

Hypertension (stable) – protocol AIM-03

Purpose

- To improve compliance with anti-hypertensive medication.
- To encourage patient to adhere to the shared management plan agreed with their GP practice team, to sustain well-controlled blood pressure (<140/90 mmHg clinic; <135/85 mmHg home BP readings).
- To provide a convenient alternative to visiting the GP surgery for regular hypertension review while still providing the clinician with regular information about BP control.
- To help the patient adopt a healthier lifestyle – exercise, eating sensibly, within ideal weight range, maintaining happy mood.

Setting

General practice, but can be any healthcare setting if a clinician takes continuing responsibility

Selection of patients

- Patients who are on the practice hypertension register and on medication whose blood pressure is stable, i.e. <135/85 mmHg home BP readings, who do not have diabetes or CKD with ACR \geq 70 mg/mmol (as this would require a different protocol with lower BP goal).
- Patients who in addition to hypertension have poor lifestyle habits, who drink alcohol excessively, take little exercise, or have poor diet.
- Patients who will benefit from regular text messages that encourage compliance with medication.
- Exclude patients with pulse irregularity (for example, due to atrial fibrillation as automated devices may not accurately measure the blood pressure and manual blood pressure monitoring should be undertaken).
- Exclude patients \geq 80 years old (different BP goal).

Expected outcomes

1 Changes in healthcare usage:

- Fewer unnecessary admissions to hospital or attendances at A&E; less contact at GP surgery
- Regular pattern of repeat prescriptions for anti-hypertensive drugs

2 Patient empowerment:

- Greater confidence about their condition
- Lifestyle changes to improve or maintain their health & wellbeing

3 Improved clinical outcomes:

- Maintenance of stable blood pressure readings (ie consistently <140/90 mmHg in clinic or <135/85 mmHg home BP readings)

4 Popularity of Flo:

- Patients find Flo messages helpful and reassuring
- Clinicians find Flo helps to maintain stable blood pressure without excessive clinical time

5 Cost effectiveness:

- Reduction in costs of avoidable secondary care use

Success criteria

- 50% of patients who commit at start do at least 15 texted responses over a 3 months period
- 80% of patients maintain stable blood pressure control over the 3 months period (ie consistently <140/90 mmHg clinic; <135/85 mmHg home BP readings) [Please note, 'controlled' blood pressure is defined as 80% of text BP readings in the last 2 weeks are <135/85 mmHg].

General information about Home Blood Pressure Monitoring (HBPM)

- Home is generally lower than clinic BP: approximately -5/5mmg at 140/90 mmHg in clinic and -10/5 mmHg at 160/100 mmHg in clinic
- Don't supply or recommend wrist machines as very difficult to get level of arm right
- The British Hypertension Society has a list of validated monitors which are as cheap as £15
- Don't forget to calibrate home BP monitors annually that you lend out, unless they are still under manufacturer's guarantee
- NICE recommends one week of readings, twice daily (0600-1200 and 1800-0000), discard the first day's readings and calculate the mean of the rest. Flo lets you export an excel file which makes calculating this easy
- If home BP is very up and down it can be difficult to work out what is going on and in this case it is probably worth organising an Ambulatory Blood Pressure Monitor instead.

Protocol

In summary:

- Patient issued with sphygmomanometer of a type recommended by the British Hypertension Society (www.bhsoc.org//index.php?cid=246).
- Patient signs contract
- Clinician / patient agree shared management BP control plan (see page 100 for example BP shared management plan; page 104 for version of shared management plan that practices should complete for their clinical use to match their own clinical protocol.)
- Weekly blood pressure readings – for 3 months (or jointly agree other time period)
- Monthly responses to depression questions
- Twice weekly information messages
- Monthly text enquiry of patient experience

Patient:

- signs contract, agreeing to respond to messages from Flo, to care for the equipment and return it when asked to do so.
- signs a consent form accepting that they remain responsible for their health, and understanding that readings are sent to a computer.
- takes their blood pressure weekly and sends the reading in to Flo when asked.
- responds to monthly questions about mood.
- receives twice weekly information messages, and tries to adopt the advice contained in them.
- responds to monthly texts from Flo about their experience.

Clinician:

- agrees a shared management plan with the patient, which includes the use of Flo (see page 100)
- issues sphygmomanometer and appropriate cuff, and trains the patient in its use.
- obtains patient's signed agreement to respond to Flo, to look after the equipment, and return it when asked.

- explains to the patient that readings are sent to a computer which is not monitored continuously, and obtains their signed consent form which states that the patient remains responsible for their own health.
- enrolls patient on Flo by using the patient's current mobile phone number and NHS number, then selecting the appropriate service for them.
- monitors the patient's readings weekly, and if unable to do so, ensures another clinician in the practice team does so.
- arranges appointment to review BP readings in line with practice protocol.
- understands what to do if the readings are not within anticipated limits/agreed goals (e.g. ask patient to come to surgery & review medication, adjust medication by phone).
- after three months, asks patient to return equipment, unless doctor / nurse wants them to continue using it.
- completes an online questionnaire three monthly about the use of Flo.

Practice administrator:

- keeps a note of patients enrolled on telehealth project.

Message Content

- Weekly BP reading Friday 8.00am for 13 weeks
- Depression/mood questions (every 4 weeks)
- Twice weekly information messages for 13 weeks
- Patient experience questions (every 30 days)
- Clinician monitors patient record on the Flo website

BP reading

Default: systolic (80-134 mmHg) diastolic (60-84 mmHg)

Weekly reminder Friday at 8.00am (service message)

8.00am: *"Please take your blood pressure, and send me the readings. Please write BP, followed by each reading, eg: BP 140 80 Thanks, Flo."*

10 hours later if the patient has not replied to the first message: *"Hi. I've noticed you haven't sent in your readings today. Could you please text in BP, then the readings. Thanks Flo"*

Within normal range:

- *"Your BP reading is normal. Flo."*

Above desirable range:

- **Systolic:** *"Your blood pressure (systolic) is a little high today. Follow the advice in your management plan, and take the readings again at your usual time. Thanks, Flo."*
- **Diastolic:** *"Your blood pressure (diastolic) is a little high today. Follow the advice in your management plan, and take the readings again at your usual time. Thanks, Flo."*

Below desirable range:

- **Systolic and diastolic:** *"Your blood is pressure a little low today. Take it again, and follow the advice in your management plan. Take care, Flo."*

Breach message triggered when the readings reach either 200 mmHg (systolic) or 105 mmHg (diastolic) or if the BP is below 70 mmHg (systolic) or 50 mmHg (diastolic).

- *“Your BP is outside the safe range - so contact a doctor today as agreed in your management plan. Take care, Flo.”*

Information messages (twice weekly for 13 weeks)

1. *With the right treatment for any health condition you should live longer - so take your blood pressure treatment regularly. Flo.*
2. *Make sure your lifestyle's healthy-avoid smoky places (don't smoke if you do), get down to your ideal weight, exercise regularly, don't drink too much alcohol.*
3. *Don't stop taking your BP medication on a whim; talk through your concerns with your doctor or nurse. Take care, Flo*
4. *You've got a choice: sit around, or do regular activity which will help keep your joints flexible, your bones and muscles strong, and your BP controlled. Flo.*
5. *Don't rush when taking your BP - you want to register a low reading. Take care, Flo*
6. *If you're confused about the drugs you're on, then ask your pharmacist to go through each drug and explain why you must take each one regularly. Take care, Flo*
7. *A home BP reading is typically lower than a BP taken in your GP's surgery. Take care, Flo.*
8. *Regular exercise helps keep your BP and weight down - so walk a bit further, or use stairs rather than the lift, and make it a part of your normal life.*
9. *Your home BP readings are just as reliable as those taken in your GP's surgery if you take your BP correctly. Thanks Flo*
10. *Try to get your weight down to a body mass index between 20 -25. If you don't know yours, ask your GP or nurse next time you see them. Flo.*
11. *Sit quietly for at least 5 minutes with your arm exposed and supported at the level of your heart when you take your BP. Kind regards, Flo.*
12. *Limit the amount of alcohol you drink: 3 units / day or less for men; 2 units / day or less for women. Regards, Flo.*
13. *Exercise will help get your BP down; try to do 30 minutes, 3 to 5 times per week - the more, the better. Take care Flo.*
14. *Try to eat at least 3 servings of fruit and vegetables daily to boost your health. Thanks, Flo.*
15. *Some foods don't taste of salt because of the sugar in them as well. Read the label; it's easy to eat more than the adult maximum of 6 grams (one teaspoonful)*
16. *Remember - don't have a caffeine containing drink like coke or coffee, or smoke 30 minutes before taking your BP, if possible. Take care, Flo.*
17. *When you measure your BP, don't forget to remove any tight clothing and ensure your arm is relaxed. Thanks, Flo*
18. *When measuring your BP, support your arm at the level of your heart and avoid talking. Take care, Flo.*
19. *Order your next month's prescription in good time- don't risk running out. Take care, Flo.*
20. *Try to relax and don't let stress get a hold of you as it could make your BP worse. Take care, Flo*
21. *Be careful about taking other drugs that you buy yourself from pharmacies or supermarkets -ask your doctor if they could interact or give you side effects. Flo.*
22. *How much exercise did you actually do yesterday? Was it enough? Be honest if you could have done more. Take care, Flo.*
23. *Try to fit in regular exercise - as much as is comfortable every day. Take care, Flo.*
24. *Don't talk or move when taking your BP, just sit still and stay quiet. Take care, Flo.*
25. *Empty your bladder before taking your BP reading. Take care, Flo.*
26. *If you become over-anxious about your BP measurements, then stop taking your BP for a couple of days. Take care, Flo.*
27. *Check the salt content of your food; try for less than 3 grams per day. Kind regards, Flo.*

**Mood / depression questions
(monthly)**

1. **“During the past month, for how many days have you had little interest or pleasure in doing things? Please reply INT, followed by the number of days. Thanks, Flo”**

A: 0-3 You seem to be managing pretty well. Try to see things in a positive way, and manage your health so that you feel in control.

A: 4-10 It's not unusual to feel down sometimes. Try to think of positive experiences you have had, and do something you are pleased with each day.

A: 11- 31 You seem to be having a difficult time at present. Try to look at what you can achieve, and be proud of doing that, against the odds.

2. **“During the past month, for how many days have you felt down, depressed, or hopeless? Please reply FEEL, followed by the number of days. Thanks, Flo.”**

A: 0-3 That's good, it's important to enjoy life.

A: 4-10 Don't let your problems get on top of you. It's OK to spoil yourself sometimes: find a new hobby, or phone a friend for a chat, or meet up for a cup of tea.

A: 11-31 Spend some time doing what you've liked in the past – listen to music, have a relaxing bath, read a book, or meet a friend. Relaxation techniques can help.

If 2 consecutive months of high scores, monitoring clinician should contact patient and suggest appointment with GP.

**Patient experience questions
(monthly at 6.15pm)**

“Hi, Shortly I'll ask three questions to see how you liked the Flo system. Your answer will be either #1 if you agree with what's said, or #2 if not. Thanks, Flo”

ANS1 Please text #1 if you agree with the statement "I would recommend this service to my family and friends", or #2 if you disagree.

ANS2 Thank you. Now, do you feel confident you understand your blood pressure better? Please text #1 if you do, or #2 if you do not. Thanks, Flo

ANS3 Please text #1 if you agree with the statement "I prefer to send my readings to my practice via Flo, rather than go in person" or #2 if you disagree.

“Thank you for answering these questions. Knowing how useful you find the texting service helps us to improve it for future patients”

Evaluation (optional – for practice team)

Date when started using Flo.....

Date when BP goal reached and sustained (judge from Flo graph).....

Medication taken for hypertension in 12 months before starting Flo

Medication taken for hypertension since commencing with Flo

Healthcare usage - previous history & during project

Depression confirmed?/ medication started or continued? / mental health referral made?