Version 2, 1 April 2021

Standard operating procedure

Blood Pressure @home for people with diagnosed hypertension

[Updated April 2021]

This guidance is correct at the time of publishing. However, as it is subject to updates, please use the hyperlinks to confirm the information you are disseminating to the public is accurate.

Contents

1. Recommendation

It is recommended that all clinical commissioning groups (CCGs) support primary care networks (PCNs) to implement home blood pressure monitoring for patients with a diagnosis of hypertension which is poorly controlled, to allow treatment to be optimised, where it would be of benefit.

2. Background [Updated April 2021]

During the COVID-19 pandemic, patients with cardiovascular risk factors may not be receiving their usual reviews and subsequent treatment adjustment for their hypertension. Evidence shows that every month of disruption to pro-active hypertension management and intensification of medication where needed will likely result in additional acute cardiovascular events. NHS England modelling has estimated that a 9 month period of disruption to the delivery of routine care for those diagnosed with hypertension could result in around 12,000 additional acute cardiovascular events (strokes and heart attacks) or deaths over a three year follow up, as compared to what might have been expected from pre-COVID levels of achievement. Therefore, home blood pressure monitoring has been identified as a priority for cardiovascular disease (CVD) management to ensure that patients who are vulnerable to becoming seriously ill with COVID-19 can manage their hypertension well and remotely, without the need to attend GP appointments.

The use of self and telemonitoring of blood pressure is also supported by evidence as it is: cost-effective,[1] saves GP time by shifting care from GPs to other members of the multidisciplinary team,[2] and over five years reduces the incidence of clinical events such as death, heart attack or stroke.[3]

Blood Pressure @home forms one part of a range of initiatives being developed by NHS @home to provide better connected, more personalised care in people's homes including care homes, supported by technology where appropriate. NHS England and NHS Improvement has procured around 220,000 blood pressure (BP) monitors for clinical teams to target patients with poorly controlled hypertension, prioritising those most at risk of becoming seriously ill with COVID, or suffering heart attacks and strokes.

[1] McManus et al, 2018
[2] Hammersley et al, 2020
[3] Margolis et al, 2020

3. Governance and oversight [Updated April 2021]

When CCGs accept delivery of blood pressure monitors and cuffs from NHS England and NHS Improvement, ownership of those devices will transfer to that CCG to use for healthcare purposes for their local population, including supporting primary healthcare services.

Legal responsibility, including ensuring appropriate clinical governance, remains with the relevant CCG, which should have a named person responsible for the establishment of the service in their area. Clinical, governance and administrative responsibilities included in the pathway can be provided by any appropriately trained person and best use of resources should be made. For example, NHS Volunteer Responders can deliver blood pressure monitors to patients' homes, and non-clinical staff, such as healthcare assistants, care navigators or volunteers, can undertake appropriate activities and use of standardised scripts to do so.

4. Patient pathway

The pathway describes implementation in general practice to support the routine management of at-risk patients with diagnosed, poorly controlled hypertension (a flowchart is shown in Appendix 1). The pathway should align with the principles of personalised care, including a shared decision making process and supported self-management.

4.1 Identification of patient populations [Updated April 2021]

Local areas and GP practices should decide which patients have the greatest need and, therefore, should be prioritised for regular home blood pressure monitoring. Search and stratification criteria could be based on age, blood pressure level, deprivation, ethnicity, pre-existing cardiovascular disease (e.g. coronary heart disease / peripheral arterial disease / atrial fibrillation / chronic kidney disease / patient has had a prior-stroke / TIA) and diabetes.

Available tools that could be used for searching and stratifying patients in GP systems (SystmOne and EMIS):

- UCL Partners: Proactive Care Frameworks (prioritisation based on blood pressure level)
- Queen Mary, University of London: At-home Patient Group Identification (prioritisation based on the clinically extremely vulnerable cohort)

4.2 Identification of patients with a blood pressure monitor

It is estimated that 30-40% of people with a diagnosis of hypertension have access to a home blood pressure monitor.[4, 5] Therefore, practices should contact patients in the identified groups, e.g. using an MJog survey, to identify those who already have access to a blood pressure monitor, and therefore can be invited to enter onto this clinical pathway.

4.3 Patients without access to a blood pressure monitor [Updated April 2021]

The practice can provide the patient with a BP monitor and appropriately sized cuff, if they meet the locally agreed criteria. Please note, to ensure accurate blood pressure readings, patients must use a blood pressure monitor fitted with the right cuff size for their upper arm circumference[6].

To maximise the usage of available blood pressure monitors, practices may wish to consider offering patients a blood pressure monitor for a temporary basis until their hypertension is controlled, then redeploy the blood pressure monitor to another patient once it has been appropriately decontaminated[7].

Alternatively, patients may wish to buy their own blood pressure monitor, and this should be a validated blood pressure monitor with an appropriately sized cuff.

If the patient declines to participate in home blood pressure monitoring, this should be appropriately coded (1085031000000100 | Home blood pressure monitoring declined (situation)) and alternative ways of regularly measuring their blood pressure should be pursued, for example face to face in the GP practice, via community pharmacy or other venues as available locally.

4.4 Patients with access to a blood pressure monitor

4.4.1 Suitability

Before any patient is entered onto the pathway, there should be a shared decision making conversation with the appropriate clinician, including discussion of any support

[4] Baral-Grant S et al, 2012
[5] Hodgkinson et al, 2020
[6] It is recommended that a mid-upper arm circumference measurement is obtained to confirm the appropriate cuff size, or a patient's Body Mass Index could be used as a proxy-measure for cuff size
[7] Routine decontamination of reusable non-invasive patient care equipment

requirements for patients and/or carers. Shared decision making ensures that patients are supported to make decisions that are right for them.

Once suitability is established, consent to home blood pressure monitoring should be confirmed.

If the patient is using a blood pressure monitor that they have bought themselves, the practice should ensure that the patient's blood pressure monitor is both:

a. validated for home use (see list on the British and Irish Hypertension Society website: https://bihsoc.org/bp-monitors/for-home-use/)
b. less than five years old
c. has an appropriately sized cuff

4.4.2 Supported Self-Management

Consideration should be given to the patient's knowledge, skills and confidence (activation) to effectively use the blood pressure monitor. The patient and/or carer should be educated on how to use the blood pressure monitor and how to submit blood pressure readings and given supporting information (see Section 8).

- **Taking blood pressure measurements**: Patients should be advised to take two blood pressure readings, each morning and evening, ideally on four consecutive days, and to record each of the blood pressure readings.
- **Submitting blood pressure measurements**: All readings should be submitted to the GP practice using a locally agreed digital remote monitoring platform (see Section 6) or manual method (text, email or paper copy diary; see Appendix 2) as agreed with the patient.

Patients should be told that if they record consecutive blood pressure readings over 170/115 mmHg, they should contact the GP practice for an urgent same day appointment for investigations.

4.4.3 Coding [Updated April 2021]

The following SNOMED codes should be used to code blood pressure readings received from patients.

- 413606001 | Average home systolic blood pressure (observable entity)
- 413605002 | Average home diastolic blood pressure (observable entity)

4.4.4 Follow-up

The average of the submitted readings should be calculated. Patients who report a:

- **Raised blood pressure** (≥135/85 mmHg if younger than 80 years or ≥145/85 mmHg if 80 years or over) should be followed up with an appointment with a prescribing clinician, to agree next steps in treatment – with lifestyle modifications and/or medicines – in line with NICE guideline NG136. Patients should be asked to submit blood pressure readings again in one month to assess the effectiveness of any intervention.
  - Patients should be advised to submit blood pressure readings monthly until their blood pressure is adequately controlled and then, ideally, every six months but at least annually thereafter.
- **Normal blood pressure** (<135/85 mmHg if younger than 80 years or <145/85 mmHg if 80 years or over) should be reassured by text or telephone, and reminded to submit blood pressure reading again, ideally in six months, but at least annually thereafter.
- **Irregular pulse** should be followed up with an appointment with a prescribing clinician, to be investigated to confirm diagnosis of atrial fibrillation in line with NICE guideline CG180.

5. Care homes

People living in care homes should receive the same standard of care as someone in their own home. Access to home blood pressure monitoring for patients in care home settings should be facilitated by care home staff and other supporting services. Support with setting up the pathway within the care home can be provided through the care home's named clinical lead in the first instance.

6. Remote monitoring digital platforms

Digital platforms have created electronic pathways for patients, that enable messaging and submission of readings, which can be reviewed and actioned by clinicians instead of traditional GP appointments.

NHSX is working in partnership with the seven NHS regions to support the scaling up of remote monitoring. As such, remote monitoring platforms may be available locally that allow patients to upload their results at home (or in a care homes) and these will be available to review and added into the patient record.

Several remote monitoring digital platforms are available in each region and practices should use the platform that has been endorsed by their local CCG. Several remote monitoring options can be seen in the UCL Partners Hypertension pathway.

A digital pathway is currently being developed by the national team that will be available and will be available in the next few months

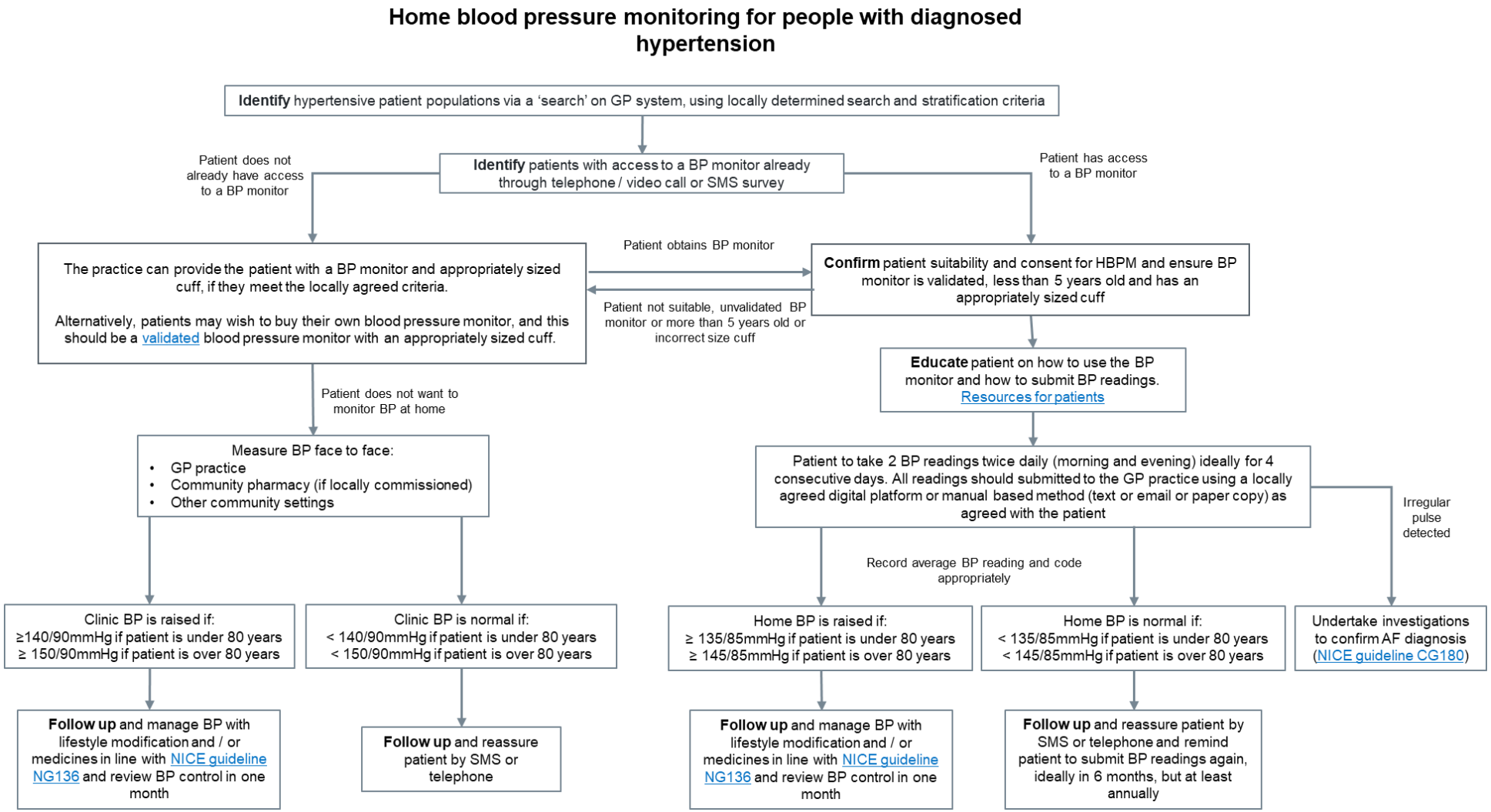
7. Data requirements

All relevant information should be recorded in the patient record, including for patients who decline to participate in home blood pressure monitoring.

8. Further support [Updated April 2021]

All resources to support NHS staff and patients with home blood pressure monitoring can be found on the Blood Pressure @home programme FutureNHS workspace. If you are unable to access the workspace, please email england.home@nhs.net to request access.

Appendix 1: Home blood pressure monitoring for people with diagnosed hypertension



Appendix 2: Home blood pressure readings template

Name: Tom Test-Test Patient

Date of Birth: 03 May 1977

NHS No:

Date	Time	Top number (systolic)	Bottom number (diastolic)	Pulse
	Eg 8am	**130**	**78**	**70**
	Eg 9pm	**145**	**86**	**82**
	am			
	pm			
	am			
	pm			
	am			
	pm			
	am			
	pm			