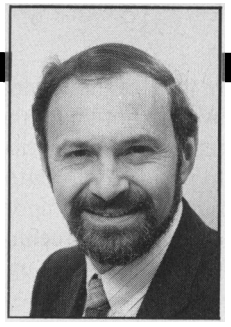

Martin J. Bass

Organizing the Office for Effective Detection and Management of Hypertension

SUMMARY

An effective office organization for screening and follow-up of hypertensives can be simple. The physician must first adopt a policy of regularly taking blood pressures of patients who attend for any reason. Notations on the outside of the chart are a visible record and reminder. A tickler file with 12 monthly divisions provides an efficient follow-up system. There are no ethical barriers to instituting this approach. (Can Fam Physician 1985; 31:351-354)

SOMMAIRE

Il peut être facile d'organiser au bureau le dépistage et la relance des hypertendus. Le médecin doit d'abord adopter une procédure de prise régulière de la tension artérielle des patients qui consultent, quelle qu'en soit la raison. En inscrire la lecture sur la couverture extérieure du dossier permet de visualiser rapidement et constitue un rappel. Un dossier chronologique avec divisions mensuelles procure un moyen de relance efficace. Il n'existe pas de barrière éthique à utiliser cette approche.

Key words: Hypertension, screening, records

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IN 1983, A FOUR-PERSON working group of the Federal/Provincial Advisory Committee on Community Health Services identified specific problems with hypertension detection and management in Canada.[1] They attributed these perceived problem to the family physicians of Canada, saying they lacked organized approaches and were too preoccupied with curative services and acute problems. While I strongly disagree with most of the above, I do agree there is a lack of organization in our approach to hypertension.

Detection of hypertension is often hit and miss. Patients attending for headache, fatigue, heart complaints or an annual check-up have their blood pressure measured, but with minor injuries or infections, the problem of the moment is treated, with little attention to prevention. The physician is not underrating the importance of detecting hypertension; he is attending to the problem that most concerns the patient. We would all accept that prevention is an important part of family practice philosophy,[2] so how is it that we often miss prime opportunities to conduct a preventive test? This happens because policies are not in place to ensure that the philosophy is carried out.

Similarly, hypertensive patients are lost to follow-up, not because the physician underrates the importance of follow-up; but because there are no policies on the follow-up of hypertensive patients or no specific approaches to enforce the policies. Too often, the physician says "See me again in three or four months". The patient leaves the office without a specific appointment and either forgets or keeps waiting for a 'convenient' time. A percentage of hypertensive patients may even feel that they don't need to be seen if they are feeling well.

We want to detect patients with elevated blood pressure early, to assess and manage them appropriately, and to follow their progress continuously. Family practice is well suited for the above, since patients are cared for over time and seen for a wide variety of problems. The family doctor has the capabilities to detect, assess and manage all aspects of hypertension.[3] Before developing specific approaches to ensure that the above objectives are met, we need to consider the natural history of hypertension and the resources available.

We know that diastolic pressures change slowly over time rather than abruptly. From the Australian trial, we learned that diastolic pressure increased in only 12% of identified mild hypertensives (BP 95-109) treated with placebo within three years.[4] Also during that period, diastolic pressure fell below the mild hypertension range

in 48% of the identified hypertensives. We are not under the pressure of time, therefore, in identifying and managing hypertensive patients in the mild range. This is important to know when choosing a screening interval and determining follow-up times.

The resources available to the family physician vary greatly from practice to practice. Physicians in teaching practices and most group practices have access to a nurse or nursing assistant. Many physicians in solo practice minimize their practice expenses by employing only a receptionist. This is an important consideration: policies utilizing available staff will be more effective than those which rely solely on the physician's memory. On the other hand, if the workload of the auxiliary staff is increased, other activities may suffer.

A Screening Policy

In order to ensure that all hypertensive patients in the practice are identified, the physician must establish a screening policy. The critical issues are how often to screen patients and what to do about patients whose BP is not recorded. Both issues are controversial.

The policy that best fits family practice is one that can be conducted in concert with routine care. This has been termed "case-finding" to distinguish it from more general screening programs.[5] When a specific policy is formed for all patients, then McWhinney's term "continuous practice population screening" (CPPS) is more fitting.[6] This is based on the system developed by Tudor Hart[7] in his practice. CPPS embodies the idea that the screening will be conducted "over time" on the whole practice population. In this scheme, patients attending for any health problem also have their BP checked. Table 1 lists the characteristics of CPPS and contrasts it to the standard intermittent screening programs.

The Ontario Hypertension Task Force (1977) recommended measuring BP for every patient at every contact.[3] This recommendation was repeated in June 1979 in a consensus report of hypertension task forces.[8] The basis for this stance is given as an "informal survey of primary care clinicians". A recent study found that only 23% of Toronto physicians reported measuring the BP of middle-aged patients at every visit.[9] I suspect this response is an overestimation. Even if a BP measurement could be done in one minute, then 30 patients will add 30 minutes to an already busy day. Also, the mean number of visits in family practice is 2.9 visits/year, but the median is 2.0. The distribution of visits is therefore skewed; a sizable proportion of visits are made by frequent visitors.[10] The frequent repeat measurement of blood pressures in those known to have normal BPs seems a waste of energy to most patients—and to all physicians. The 'everyone, every time' policy has merit of not requiring decision-making and may be practical for some.

More attainable is a policy to screen each patient at least once every two years[11, 12] or at least once every five years.[7] This approach is based on the slow progression of hypertension, and the knowledge that 95% of patients will be seen in the office at least once every 5 years.[12, 13] To work, this policy requires a mechanism to denote those who have had a BP reading and at the same time to highlight those who require a reading. In the absence of any special mechanism, five year screening rates will be about 70% for all adults 20-65 and 83% for those over 55 years of age.[14]

TABLE 1
Comparison of Screening Techniques

Intermittent General Population Screening	Continuous Practice Population Screening (CPPS)
Blood pressure readings offered in special clinics.	Blood pressures systematically taken on all patients attending office for any purpose at designated intervals.
1. Captures only a selected portion of the population.	1. Captures the entire practice population.
2. 'One shot'.	2. Continuous process repeated at regular intervals.
3. Separation of screening procedure from investigation and management.	3. Integration of screening diagnosis and management.
4. Add-on to existing health service.	4. Part of existing health service.

Effecting the Policy

Screening should be a joint effort of the physician and his staff. This is an excellent time for delegation. If a trained office staff member has time to take the BP at every visit, fine; but in the real world there is no reimbursement for taking BPs and the physician has a limited staff. I believe measuring BP once every two years is a realistic target. The simplest technique for quickly identifying those whose BP should be measured is to write the last year a BP was recorded with a colored marker in an obvious spot on the front of the chart. A different color is used for every year. This can be kept current by the receptionist checking each chart for a BP record as she refiles the charts. At the other end, as each chart is pulled for the day's appointments, the last year of BP recording is checked; if the patient is due for a BP check, then a brightly colored note saying "BP NEEDED" is clipped to the chart for the doctor's attention. This system has worked well with minor modifications in the 17 experimental practices in our study. We initially used colored dots, but these were more expensive and tended to fall off. A computer should be able to take on this task, but reliable, easily available software is still in development.

There are several practical considerations to make the screening policy work well. Sphygmomanometers must be readily available: there should be one in every consulting room and in the doctor's bag. The practice should

TABLE 2
Five Year Screening Rates in 17 Family Practices

Age at onset of screening	% Screened M	% Screened F
20-29	81.7	89.8
30-39	90.0	91.7
40-49	90.9	94.8
50-59	94.2	94.5
60-65	96.1	96.3

have at least one obese cuff and one pediatric cuff and at least one mercury sphygmomanometer to calibrate aneroid and electronic apparatuses. Finally, the doctor has to notice reminders clipped to the chart. With this policy, five year screening rates over 90% are easily achievable (Table 2). Most of those missed will be younger male patients who are seen after hours or very infrequently.

What About Those Missed?

With the recording on the outside of the charts, the physician can quickly identify patients whose BP has not been measured for more than five years. What to do about those patients? There has been some debate about whether to call patients in for a BP check.[15] Some physicians feel it is akin to soliciting business. Others argue that a responsible physician is concerned about the longterm welfare of his patients. Undiagnosed hypertension can result in severe morbidity for which we have little to offer: our commitment to maintaining the health of our patients requires us to take an active stance. In our study, we used a postcard offering an opportunity for BP measurement on several days (Figure 1). Some people had moved away, others phoned to say they were no longer patients. Many felt it a useful exercise. Of the delivered postcards, 30% resulted in a BP being taken.

Follow-up Systems

Having determined that the patient has borderline, mild or moderate hypertension, the issue of follow-up arises. Follow-up and management are intimately related. Patients on drug therapy will be more closely supervised than those with borderline hypertension who are being observed annually.

Dentists have discovered that patients left to their own devices will conveniently forget appointments, so most remind their patients of upcoming appointments by mail or phone. Few medical offices have the available staff to contact more than a few patients. A simple file box of 12 sections, one for each month, can quickly identify patients who are at risk to being lost to follow-up.

Each hypertensive has his/her own file card with the name and a daytime phone number. Each card is filed by the month the next visit is due. Each hypertensive's chart is identified by a colored sticker. Before the day's charts are refiled, those with a hypertensive sticker are reviewed to determine the timing of the next appointment. The patient's file card is moved forward to the appropriate month. Bimonthly, the charts of those patients whose file card remain are reviewed to make sure they haven't visited. All those outstanding are followed up with a phone call to remind them of the need to visit the office.

This simple tickler file worked well with minor variations in all 17 practices in the UWO study. Some practices kept monthly lists that were crossed off as patients attended. In other practices, doctors wrote the follow-up period directly on the file card which the patient returned to the receptionist as he/she left the office.

We and others have also used the computer to identify all hypertensive patients who have not been seen in a six or 12 month period.[16] The computer identifies all patients who appear to be lost to follow-up; their charts are checked and appropriate contact made.

Ethics of Follow-up

There are few concerns about contacting a person who is already under care for a problem. The College of Physicians and Surgeons of Ontario has ruled that such conduct is proper.[15] Many physicians would argue that you have an obligation to contact a person who has dropped out of care. It may be an oversight or simple forgetfulness, or lack of clarity from the doctor.

Others would respond that patients as adults have an obligation to care for their own wellbeing and the doctor can't be a nursemaid. I stand with the doctors who take the extra effort to care for their patients. However, patients should not be badgered. They must be allowed to refuse to take medication or to be trotted quarterly into the doctor's office, but they must be fully informed before making this decision.

Evaluation

The quickest way to evaluate the adequacy of your screening procedure is to pull a sample of charts and to determine the proportion of patients with a BP reading in the preceding two or five years. A systematic sample (say every 10th or 20th chart) consisting of 50 charts will identify the true proportion screened within $\pm 10\%$.[17] Exact formulae can be found in most standard statistical texts under "confidence limits on a single proportion". Similarly, the adequacy of follow-up of hypertensives can be assessed by sampling the charts of hypertensive patients.

An important part of any evaluation is to ask your office staff and your patients how they feel the system is working.

Fig. 1
Postcard Invitation for BP Screening.

We would like an opportunity to check your blood pressure. The nurse will be available to check it on:

Tuesdays and Fridays

During the month of December

9:30 a.m.-3:00 p.m.

Just drop in.

If you have any questions, call 485-1140

Conclusion

Each family physician has the choice and the obligation to institute in his practice clear policies about his patients' blood pressures. The procedures required are not radically new, nor are they complex. The time is ripe to organize the office for effective hypertension detection and follow-up. Only when this has been accomplished will the family physician become fully effective and the criticisms raised against family practice be convincingly rebutted.

References

1. *Working group report of the Federal/Provincial Advisory Committee on Community Health Services. Ottawa, 1983.*
2. *McWhinney IR. An introduction to family medicine. Toronto, Oxford University Press, 1981.*
3. *Task Force on Hypertension. Hypertension. Toronto, Ontario Council of Health, 1977.*
4. *Management Committee of the Australian Therapeutic Trial in Mild Hypertension. Untreated mild hypertension. Lancet 1982; 1:185-91.*
5. *Sackett DL, Holland WW. Controversy in the detection of disease. Lancet 1975; 2:357-9.*
6. *McWhinney IR. London, ON., University of Western Ontario, Ministry of Health Grant Application DM330, 1977.*
7. *Hart JT. Hypertension. London, Churchill Livingstone, 1980.*
8. *Sackett DL. The hypertensive patient: 2. Finding and linking to clinical care. Can Med Assoc J 1979; 120:1477-8.*
9. *Dunn E, Hilditch J, Chipman M, et al. Diagnosis and management of hypertension: the stated practices of family physicians. Can Med Assoc J 1984; 130:985-8.*
10. *Bass MJ. Author's data, University of Western Ontario hypertension study. London, ON., 1984.*
11. *Canadian Task Force on the Periodic Health Examination. The periodic health examination. Can Med Assoc J 1979; 121:1193-1254.*
12. *Frame P, Carlson S. A critical review of periodic health screening using specific screening criteria. Part 1: Selected diseases of respiratory, cardiovascular and central nervous systems. J Fam Pract 1975; 2:29-35.*
13. *D'Souza M, Swan A, Shannon D. A long-term controlled trial of screening for hypertension in general practice. Lancet 1976; 1:1228-31.*
14. *Bass MJ, Donner A, McWhinney IR. Effectiveness of the family physician in hypertension screening and management. Can Fam Physician 1982; 28:255-8.*
15. *The College of Physicians and Surgeons of Ontario. Recall systems—physicians' offices. Coll Notices 1982; 4:2.*
16. *Schmittling G. Computer use by family physicians in the United States. J Fam Pract 1984; 19:93-7.*
17. *Cotton T. Statistics in medicine. Boston, Little, Brown and Co., 1974.*