

Hypertension (poor control or newly diagnosed) – protocol AIM-02

Purpose

- To improve patient compliance with medication use.
- To encourage the patient to adhere to the shared management plan agreed with their GP practice team to gain better control of their blood pressure.
- To help the patient adopt a healthier lifestyle – exercise, eat sensibly, 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 but their blood pressure is poorly controlled, ie $\geq 140/90$ mmHg (in surgery) who need help to comply with their medication. (Please note, they should not have diabetes or CKD with $ACR \geq 70$ mg/mmol, as this requires a different protocol with lower target blood pressure.)
- Patients who in addition to poorly controlled blood pressure have poor lifestyle habits eg drink alcohol excessively, take little exercise, have poor diet, smoke.
- Patients with newly diagnosed hypertension, whose blood pressure control needs careful management to optimise the use of anti-hypertensive 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 ≥ 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:

- Blood pressure $< 140/90$ mmHg in clinic (or $< 135/85$ mmHg home BP readings) or patient's set goal (see success criteria for definition).

4 Popularity of Flo:

- Patients find Flo messages helpful and reassuring
- Clinicians find Flo reinforces clinical management, without excessive clinical time

5 Cost effectiveness:

- Reduction in costs of avoidable secondary care use (stroke, referrals, falls)

Success criteria

- 50% of patients who commit at start do at least 20 days of texting in BP readings over a 2 month period
- 75% of patients with unstable hypertension become controlled within two months (<140/90 mmHg sustained; or <135/85 mmHg as home blood pressure readings – practice can decide the goals for their patients) (Please note, we will take number who text 80% readings BP <135/85 mmHg in last 2 weeks of texted readings to be classed as 'controlled')

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.)
- Twice daily blood pressure readings, submitted via 'Flo', remotely monitored weekly by clinician – for two months in first instance.
- 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 twice daily and sends the readings in to Flo when asked – for two months.
- 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, (see page 100) which includes the use of Flo.
- 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 - 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 BP readings weekly, and if unable to do so, ensures another clinician in the practice team does so.
- arranges an appointment to review titration of medication against blood pressure readings after one month, or by phone or text as appropriate.
- understands what to do if the readings are outside set parameters / agreed goals (e.g. ask patient to come to surgery or adjust medication by phone).
- after two months, asks patient to return equipment, unless doctor / nurse wants them to continue using it to achieve better control of their hypertension.
- completes an online questionnaire three monthly about the use of Flo.

Practice administrator:

- keeps a note of patients enrolled on telehealth project.
- completes evaluation form if practice undertaking substantive evaluation.

Message content

- daily at 8.00am and a reminder at 8.00pm for 8 weeks
- monthly depression/mood questions
- twice weekly information messages for 8 weeks
- monthly patient experience questions
- weekly clinician monitors records on Flo website

BP reading

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

Daily reminder at 8am (service message)

8am: *"Hi. Don't forget to take your blood pressure this morning and again this evening, and text it in. Text BP, then your reading, e.g. BP 140 80. Thanks, Flo."*

12 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 8 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.*

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”

1. **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.
2. **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
3. **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?