benefits. During this time the waiting time for an in person antenatal clinic appointment dramatically reduced from 6 weeks to 3 days. This improvement is not only due to removing those initial appointments from the in person antenatal clinic but also from a reduction in unnecessary follow up appointments.

The carbon footprint of the telephone clinic was significantly lower than the in person equivalent equating to an annual CO2e saving of 24,262 kgCOe, equivalent to 62 return flights to Munich.

Whilst the economic impact to the organisation was only a small saving of approximately £1 per patient, the potential saving to patients was significant at around £11. For the telephone clinic to run as an additional clinic there would be extra staff cost associated. This would be cost effective when considering the significant improvement demonstrated on access to appointments in the in-person clinic. The positive impact of timely access to in person appointments extends to patient experience and social impact as well as improved clinical outcomes through offering care in an appropriate setting. This would reduce the ramifications on patient safety that we see when follow up is delayed or care is given outside of an appropriate setting such as Maternity triage out of hours.

There has not been sufficient time to measure an overall impact on clinical patient pregnancy outcomes however feedback regarding the value of an appointment in a dedicated 'first appointment' telephone clinic was extremely positive with average scores of 9.6/10. It is expected that this investment and emphasis on establishing a positive relationship and building confidence and trust in the service early on will lead to improved engagement and communication between patient and provider, better adherence to recommended intervention and greater sense of

empowerment and being heard which could reduce potential perceived traumatic birth experience as well as patient safety incidents.

The patient survey uncovered need for better pre-appointment communication, with referral to obstetric antenatal clinic an often-cited source of anxiety and less than one third of patients aware of the actual reason for referral. When asked the majority would have like clearer information about the purpose of the appointment. We plan to amend the current referral form to include details of indication, in line with referrals to other obstetric specialties. This could also allow for an appointment letter to be created for specific previous obstetric history indications that explain and provide context for the purpose of the obstetric clinic input.

The main challenge encountered was administrative. Creation of a booking telephone clinic template was delayed due to lack of resourcing in the admin team and IT support. This was addressed for duration of the pilot by messaging women in advance to alert that the appointment was a virtual one rather than an in person one as described in the appointment letter. A cohort of women were confused and attended in person. Fortunately, staff on site were able to see them or they returned home for a telephone appointment at a later time. Currently there is only capacity to book a telephone clinic as a follow up appointment. It is anticipated that creating a specific booking resource for a new telephone appointment will take a further 2 months.

One of the challenges in our antenatal clinic that led to the idea for the telephone project is lack of space to run additional clinics to meet the demand and reduce waiting time for an in-person appointment. Even when additional staff are available to see additional patients there is no physical location for them to work. The telephone clinic overcomes this issue by offering an additional 14-15 appointments per week without using significant space resources. In the longer term this would need advance planning to ensure that all staff that participate in the telephone clinic have remote working access to IT systems.

One limitation is how to deal with atypical communication needs (e.g. 2 patients with hearing difficulty). Patients requiring use of interpreters may also be disadvantaged as 3-way telephone conversation without visual cues is a barrier to effective communication. Exploring the capacity for a video appointment may address this. Several patients from our survey also identified video appointment as something they would value.

A potential risk of a virtual appointment compared to an in-person appointment is a missed opportunity for additional screening of blood pressure and urine. This is considered low risk given gestation of appointment and likely low impact if did occur as antenatal care schedule ensures follow up at regular intervals. There would be a missed opportunity for physical examination or investigation if further history is elicited during conversation. This would be a low risk as screening is usually extensive at booking and usually overestimates risk and need for obstetric involvement rather than underestimating.

The telephone clinic system requires the clinician to organise follow up rather than the patient as usually happens in the in-person clinic. This is an added responsibility for clinician and removes

involvement of patient in scheduling their appointment which may have an unintended negative impact on DNA rates.

There is broad scope to extend the project beyond first obstetric antenatal clinic referral for the limited indications we have covered. These could include telephone results follow up, scan reviews in low or intermediate risk patients, birth counselling at later gestations to name a few. This will require longer term job planning as well as consideration of training needs for resident doctors. There could be a role for higher risk midwifery delivered telephone appointments in a shared clinic. There has been great support from midwifery and obstetric staff as well as senior management to continue to run the existing piloted telephone clinic model, address the administrative challenges and explore further expansion.

Conclusions:

Our project has demonstrated significant sustainable value, particularly with regard to social and environmental impact. How this impacts patient outcomes will need longer to measure effectively. Key elements that contributed to the success of the project were engagement and commitment of the team, regular review and communication and strong support from senior management in ensuring clinical staff were allocated protected time to run the project. Continuing the project has been job planned to ensure lasting change and admin team time allocated to overcome the booking challenges.

Maternity, by the very nature of its work in bringing babies safely into the world, feels like it has a special place in driving the sustainability agenda forward, a particular responsibility and accountability to future generations. In addition, with the increasing pressures and concerns, so widely publicised recently, about the quality of Maternity services, it is more important than ever to find different, better, ways of working to achieve our goals. Being part of a longer-term improvement and solution is crucial in a climate of negative public and policy perception to provide hope and motivation to staff. The Green Maternity Challenge has provided an opportunity not just for personal development for our team, but to use the focus to energise and engage our patient and staff community with optimism and innovation to collectively safeguard our NHS and global future.

References

- Rizan C, Bhutta M, Reed M, Lillywhite R. The carbon footprint of waste streams in a UK hospital. Journal of Cleaner Production 286 (2021) 125446. *https://www.sciencedirect.com/science/article/abs/pii/S0959652620354925*
- Rizan C, Reed M, Bhutta M. Environmental impact of personal protective equipment distributed for use by health and social care services in England in the first six months of the COVID-19 pandemic. Journal of the Royal Society of Medicine; 2021. 0(0) 1–14, ***DOI: 10.1177/01410768211001583***
- Emission factors include well-to-tank emissions (WTT). Source: *Government emission conversion factors for greenhouse gas company reporting 2024* Greenhouse gas reporting: conversion factors 2024 - GOV.UK (www.gov.uk)
- Greener NHS business case carbon impact tool v3. *https://www.pssru.ac.uk/project-pages/unit-costs/unit-costs-2019/*
- SusQI resources: Home | Sustainable Quality Improvement (susqi.org)