NHS SCOTLAND

Using Technology to Support Maternity Care

Remote Blood Pressure Monitoring Service Pathway

Process for implementation of remote blood pressure monitoring and urinalysis in your NHS Board

Scottish Perinatal Network MATERNITY

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Introduction

1. Raised blood pressure (BP) affects approximately 10% of pregnancies worldwide; almost half of these women develop pre-eclampsia. Globally, around 15% of maternal mortality is due to pre-eclampsia so early detection and prevention are paramount.

   Initially, the COVID-19 pandemic required the NHS to urgently consider self-monitoring of BP at home by pregnant women in order to safely reduce the number of face-to-face consultations for pregnant and postnatal women. However, being able to offer women informed choices about where and how to monitor their blood pressure and urine during pregnancy has demonstrated person-centred, sustainable benefits for both women and clinicians which extend beyond context of the pandemic.

2. Home Monitoring can be offered alone or in combination with technologies such as NHS Near Me, Florence, InHealthcare, BadgerNet or Trakcare.

   Please note: Support with implementing NHS Near Me and Remote Health monitoring (Florence or InHealthcare) is available from your local Technology Enabled Care (TEC) project team. Please include them in your planning groups. To find out how to contact your local TEC lead, please email NSS.TEC@nhs.scot for details.

   NHS Near Me Clinical Specialty Guidance can be accessed at www.perinatalnetwork.scot/maternity/maternitynearme.

Process - Equipment

3. NHS National Services Scotland (NSS) procured 5,000 Blood pressure monitors, which are recognised for use in pregnancy by the Royal College of Obstetricians and Gynaecologists, and 4,000 packs of Siemens Uristix, which each contain 50 strips.

4. NHS NSS delivered these units to NHS Boards in 3 phases spanning May – August 2020. Dependant on agreed local processes, Medical Physics or other Departments within Boards undertook acceptance testing and recorded each unit received as assets on the system and assigned asset numbers.

5. The number of units delivered to each Board was estimated based on the 2019 birth rate within the Board area and an approximation that raised blood pressure may affect around 10% of pregnancies. NSS contacted Medical Physics or other nominated department to discuss delivery arrangements, in advance of dispatching the equipment.

6. The full stock of units procured by NSS has been delivered and is stored within Boards.

Logistics

7. NHS Boards are at different stages of implementation of Home Monitoring. This implementation guidance is for Boards at early stages of implementation.

8. The lead Obstetrician and Midwife teams will need to put in place processes to manage onward distribution of equipment to women, tracking and return of the equipment, usually at the end of pregnancy. They will also need to establish which system will be used by women to record results and how professionals will access and monitor them.

   This will include, at a very simple level, the following:

1	Identify local leads (Obstetrician, Midwife and others as appropriate) to lead implementation and ongoing management of local home blood pressure monitoring and urinalysis clinical systems and processes
2	Secure local secure storage space for equipment
3	Set up local database to manage stock (simple example included in Appendix 1)
4	In advance of distribution, Boards should agree their own local processes to determine whether all NHS-owned blood pressure monitoring devices should be acceptance tested, noted on a medical equipment records system and allocated an asset number prior to issue. Devices should be labelled with the asset number, name of issuing NHS Board and contact details for the maternity unit.
5	Units should establish written protocols for loan out and return of monitors, including sign out and sign in systems. Prior to receiving a device, women will be required to sign a consent form for loan of the device and for their data to be used for evaluation. One signed copy should be kept in the hospital and the other in the maternal notes. Return protocol may be, for example, linked to postnatal appointments or by postal return in a freepost addressed envelope.
6	Units should consider how women may record and return data. Existing systems with this functionality include BadgerNet Maternity, Florence and K2 Hampton. Some of these systems include setting alerts to monitor blood pressure and instructions to remind women to return monitors at a point in time. Whether women also need to consent to receiving such alerts should be considered at local level.
7	Units should establish systems and processes to receive and clean returned equipment. Guidance on cleaning and reissue of the monitors between uses should be confirmed with the local infection control and Medical Physics department.

Additional monitors, equipment faults and deliveries

9. From 1st September 2020, any requests, reports or queries about equipment should be directed to Medical Physics or Procurement teams, according to local processes within NHS Boards, not to NSS.

Training

10. All community, hospital staff and General Practitioners should be made aware of the new initiative, and that some women in their care may be self-monitoring. Key systems and processes must be in place before receipt of the blood pressure devices. Units must set up systems to track loaned devices and to appropriately store loan agreements (signed by women) and equipment tracking forms (Appendix 1 and 2).

    The lead Obstetrician and Midwife should plan and coordinate any local training required. Training may include:

    - Awareness of evidence base for introduction of home monitoring.
    - Signposting clinical guidance produced by the Maternity Network and by professional bodies (see health professional guidance *Home Blood Pressure and Urinalysis Monitoring* at: www.perinatalnetwork.scot/maternity/maternitynearme).
    - Training on systems used to record home monitoring results (if required)
    - Training on identification of women suitable for home monitoring
    - Training on local protocols on how to issue, retrieve and clean devices.
      Training on how to demonstrate to women how to use the equipment, interpret and record results (signposting service user leaflet and available videos)
    - Outlining documentation required and where/how to store it.

Review

11. A national research study is underway to evaluate uptake and clinical effectiveness of the initiative, using clinical data and feedback from women and clinicians. Women will be asked, as part of the loan agreement, whether they do/do not agree for their details to be shared with the research team and used for evaluation.

12. Clinical teams are requested to conduct quarterly reviews post-implementation and to consider making any identified improvements to systems, processes, training or demonstrations. Data from quarterly reviews will be requested and collated by the National Maternity Network and submitted for inclusion in the national research study. Findings of the research study will also be fed back to units to inform local review processes.

Planning

13. Lead Obstetrician and Midwife should set up an implementation timeline for home blood pressure monitoring.

Implementation Systems and Processes

14. Implementation will be rolled out in four stages:

Stage 1: Establishment of systems and processes, which must all be completed before blood pressure devices are dispatched to individual units (see Appendix 1).

Stage 2: Roll-out of home blood pressure monitoring to women in Group 1 and Group 2 (see health professional guideline: *Home Blood Pressure and Urinalysis Monitoring* at: https://www.perinatalnetwork.scot/maternity/maternitynearme/)

Stage 3: Local review of systems, processes and improvement of service (if required)

Stage 4: Expansion of home blood pressure monitoring service to women in Group 3 and beyond (see health professional guideline)

APPENDIX 1: Establishment of systems and processes

	Responsibility		Completed
	Health Improvement Scotland	Local team	
Organise a meeting [Microsoft Teams] with each group to identify routine practice and to discuss and agree implementation steps	X		
Agree and set up systems and processes for equipment storage and management	X	X	
Agree and set up telephone / Near me (depending on resource available) Day Assessment process (typically a Senior Midwife-led service, 2 times per week).		X	
Agree and set up system for capturing home-recorded data (BadgerNet, Florence, Hampton)		X	
Set up training schedule		X	
Ensure all training materials are available and accessible by staff		X	
Commence training		X	
Ensure all patient leaflets and videos are available and accessible – including generic patient advice leaflet and any local information regarding recording results.		X	
Agree roll out schedule and any phasing of roll out required.		X	
Agree any reporting required locally (e.g. on uptake, stock levels etc)		X	

Phase 1 completed:

Signature:

Lead Obstetrician or Midwife:

Date:

APPENDIX 2: HOME BLOOD PRESSURE MONITORS STOCK CONTROL SHEET

Name of Hospital: .....

Date: .....

Serial No.	Device asset number	Patient Hospital number	Telephone number	Indication of use	Expected date of delivery	Recipient	Date of issue	Is recipient Covid-19 Shielded?	Issued by	Date of return	Returned to stock by

Lead Obstetrician or Midwife (signature and date): .....

Contact for Stock/Equipment faults: .....