

HOME BP: A digital tool to improve management of hypertension

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Your Personal Blood Pressure
Management Programme



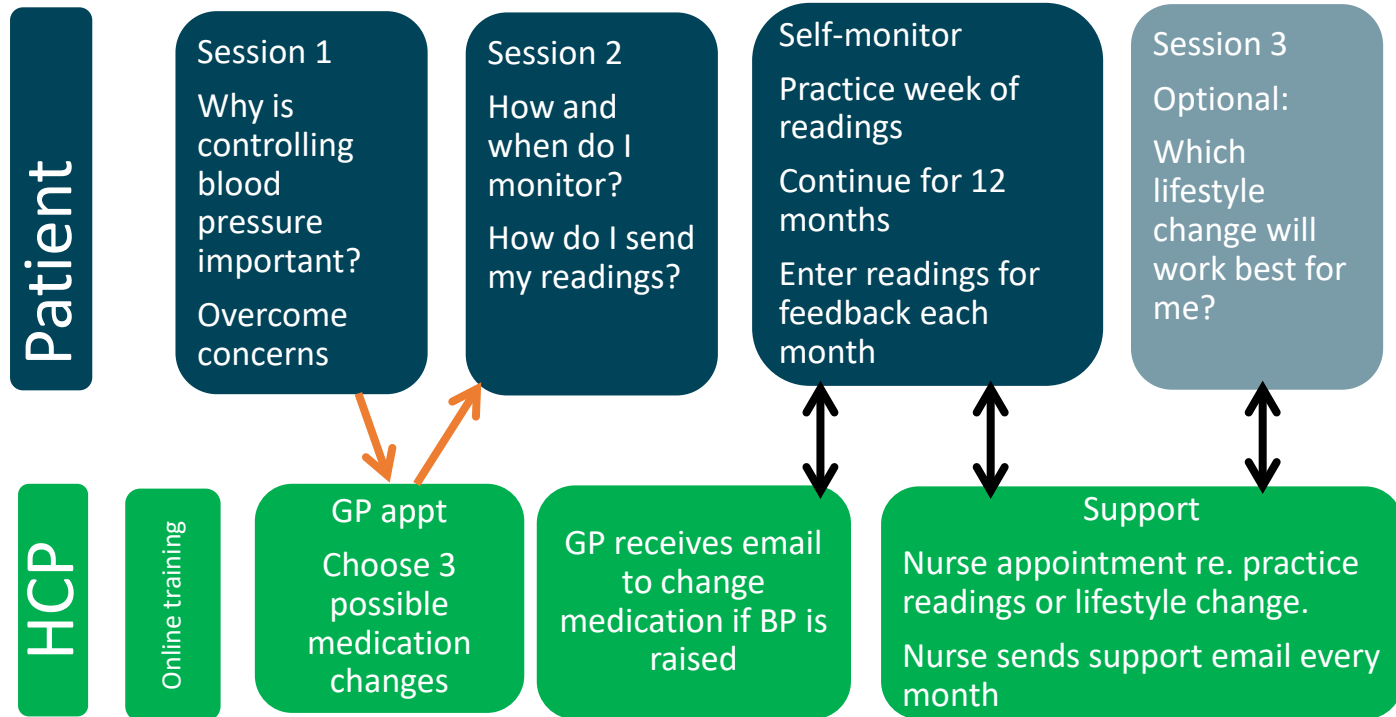
BP Home Management

1 in 3 patients taking medication have uncontrolled hypertension
– HOME BP supports more intensive management



- Developed automated version of successful ‘TASMINH’ procedures
- GP plans 3 medication changes
- Patient self-monitors BP (7 days each month) and enters blood pressure readings online
- HOME BP emails the GP and patient to prompt a change if the average is above target (based on NICE guidelines) for 2 consecutive months

What is HOME BP?



Used the 'Person-Based Approach' to developing interventions:
www.personbasedapproach.org

The PBA uniquely and systematically combines

- a) user-centred design and co-design methods
- b) evidence-based behaviour change methods

to maximise acceptability, feasibility, outcomes



Has been used successfully to develop and adapt interventions that are engaging and effective for **the public, patients and health professionals**

Methods: Iterative cycle of **in-depth qualitative research with users, behavioural analysis, co-design and optimisation**

Interviews with patients identified problems with patient acceptability and implementation

Acceptability: *to encourage patients to follow the message that many patients were not getting*

Patients rejected message as felt their doctor not providing best possible care – so HOME BP advice not

Solution: *changed message to say that by using home BP readings help their doctor provide even better care by providing more accurate and up-to-date blood pressure readings*

Implementation: **some patients lacked skills and confidence to take blood pressure readings accurately**

Solution: *introduced week of practice readings plus opportunity to meet with practice nurse to check these (also reassured HCPs!)*

“This would help me and him [GP]. Cos I could give him the heads up, we should do something about it. So that’s, that’s good stuff yea. You’re convincing me that it would be a good idea.” (Man, 81)

Mixed methods feasibility study identified HCP problems with acceptability and implementation

Acceptability: HCPs had concerns about side effects of increasing medication, appropriateness of targets, accuracy of home readings

Solution: Online training provided evidence that increasing medication would not increase side effects and home readings are more accurate than clinic, described patient skill training procedures

Implementation: HCPs had difficulty following protocol

Solution: More automation of procedures – HCPs only assigned patients after online training completed, sent email template they could use to implement medication increases when indicated

RCT of HOME BP: Design and participants

- Eligible patients: BP 140/90 mmHg or higher, taking 1-3 antihypertensive drugs
- Randomised in a 1:1 ratio to intervention group or usual care
- Usual care: Baseline medication review (also intervention group), HCPs given NICE guidelines, patients given British Heart Foundation leaflet
- GP Practices invited 11,399 patients by letter
- 1389 attended screening appointment (12%), 622 randomised into the trial (5% of those invited), 552 followed up for 12 months (89%)
- Minimisation took account of participants' blood pressure, age, diabetes status and GP practice.
- No difference in the gender, age or index of multiple deprivation of those attending screening compared with those who did not.

Results: Primary Outcome (intention to treat)

				Imputed (100 imputations)	
Systolic blood pressure	Baseline	6 months	12 months	Adjusted difference at 6 months	Adjusted difference at 12 months
Usual Care	151.7 (11.1)	140.9 (16.0)	141.8 (16.8)		
Intervention	151.7 (11.8)	138.7 (17.0)	138.4 (16.0)	-2.3 (-4.9, 0.3)	-3.5 (-6.1, -0.8)
Usual Care	85.3 (9.9)	80.2 (10.3)	79.8 (10.1)		
Intervention	86.4 (9.7)	79.9 (9.7)	80.2 (10.1)	-1.0 (-2.4, 0.4)	-0.5 (-1.9, 0.9)

Results continued

- Intervention group had twice the number of dose changes compared to control
- No difference in any side effects between groups including hypertension specific (dizziness, impotence, flushing)

Group	Cost £	Incremental cost £	Blood pressure reduction mmHg	Incremental blood pressure reduction mmHg	ICER (£/mmHg)
Usual care	92 (85,99)		9.8 (8.2, 11.523)		
Intervention	130 (122, 137)	38 (27,47)	13.222 (11.7, 14.8)	3.46 (1.3, 5.6)	11 (6, 29)

Conclusions

- Home BP digital intervention led to reduced BP
- Costs modest and likely to drop in context of large scale implementation
- Using ‘person-based approach’ allowed us to anticipate and address HCPs’ and patients’ concerns and problems

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BLOOD PRESSURE
home management programme

Quiz Answer 4

Well done! You are correct! (true)

High blood pressure increases the risk of developing dementia. Bringing your blood pressure down by taking the right medication can halve your risk of getting dementia.

How does high BP increase the risk of dementia?
[Click here](#) to find out



Controlling your BP will reduce your risk of these health problems, and the best way to do this is to make sure you are taking the right medication for you.