Antenatal care – extended examples of quality improvements implemented in trusts and health boards following PMRT review ordered by the clinical improvement area

The issue with care identified	Service improvement(s) implemented
Booking arrangements Some women were having to be booked by a neighbouring 'out of area' (OAA) trust prior to being referred to our Trust. The OOA trust had a back log of bookings and were often not booking women before 10 weeks, despite women accessing care with adequate time. This meant a delay in referral to our trust and a delay in scanning/screening and bloods.	An OAA booking clinic was implemented at a HUB which allowed the OOA women to be booked by one of our midwives before 10 weeks.
Antenatal aspirin assessment and management Risk assessment for antenatal aspirin was repeatedly missed. *(Multiple survey respondents reported this issue)*	Mandatory questions for compulsory FGR/PET screening tool were added to the electronic patient record system (EPR) to identify whether women are high risk or have a moderate risk and require antenatal Aspirin. Local guidance being reviewed to adopt national guidance. *(Multiple respondent reported a version of this QI action was implemented)*
Antenatal aspirin assessment and management Risk assessment of need for antenatal aspirin completed at booking and high risk patients advised to obtain aspirin from pharmacy. Patients not attending GP or pharmacy to obtain the aspirin, therefore not there were not taking the aspirin advised. *(Multiple survey respondents reported this issue)*	Patient Group Directions (PGD) applied for and ratified. All midwives in the fetal assessment unit and antenatal clinic trained and signed off competent to give aspirin via the PGD. Prepacks of Aspirin were made available from pharmacy for staff to give to high risk women in antenatal clinics All community midwives have also been trained to dispense aspirin prepacks in community. *(Multiple respondent reported a version of this this QI action implemented)*
Antenatal aspirin assessment and management No clear guidance for staff on the use of antenatal aspirin in pregnancy for those at an increased risk of growth restriction	A guideline was developed for staff identifying those who would require antenatal aspirin when at an increased risk of growth restriction. The referral system to the GP was also updated for the prescriptions to be made available.

Antenatal aspirin assessment and management Aspirin prescribed but not re-discussed to ensure compliance at each antenatal contact.	Aspirin in pregnancy leaflet produced to aid maternal understanding. 'Lessons learnt' created and presented to staff on multiple platforms about re-discussing compliance of prescribed medication at each contact.
Antenatal carbon monoxide monitoring CO monitoring during the antenatal period was repeatedly missed.	The EPR was amended to make completion of the carbon monoxide assessment mandatory at all contacts. Universal education to all staff was rolled out as part of multi-professional training. Regular reminders were circulated to staff using the Maternity & Neonatal Safety Briefing Memo and work was completed to ensure every community midwife and inpatient ward area had a working CO monitor available to them.
Antenatal carbon monoxide monitoring Missed opportunity for carbon monoxide (CO) assessment during pregnancy	CO assessments and input of results incorporated as mandatory field in the EPR Dedicated CO SOP developed which requires CO assessments at all antenatal appointments Education and awareness staff training
Antenatal carbon monoxide monitoring Carbon monoxide (CO) monitoring was not occurring at booking in pregnancy due to a supply issue with COVID-19 safe mouthpieces.	New CO machines were purchased which have a stable supply of mouthpieces (The purchase was made with the financial support of our local baby loss support group charity to improve the care of women in pregnancy).
Antenatal carbon monoxide monitoring CO monitoring very low following return to pre-COVID guidance.	Public Health midwife had a big drive on education for staff in all clinic and community areas and equipment was purchased to allow all antenatal clinics and all community midwives to have CO monitoring equipment. CO level should be taken at the ANC booking appointment however if this is missed the community staff who now have equipment can check it at future appointments.
Antenatal carbon monoxide monitoring Carbon monoxide screening suspended during COVID and when recommenced, this was not always completed in line with recommendations.	Review of testing equipment within community and hospital settings and additional equipment purchased. Online training videos outlining how to use the equipment was developed 'Theme of the week' issued outlining the rationale for undertaken CO monitoring at each contact. Ongoing monthly audits to ensure compliance.
Smoking cessation services for partners Trust offer of smoking cessation to women's partners did not match NICE guidance	Local policy reviewed and adapted and practice brought into line with national guidance
Reduced fetal movements (RFM)	Alert set up on the EPR to notify of admissions with reduced fetal movements Retraining of all staff in the use of the EPR system including Obstetric and

General inconsistencies in documentation and use of the EPR system resulting in disjointed note keeping and missed opportunities for care particularly in relation to reduced fetal movements	Anaesthetic colleagues Relaunch of 'Altered/reduced fetal movement' guideline
Reduced fetal movements (RFM) Delayed presentation of women with reduced fetal movements (RFM)	Mandatory check list added to the EPR Focused Audits conducted on compliance with the national RFM guidance Patient information leaflets in multiple languages were produced
Reduced fetal movements (RFM) We were unable to ascertain if all women had easy access to information on reduced fetal movements (RFM) and direct contact number - this is a failsafe	Reduced fetal movements contact sticker were introduced for all antenatal handheld notes highlighting the maternity triage number for easy access for women
Reduced fetal movements (RFM) Compliance with reduced fetal movements (RFM) guidance	Guideline modified to ensure that all women with RFMs, regardless of gestation , attend maternity Triage in order to standardise care - Flowchart created to aid decision making with RFM management - Education to staff on multiple platforms to improve care from' lessons learnt' and improve documentation around recommending induction of labour (IOL)
Reduced fetal movements (RFM) Since the introduction of the maternity EPR, the trust stopped providing women with written information regarding fetal movements and instead directed them to electronic system where they could access the information. Not all women were able to access this information and not all women were accessing the information.	All women now receive written information regarding fetal movements (KICKS COUNT) when they attend for their anomaly scan. It is a requirement that when women do not have English as their primary language that they receive the information in their chosen language. Their scan report will be updated to confirm that the information has been provided and if this has been provided in any language other than English. Additional leaflets such as the Tommy's 'Baby Movements' leaflets are still available within the electronic maternity record and via the Healthier together App. Women also receive a push notification outlining the recommended reading for each week of the pregnancy.
Missed small for gestational age (SGA) Recurrent theme of undiagnosed SGA babies. Specific issue identified was fundal height plotted incorrectly on customised growth chart.	Recent move over to a new EPR meant we could implement GROW 2.0 which enable electronic plotting of fundal height and avoids plotting error. Also this highlight when a scan referral is indicated.
Fetal growth monitoring Not able to evidence whether growth was monitored when reviewing case, as unable to locate GROW charts which were missing from patient notes. Human error in wrongly plotting of SFH or EFW on growth charts	Incorporation of the GROW programme into the EPR system which allows electronic plotting of SFH and EFW, and an alert system if there was a concern of reducing growth velocity between scans Training of staff to ensure familiarity with new process of electronic GROW

Reliance on individual assessment of whether growth velocity between two scans was appropriate or was of concern and needed review	
Fetal growth monitoring Cases of fetal growth restriction were missed	Implemented a quality assurance process for optimising image quality in fetal growth scans Updated fetal growth restriction guideline
Fetal growth monitoring Lower detection rates of SGA/FGR	Audit of USS image review of missed cases of SGA Overestimation of EFW on scans due to oblique sections Introduction of cross hatch calliper placement Improvement in Detection rates from 35% to more than 50% National Audit(September-60%) GROW 2
Fetal growth monitoring A woman had told the midwives her bump felt small but her personalised grow chart symphysis fundal height (SFH) was within normal limits so this was not escalated; the baby was SGA at birth.	Any patient who repeatedly voices concerns regarding the 'size of bump' will be referred to ANC for Consultant review even if the SFH is within normal limits
Fetal growth monitoring Lower detection rates of small for gestational age SGA/fetal growth restriction FGR	Audit of USS image review of missed cases of SGA found there was an overestimation of estimated fetal weight (EFW) on scans due to oblique sections Introduction of cross hatch calliper placement resulted in an improvement in detection identified on re-audit
Fetal growth monitoring GAP and GROW guidance contradicting local guidelines concerning fetal growth assessment	Mandatory GAP and GROW training for all staff. All community midwives must have done the training before rotating onto community. Our guideline has been altered to reflect the GAP and GROW pathway and we now use and EPR which also assists with this detection. We have invited our sonography governance lead to join the PMRT meetings to review scan images and give their opinion on cases.
Fetal growth monitoring Symphysis fundal height (SFH) measurements were not performed at correct times/intervals	Implementation of education programme of SFH measurements and recording as part of the three year educational framework.
Booking assessment of fetal growth 'Out Of Area' mother booked with our hospital, but was having antenatal care at her local unit. The local unit does not use GROW to assess fetal growth, therefore fundal height measurements were not plotted.	Joint working with neighbouring unit. It has been agreed that community midwives will follow the GROW programme.

Maternal sepsis diagnosis, escalation and treatment There was a delay in identification, escalation and treatment of sepsis as a result of prolonged rupture of membranes	Obstetric Risk Lead & PMRT Lead with the support of the Maternity Governance Team, IT Team, Haematology Team, reviewed and introduced a system as part of the EPR so the investigations for a Septic Screen are now a bundle. Staff can now click on the 'septic screen bundle' and all investigations are displayed together rather than having to tick on the individual components of the septic screen e.g. blood cultures, mid-stream urine, FBC, clotting etc.
Maternal sepsis diagnosis, escalation and treatment There was a delay in identification, escalation and treatment of sepsis as a result of prolonged rupture of membranes	For cases of confirmed sepsis - the MDT team including Microbiology Team, ITU Team, Obstetric Team, Pharmacy Team reviewed and changed the Antibiotics Guidelines. Meropenam was introduced as the first line of antibiotics for confirmed sepsis replacing Tazocin.
Diagnosis and management of antenatal infection During labour, a woman was noted to have foul smelling liquor Observations within normal limits; the woman felt well. Reviewed by doctor, no plan of care made- not offered infection screening. Infant transferred to NICU unwell	Foul smelling liquor added to Antimicrobial guideline. With no other signs of infection the woman is to receive antibiotics.
Vaginal discharge Minimal advice or communication about vaginal discharge in pregnancy, and what a normal vaginal discharge may be and when to be concerned i.e. increase or changes to vaginal discharge.	Training and teaching to maternity staff about vaginal discharge and how important effective communication with pregnant people is in order to recognise changes or increases to vaginal discharge and when to access support.
Risk of preterm birth Mothers not being referred to the preterm birth clinic when risk factors are present at the booking appointment.	The questions at booking about the risk of preterm were modified to aid understanding. The preterm birth midwife has implemented a failsafe to ensure all mothers that require a preterm birth clinic referral are referred within a timely manner. There is an ongoing review of the preterm referral pathway.
Glucose tolerance test (GTT) Post birth blood results show mother had undiagnosed gestational diabetes. She had a normal GTT at 28 weeks, had positive glucose in the urine at 32 weeks and the plan was to repeat the urine test to see if there was positive glucose before organizing another GTT. The latter did not happen	Antenatal notes updated to ensure all women presenting with positive urine glucose, despite having a previously normal GTT, to have a repeat GTT.
Glucose Tolerance Test (GTT) Glucose Tolerance Test (GTT) was only being perform on women with BMI =>35	GTT guidelines were changed to now test all women with BMI =>30

Glucose Tolerance Test (GTT) For eligible women who missed their glucose tolerance test (GTT) appointment or declined we did not have a robust process in place to ensure they were fully informed regarding risks	The specialist diabetes midwife now has oversight of all women who decline/DNA a GTT appointment to ensure oversight. The midwife contacts all women to explain risks to ensure they make an informed choice
Misinterpretation and management of CTG results Misinterpretation of CTG and Inappropriate Management of Abnormal CTG	Appointment of dedicated fetal Surveillance Midwife Mandatory full day fetal monitoring study day with competence assessment Care plan for babies with known fetal abnormalities who are on Comfort care pathway Dedicated Guidance on Daws Redman CTG persistently not meeting criteria Contemporaneous Maternal and fetal heart rate recordings(Mandatory)
Cardiotocography (CTG) recording Recording of fetal heart rate on the incorrect CTG paper	To review the process for ordering of new CTG paper to ensure the correct paper is ordered which fits the CTG machine in service
Absent fetal heart There was a lack of clear guidance on actions when no fetal heart rate could be detected in the community / antenatal day assessment / antenatal ward setting. This led to differing pathways for women.	A clear and comprehensive algorithm was developed by the clinical education team in collaboration with ward managers and community team leaders to set out the pathway to standardise the care received and remove uncertainty on the referral process. Targeted education was rolled out through 'trolley dashes' in the clinical areas and printed copies of the algorithm were displayed in clinical areas for reference.
Service closed on bank holidays The maternity day assessment unit (DAU) was closed on bank holidays. Post bank holidays the activity was increased greatly	DAU is now open over bank holidays
Follow-up of investigations Failing to follow-up blood and microbiology results	Introduced a new process to ensure all results are checked
MSU testing follow-up Test of cure not sent for positive routine MSU testing at booking	When a positive is MSU identified and a prescription for antibiotics requested: a leaflet, repeat MSU request form and container to be collected from pharmacy to be collected with prescription.
Maternal concerns Core services questions, including concerning domestic abuse, were not always asked Women in hospital did not have a safe way to flag any concerns, for example concerning domestic abuse	Posters developed that give information in different languages that are displayed in women only toilets. The posters instruct the women that if they want to flag a concern discreetly to place a sticker dot on the bottom of their urine sample.

Management of unbooked high risk pregnancies High Risk Unbooked women presented to Maternity Triage in advance pregnancy - third trimester. Initially the medical and midwifery staff would address the acute problem that these women presented with e.g. abdominal pain, offer a bedside scan and these women would be advised to do a self-referral and formally book. A departmental ultrasound would be requested - but booking is needed to generate a hospital number before the scan would be done. (Booking would not be done in Maternity Triage at that visit as the staff were busy). However we had cases of women presenting one or two weeks later to Maternity Triage, sadly with a stillbirth and booking had not been carried out and a formal scan had not been performed despite these women having had an initial contact with Maternity Triage.	An MDT approach was instituted to improve patient safety and reduce fetal losses. Upgraded the 'Unbooked Guideline' (1) Unbooked women to be formally booked within 48 hours of presenting to Maternity Triage and (2) A departmental scan (growth scan instead of a quick bedside scan) to be carried out within 72hours of presenting to Maternity Triage.
Late booking Late booking a problem for several mothers	Self-referral pathway for pregnancy care now in use in GP surgeries containing QR code and multiple language options.
Cervical length scans Risk factors for pre-term birth appropriately identified in pregnancy. However, cervical length scans were missed as the request not specify that this needed to be completed in pregnancy.	Change to scan request pathway to support staff making cervical length scan requests in pregnancy. Maternity staff are now able to make the requests from the booking appointment rather than waiting for the dating scan to confirm the EDD. This has reduced the possibility of the cervical length request being missed as the midwife is able to request these scans at the time of the booking appointment when the risk factor is identified. Additional teaching and training has also been provided to ensure different risk factors for pre-term birth are identified.
Maternal weight gain in pregnancy Patient identified as gaining a significant amount of weight in pregnancy, BMI became over 40 in pregnancy however growth scans not arranged unless BMI over 40 at booking	Guidance for staff and learning shared on importance of third trimester weight in pregnancy and updating the management plan if BMI increasing in pregnancy to over 40.
Explaining the importance of investigations including maternal weight check	New Guideline developed to explain to women the importance of checking their weight to ensure they understand that this affects several aspects of the maternity

A women who was likely obese refused to have her weight checked which meant her BMI could not be calculated which affect many aspects of her care	care: fetal growth monitoring, dose of anticoagulants, dose of analgesia and other medication during labour/postpartum.
DNA policy for antenatal care 'Did not attend' (DNA) policy was identified as being out of date	Policy was reviewed and updated
Interpreter services Translator services not being used at every appointment.	The Trust and the Local Maternity and Neonatal System (LMNS) established a joint working party for an ongoing project to improve our translator services in the way we offer translators and the services available.
Interpreter services Reliance on family members to act as interpreters	Provision of written information in their preferred language. Review of interpreting services, which is leading to further discussions within the trust regarding alternative methods of effectively communicating with families. Service improvement ongoing.
Language issues The mother and partner could not read English. She booked late as she did not know how to access services.	Self-referral forms to maternity services made available in different languages. QR codes implemented in GP surgeries and children centres to inform women and families about the self-referral system have been made available in different languages.