Management of hypertension in general practice

A qualitative needs assessment of Australian GPs

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Background

This study aimed to identify strategies to improve the management of hypertension in general practice.

Methods

Four focus groups (25 general practitioners and general practice registrars) were conducted, recorded and transcribed. Common emerging themes were analysed by an iterative thematic process.

Results

Four main themes were identified: uncertainty about blood pressure measurement, achieving consensus in practice, accommodating patient differences and addressing systematic barriers. General practitioners want a more standardised approach to measuring and interpreting blood pressure with consistent, valid readings taken on one device that accurately measures patients blood pressure in the 'real world'. General practitioners want to be upskilled in specific areas related to hypertension management.

Discussion

To facilitate improvements in blood pressure management, the most pressing needs of this group of GPs is to reduce the uncertainty surrounding the measurement and interpretation of blood pressure readings. This study has identified that sections of existing hypertension guidelines need to be reviewed and implemented.

Keywords

hypertension; needs assessment; qualitative research; general practice

The optimal way to organise and deliver care to hypertensive patients has not been clearly identified.[1] Epidemiological studies demonstrate that the benefits of antihypertensive medication have not been translated into day-to-day blood pressure (BP) management, with BP goals attained in only 25–40% of patients worldwide.[2–4] As even small improvements in BP control can have a major public health impact,[5,6] it is important to determine the best way to improve hypertension management.

An earlier study by the authors identified a number of factors that worked against best practice BP management in Australian general practice.[7] General practitioners felt disenfranchised and removed from the decision making process in research and guideline production. Therefore, in this study we adopted a 'bottom up' approach and conducted a needs assessment of GPs to identify and explore strategies to improve the management of hypertension in general practice.

Methods

We used purposeful sampling[8] of a division of general practice database (General Practice South, Tasmania) to select large group practices to allow focus groups to be conducted at a practice level and capture the views of a range of GPs in terms of gender, age and clinical experience. Four focus groups were conducted between March and April 2010, each consisting of 5–7 participants. Overall 25 GPs and general practice registrars participated (*Table 1*).

The lead author (FH) facilitated all the groups. All had a standard preamble and schedule with several open-ended questions and key topics or quotes designed to stimulate conversation and guide discussion. Sessions were audio-recorded and transcribed in full. Transcripts were corrected and verified.

A GP (FH) and a sociologist (EH) conducted the analysis. The use of a second investigator from a nonmedical background promoted critical reflection during analysis (reflexivity) by FH and EH.

Analysis

An iterative thematic analysis was used derived from the broader interpretive tradition in qualitative research.[9] Analysis was ongoing as data were collected and finalised after the four groups when no new issues emerged suggesting a state of data saturation.[10] Two investigators read and discussed the transcripts as they were prepared and independently identified a preliminary list of themes. The investigators re-read the transcripts and through a process of discussion refined and finalised the major themes. The third investigator, a GP (MN), commented on the themes and the analysis was finalised.

Ethics approval was granted by the Human Research Ethics Committee Network (approval number H0011058). General practitioners were reimbursed for their time at divisional rates.

Results

Four practices were invited to participate and all four agreed. Four main themes were identified (*Table 2*). General practitioners suggested specific actions to improve BP measurement. These are listed in *Table 3*. A discussion of the main themes follows.

Uncertainty about BP measurement

General practitioners expressed uncertainty regarding the best way to measure, record and interpret BP. They questioned what was the best current technology to measure BP and whether the average, the lowest, or the out-of-clinic BP should be used for interpretation.

Although there was some lingering distrust of digital machines, general acceptance of their use

Table 1. Demographics of the 25 participating GPs and registrars

	Gender		Age (years)					Practice location		Total
	Female	Male	26–35	36–45	46–55	56–65	>65	Inner metro	Outer metro	
GP	8	10	2	10	4	1	1	9	9	18
Registrar	5	2	5	0	1	1	0	5	2	7
Total	13	12	7	10	5	2	1	14	11	25

Sessions worked: a variable number of sessions were worked per week ranging from 4–10. Nineteen worked six or more sessions per week (a session is typically 3.5 hours of patient consulting)

was evident across the groups but participants were unclear on how, where and how often digital machines and mercury sphygmomanometers needed to be calibrated. Also related to taking BP in the clinic, every group pondered the meaning of the 'white coat' phenomenon: Are these patients at greater risk of cardiovascular disease? What do I do with dissimilar home and clinic readings?

'The BP (in the clinic) could be 180/110 all the time, and then they'll come out with (home readings) 120/70, and … does white coat hypertension exist to that degree anyway?' [Male GP, focus group 1, aged 46–55 years]

To reduce uncertainty surrounding the validity of clinic BP measures, participants were recommending home or ambulatory BP monitoring instead. However, many issues were preventing their widespread use. Participants often suggested that patients purchase or hire home BP machines but felt ill-equipped to provide appropriate guidance regarding access, reliability, cost and calibration information. The GPs in our study wanted guidance on how often and when patients should take their BP at home.

Many participants raised the issue of whether patients were accurately recording their home BP measures. This issue was likened to patients recording home blood sugar levels, which can be very disparate compared to an objective HbA1c measure. It was felt that like glucometers, it would be useful if digital BP machines had a memory function whereby BP could be objectively checked.

Some uncertainty remains about the validity of ambulatory BP monitoring and the interpretation of results.

'BP is such a dynamic condition, yes it's a 24 hour period but 24 hours is just 24 hours …' [Male GP, focus group 4, aged 36–45 years]

Participants were uncertain whether patients should wear the device during a 'typical' day and whether it is a valid measure in obese patients. Participants stated they want to be upskilled in the interpretation of ambulatory BP results.

'I'm doing more 24 hour blood pressure monitoring ... But … they are so variable, you look at it all and there's a lot of data and you kind of just go, well, mostly it looks all right.' [Female GP, focus group 2, aged 36–45 years]

Participants want consistent and valid readings taken on one device that accurately measures a patient's BP in the 'real world'.

Table 2. Main themes identified

Uncertainty about BP measurement

'Do you use the electronic one? Do you do it on one reading? Do you send people home with 24 hour BP monitors? Do you send people home with a monitor (to measure their BP) three times a day for a week? What is the best standard to do it?' [Female GP, focus group 2, aged 36–45 years]

Achieving consensus in practice

'Standardisation of measurement is something that we don't have within our practice. We all have different techniques and different thoughts about what's appropriate.' [Male registrar, focus group 3, aged 46–55 years]

Accommodating patient differences

'Your approach is different too depending on the patient. You have patients who tolerate coming to the doctor. They tolerate having bloods, they tolerate everything, but you also have those that don't … you've got to think what's my best chance of getting to the outcome here, so you might change what you normally do.' [Female GP, focus group 1, aged 26–35 years]

Addressing systematic barriers

'… if I didn't have to do two team care arrangements so people could get free podiatry … I could sit and spend a lot longer talking to patients about their blood pressure ...' [Male GP, focus group 1, aged 46–55 years]

Achieving consensus in practice

Participants stated that there is a need for a more standardised approach to hypertension management and suggested that guidelines need to be more relevant to general practice. Information needs to be simple and well presented. Guidance on which patients with raised BP require investigation was requested. Participants stated regular usage of cardiovascular risk assessment tools would be

Table 3. Specific actions recommended by GPs to improve hypertension management at various levels

GP level
- List of available guidelines
- Clarification of best technique to measure, record and interpret BP

Home BP monitoring
- Digital BP machine calibration guidelines
- List of validated BP machines
- Automatic BP machine with memory function
- Patient self management guidelines

Ambulatory BP monitoring
- Evidence for validity
- Validity in different patient groups
- Interpretation guidelines

Mercury sphygmomanometers
- Calibration guidelines

White coat hypertension
- Definition, diagnosis, assessment of risk

Investigation guidelines for raised BP
- Who, when, what, why?

Cardiovascular risk assessment tool
- How to use/interpret results

List of medication costs

Patient level
- Patient education materials

Systems level
- Funding for home and ambulatory BP monitors
- Recognition of complexity of good BP care provision through Medicare
- Broader public health policy approach for BP and other cardiovascular risk factors

enhanced by upskilling GPs in their use and interpretation.

While no participant wanted to see more guidelines, paradoxically they often indicated a desire for protocols. Intermittent reminders of existing guidelines were considered useful. Participants wanted information to be available through a single website, accessible via practice software. Many believed that education sessions were also useful. One-on-one or small group education sessions within the practice were mentioned by one group as being very worthwhile. As such the groups involved used the sessions as professional development time to share and collect information from each other and the facilitator.

Standardisation of measurement within individual practices was called for as internal consensus was lacking.

'Standardisation of measurement is something that we don't have within our practice. We all have different techniques and different thoughts about what's appropriate.' [Male registrar, focus group 3, aged 46–55 years]

Our findings also showed that there are significant differences between management styles among different GPs, as demonstrated by the following conversation between two GPs:

'Patients don't want to be on any medication at all, and the very thought of one medication is pushing the boundaries, does that influence how you manage their hypertension?' [Male GP, focus group 1, aged 36–45 years]

'No, I always think I could sell ice to Eskimos, and I always say if I'm adding a second agent it's like a left and a right punch is better than two lefts, and most of them understand that.' [Male GP, focus group 1, aged 46–55 years]

Accommodating patient differences

Participants described taking a number of patient factors into consideration when managing hypertension including age, comorbidity, familiarity and patient willingness to participate in treatment. For example, allowances are sometimes made for high BP readings, depending on patient social circumstances. There was recognition that patients are also time poor and this can interfere with ideal management. It was lamented that hypertension was nearly always part of a consultation, and not a consultation in its own right.

Suggested ways of creating time to address BP management included:

- quarantining a consult, eg. when a patient returns with an ambulatory or home BP result
- using the 45–49 year old health check (this is a once-only service to people aged 45–49 years who have one or more risk factors to assist detection and prevention of chronic disease and enable strategies for intervention).

To improve engagement GPs suggested that patients need a greater understanding of what BP is, what constitutes a high and a low reading, the significance of BP as a risk factor, and that successful treatment requires lifestyle change as well as medication.

To improve patient willingness to participate in treatment, the following strategies were suggested:

- patient education
- use of cardiovascular risk assessment tools
- self monitoring of BP
- consistent BP measurement and management.

Addressing systematic barriers

Running a general practice as a small business, with concomitant infrastructure and staffing needs, raised many issues that impact on the management of hypertension. For example, home BP monitoring incurred a cost to practices because machines lent out were often not returned. From a business perspective practices did not want to charge patients for the hire of machines due to increased administration and goods and services tax implications.

While there was recognition of the cost to patients to hire or buy a home BP machine, there was an equal recognition that this financial outlay provided a good indicator of their motivation.

Some felt costs could be reduced by:

- funding practices to purchase digital machines
- funding patients through Medicare or private healthcare rebates.

Reduced access and financial restrictions currently inhibit the widespread use of ambulatory BP monitoring.

'… you can't really justify the expense of purchasing [ambulatory BP monitors] within a business and not getting any return on it, given the price.' [Male GP, focus group 3, aged 36–45 years]

Referral for those not reaching target was often described as disappointing with patients returning with little change. Some stated they would find the creation of a specific hypertension clinic useful to refer to.

Participants argued for greater recognition from government, researchers and others that general practice is governed by strict time constraints. Participants argued that they need to be remunerated appropriately for the amount of work they do and in particular, long consultations need appropriate funding.

'… the classic patient is slow, hard going, multiple problems, and they need to fund that properly …' [Male GP, focus group 1, aged 46–55 years)

Some suggested that hypertension should qualify for a chronic disease management care plan, while others conversely suggested 'bureaucratic time wasters' such as care plans needed to be reduced.

The cost of medication was also raised. It was considered a particular problem for low income earners who do not qualify for government benefits. One group discussed being largely unaware of the cost of individual medications. Making a list of the relative costs of comparative medications accessible through practice software was suggested.

Discussions arose in the four focus groups regarding potential financial incentives to reach treatment goals for type 2 diabetes that had recently been proposed by the Australian Federal Government. The vast majority of participants expressed doubts about the usefulness of focused funding, describing it as 'a recipe for disaster' that would encourage 'cherry picking' of patients. One GP felt it would be fairer to pay for improvement rather than target attainment.

Some GPs stated that financial incentives provided to patients would achieve better results. For example, tax rebates for achieving targets or increased Medicare levy for those not reaching targets.

Broader public health approaches were also suggested including:

- BP awareness campaigns
- healthy lifestyle choice education within schools
- multilevel policy approaches to encourage physical activity
- the introduction of clearer food labelling for salt content, similar to a Heart Foundation 'tick of approval'.

There was discussion about the role of allied health practitioners in the management of hypertension.

It was felt that pharmacists have a role to play in taking BP, providing BP machines and providing appropriate medication advice. Discussion about the role of nurse practitioners and practice nurses in the provision of primary care centred on the context in which they would be utilised and a need to define their responsibilities: 'essentially a territorial versus a medical argument.' [Male GP, focus group 4, aged 36–45 years]

Participants spoke passionately about how they view themselves as providers of integrated whole person care. Most participants were satisfied with the idea of a supportive screening role for nurses. A small number of GPs suggested a diabetes nurse educator model to deliver education programs and one suggested they could follow a protocol to change antihypertensive medication doses within strict parameters.

Discussion

Knowledge creation, distillation and dissemination are not enough on their own to ensure the use of evidence in decision making.[11] Knowledge translation takes place within a complex system of interactions such as between researchers, GPs, patients and the health system. This study highlights areas of uncertainty and important contextual issues that need to be addressed in efforts to strengthen a systematic approach to the management of BP and cardiovascular risk.

Questions raised by participants highlight knowledge management difficulties and problems faced by time-pressured practitioners in knowing where to access this often disparate information in real time. *Table 4* is our attempt to respond to questions posed. It illustrates that most of the information is readily available in the Heart Foundation Guide to Management of Hypertension.[12]

Based on this and our previous study,[7] guideline awareness is clearly only part of the issue. After 2 years distrust of clinic BP readings has increased, but distrust toward automated BP machines and evidence underpinning guidelines seems to have abated. Initial messages taken from guidelines included changes to BP targets and management approach but knowledge needs have changed. Rather than taking BP in the clinic setting, GPs were increasing their use of out-of-office monitoring, reflected in new areas of uncertainty. Participants seemed unaware that this is also covered in the guidelines.

In this study, participants seemed to suggest clinical inertia could be addressed by a more standardised approach to BP management and increasing patient education. Systems issues originally identified remain and evolve. Thus translating knowledge into clinical behaviour is an iterative, dynamic and complex process.[11]

The participants in both studies embody the notion that it 'is not merely about knowing the rules but about deciding which rule is relevant in any given situation'.[13] Again, it is perhaps no surprise that guidelines are limited in their ability to influence practice. Greenhalgh argues knowledge (the capacity to exercise judgement) is embodied and reproduced in a dynamic, organic way referred to as structuration,[14] collective sense making,[15] communities of practice[16] and mindlines.[17]

Participants suggested intermittent reminders of existing guidelines and how to access them would be useful. Ongoing marketing of the guidelines will be helpful but it is too simplistic to suggest that this is all that is needed. While this is likely to change over time, observational studies have shown that guidelines, computer systems, and direct access to the internet were rarely used to solve a clinical problem in real time. An important shortcut to the best up-to-date practice for GPs is their professional networks among other doctors.[17,18] As participants in one focus group suggested dissemination may be enhanced by one-on-one and small group education sessions.

The political and organisational framework of general practice also needs to be addressed. Participants made suggestions for changes to Medicare and funding structures that would assist the management of raised BP. Some BP management is already outsourced and participants were open to a greater role for other health professionals in BP screening, monitoring, and education. While it is beyond the scope of this article to discuss broad public health approaches, participants identified that health is not managed within a silo and wider policy measures are required to encourage healthy lifestyles.

Study limitations

Participants were self selected and reimbursed. We have captured the views of a relatively small number of urban GPs who work within group practices involved in supervision of medical students and general practice registrars. The views of solo and rural and remote GPs were not represented. However, transferability rather than generalisability is considered important in qualitative research.

The GP groups were 'naturally occuring'.[19] Members may feel more comfortable to speak openly and challenge each other to clarify responses[10] or they may remain unchallenged by different ideas with a tendency to acquiesce with the group. The use of focus groups allowed for the sharing of experience and skills and enabled participants to delineate problems and offer support and advice to each other.

Conclusion

To facilitate improvements in BP management, the most pressing needs of this group of GPs is to reduce the uncertainty surrounding the measurement and interpretation of BP readings. This study has identified that sections of existing hypertension guidelines need to be reviewed and implemented, but there are other important contextual issues that need to be addressed in efforts to strengthen a systematic approach to the management of BP and cardiovascular risk.

Key points

- The GPs in this study suggest that greater standardisation of BP measurement, recording and interpretation is needed.
- Effectively and efficiently implementing this vital information and translating it into routine clinical care remains the great challenge.
- Identifying knowledge gaps and other important contextual issues is an important first step.

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Conflict of interest: none declared.

Table 4. Existing evidence to address specific actions recommended by participating GPs

Specific actions recommended by GPs to improve hypertension management	Existing evidence
List of available guidelines	www.heartfoundation.org.au/information–for–professionals/clinical–information/pages/default.aspx
Clarification of best technique to measure, record and interpret BP	Ambulatory BP monitoring is the most accurate method of measuring BP (Heart Foundation* [HF] p. 6; McGrath P**)
Home BP monitoring	
Digital BP machine calibration guidelines	Accurate self measurement of BP requires an accurate, validated device that is serviced regularly and recalibrated every 6 months (HF p. 7*)
List of reliable machines	See Guidelines for the validation of home BP measurement devices: www.heartfoundation.org.au/information–for–professionals/Clinical–Information/Pages/hypertension.aspx www.hbprca.com.au/high–blood–pressure/validated–bp–monitors–in–australia www.bhsoc.org/blood_pressure_list.stm (more complete list, availability in Australia not known)
Automatic BP machine with memory function	For a list of machines with memory see: www.bhsoc.org/blood_pressure_list.stm (Availability in Australia not known) HF p. 7*
Patient self management guidelines	Self measurement of blood pressure (1999 information sheet): www.heartfoundation.org.au/information–for–professionals/Clinical–Information/Pages/hypertension.aspx
Ambulatory BP monitoring	
Evidence for validity and validity in different patient groups	Ambulatory BP monitoring is the most accurate method of measuring BP (HF p. 6*; McGrath P**) Off the cuff DVD series: www.hbprca.com.au/resources
Interpretation guidelines	Ambulatory BP monitoring and interpretation should only occur in experienced monitoring centres (McGrath P**)
Mercury sphygmomanometers	
Calibration guidelines	All sphygmomanometers require servicing at least once each year (HF p. 5*)
White coat hypertension	
Definition, diagnosis, assessment of risk	HF pp. 6, 10*; McGrath P**
Investigation guidelines for raised BP	
Who, when, what, why	Initial and further investigations (HF p. 11*)
Cardiovascular risk assessment tool	
How to use/how to interpret results	HF pp. 11, 14–17* www.heartfoundation.org.au/information–for–professionals/Clinical–Information/Pages/absolute–risk.aspx
List of medication costs	PBS and MIMS online provide a guide of individual medication costings but not a comparative list: www.pbs.gov.au and www.mims.com.au
Patient education materials	www.heartfoundation.org.au/your–heart/Pages/default.aspx www.heartfoundation.org.au/your–heart/cardiovascular–conditions/pages/blood–pressure.aspx
Funding for home and ambulatory BP monitors	Private healthcare rebates may be obtained for the purchase of digital BP machines for BP self measurement

* Heart Foundation Guide to management of hypertension 2008. Updated December 2010. Available at www.heartfoundation.org.au

** McGrath P. Ambulatory blood pressure monitoring position statement. Med J Aust 2002;176:588–92. Note: The Heart Foundation, in collaboration with the High Blood Pressure Research Council of Australia, is updating its ambulatory blood pressure monitoring position statement (2002). The updated position statement will be available early 2012

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