Management of High Blood Pressure in Clinical Practice: Perceptible Qualitative Differences in Approaches Utilized by Clinicians

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The authors recruited a group of physicians from among the investigators participating in the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT) with a greater (more successful) or lesser (less successful) proportion of trial patients meeting blood pressure (BP) control goals. The authors utilized qualitative focus group methods to identify similarities and differences in practice behaviors.

Successful and less successful physicians had similarities in knowledge and practice behaviors regarding awareness of treatment guidelines, approaches to diagnosis, use of pharmacologic management, and the opinion that systolic BP guidelines should consider a patient’s age. However, there were discernible differences between the two physician groups in their views on doctor-patient relationships: physicians from the less successful group were more paternalistic with their patients, while physicians from the more successful group were more likely to use a patient-centered clinical approach to BP awareness and management. J Clin Hypertens (Greenwich). 2008;10:822–829.

Since 1965, several clinical trials have shown that in adults with hypertension, treatment significantly lowers the risk of stroke and the morbidity and mortality associated with coronary artery disease.1–3 Despite the clear benefits of treatment, hypertension (HTN) control rates remain far below the Healthy People 2010 national goal.4 Consequently, patients with diagnosed HTN in whom goal blood pressure (BP) is not reached because of inadequate treatment needlessly contribute to the burden of cardiovascular disease.

Seventy-three million individuals in the United States aged at least 20 years have high BP,5 and
high BP is cited as one of the leading reasons for visits to primary care providers. Estimates from the Third National Health and Nutrition Examination Survey (NHANES 1988–1994) show that 23% of all HTN patients older than 18 years had their BP under control. NHANES data from 1999 to 2000 suggest that control rates have improved to 36%. Other data suggest that these rates fall far short of what can be accomplished.

The question of inadequate control rates among treated hypertensive patients in the United States persists. A number of plausible explanations dealing with both sides of the clinician/patient care relationship have been postulated. Berlowitz and associates suggested that many physicians are not as aggressive as they should be in their willingness to intensify medical therapy for the elderly—so-called clinical inertia. Poor patient adherence is a nagging and pervasive problem for both clinicians and patients. In addition, health system deficiencies are partly responsible for the suboptimal levels of BP control.

The difficulty of improving BP control levels among treated patients with HTN raises questions:

- Why have efforts of the National High Blood Pressure Education Program to disseminate treatment guidelines for more than 30 years been only partially effective in enhancing physicians’ and other health care providers’ behavior about HTN treatment?
- Are many clinicians still not cognizant of the BP management recommendations prescribed in the treatment guidelines for HTN?
- Why are some clinicians more aggressive than others in treating patients to recommended guideline targets?
- What impediments are perceived by clinicians in treating patients to recommended BP goals?
- Do patients have adequate knowledge about HTN and the attendant consequences of lack of control?
- Do patients and care providers engage in shared decision making?

Answers to these questions may help further improve BP control data. Previous attempts to answer similar questions have utilized quantitative methods, such as surveys of physicians’ knowledge and attitudes and reviews of actual physician practice data. We used focus groups of physicians and other health care providers to generate qualitative information that may help answer some of the above questions. The qualitative information is directional in nature and therefore may not be representative of all clinicians who care for patients with HTN.

Use of focus groups is a qualitative research method that provide an additional approach to obtain information about patient-clinician encounters, opinions, preferences, and reported behaviors. This method is being used increasingly in health services research and allows for gathering data on dynamic attitudes of individuals interacting in a group regarding a specific topic or set of topics. Focus groups allow for in-depth discussion by clinicians regarding their impressions and beliefs about the management of HTN. This approach enables the generation of specific research questions and the formulation of hypotheses that may then be tested using quantitative research methods.

The purpose of this study was to identify why some physicians had more success in controlling BP in their patients than others. Focus groups of “more successful” physicians and “less successful” physicians were conducted to meet this objective.

METHODS
Study Population
A total of 8 physician focus groups represented two defined levels of success (more successful and less successful at treating patients to recommended BP goals). Two focus groups (one of each success level) were conducted in each of 4 US geographic regions (Northeast, South, Midwest, and West) (Figure). Success in managing HTN was defined as having ≥50% of patients under one’s care with systolic and diastolic BP levels of <140/90 mm Hg. Less success in managing HTN was defined as having ≤50% of patients within these recommended BP levels.

Eligible physicians were identified after a review of BP results of investigators involved in the Anti-hypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT)—a large-scale clinical trial in the United States, Canada, and the Caribbean—was conducted to determine whether the above criteria were met. ALLHAT was the source from which our sample of investigators was recruited. Because BP data from patients enrolled in ALLHAT were available, participating physicians were able to be categorized as defined above, assuming that ALLHAT patients were typical of non-ALLHAT patients under care by the same physician. ALLHAT physician investigators practiced in various clinical settings, including academic medical centers, community health centers, health maintenance organizations and other managed care settings, private solo and group practices, Veterans Administration hospitals, and US military clinics; a plurality of participating sites were private practices. The ALLHAT design and main results...
have been published elsewhere. This ancillary study was conducted before ALLHAT results were reported.

Eligibility rules for selection of focus group sites required that at least 3 ALLHAT sites be located within a reasonable distance to enable investigators to travel to a central location. Of the 623 clinical sites in ALLHAT, 205 clinics were eligible. The locations included the metropolitan areas of Atlanta, Georgia; Chicago, Illinois; Dallas/Forth Worth, Texas; Houston, Texas; Jackson, Mississippi; Los Angeles, California; New Orleans, Louisiana; New York, New York; Washington, DC; Rochester, New York; and San Francisco, California (Figure).

To facilitate recruitment in this study, potential physician participants received a letter from the director of the National Heart, Lung, and Blood Institute, National Institutes of Health, requesting their cooperation. To be invited to participate, they must have joined ALLHAT and randomized their first patient prior to March 1, 1997, and have at least 20 ALLHAT patients who have had at least 2 visits since February 1998. Categorization as successful or less successful for the groups was based on the BP measurements of invited physicians’ patients’ 2 most recent visits after February 1998.

**Description of the Focus Groups**

Each focus group of 3 to 8 physicians was held in the evenings to maximize attendance and lasted ~90 minutes. The same professional focus group facilitator (GMG) specializing in health care led all group discussions using prescribed questions that are summarized in Table I. The prescribed discussion guide (protocol) used by the facilitator helped to control the dynamics of the sessions. Another person (MC), experienced in focus groups, observed each session from outside the discussion room and debriefed the moderator with regard to consistency with the discussion guide prepared for the study. At the end of each session, both the facilitator and observer discussed the session atmosphere, content, and the participants’ nonverbal styles, as well as discussion dynamics within the group. All these were summarized in narrative form, with emphasis on the main points raised by the group on each

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<td>General hypertension (HTN) management approaches</td>
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<td>Approach with newly diagnosed HTN</td>
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![Figure. Locations and sizes of focus groups.](image)
respective topic in the discussion guide. This summary formed the basis of an initial report by the moderator.

**Approach to Data Analysis and Interpretation**

The broad analysis strategy was based on the following 3 criteria for important issues, as suggested by Morgan\(^22\): (1) the number of groups that address the issue (ie, in this study that similarities and differences between the more and less successful physicians are noted in multiple locations); (2) the number of people in each group who address the issue (ie, a difference between a paired set of groups reflected statements from several members of each group, rather than just one vocal participant); and (3) the level and importance that the physicians assign to the issue. Thus, a statement that there was a difference between 2 groups is based on the conclusions that this difference occurred in several groups, that it represented the views of several physicians in each of these groups, and that these physicians felt this was an important issue.

This analysis strategy was based on comparisons within predetermined pairs of focus groups. Specifically, each regional site generated one pair of physician focus groups, and the comparisons between more and less successful physicians were done separately within each region. Thus, a statement that a difference occurred consistently means that the same difference occurred at multiple locations when the 2 groups were compared relative to a particular discussion topic.

**Specific Data Analysis Procedures**

All focus group discussions were tape-recorded and transcribed prior to coding and analysis using the Ethnograph software package (Qualis Research Associates, Amherst, MA).\(^23\) This software was used to generate a count of how often each code appeared in each transcript and to make comparisons among the different categories of physicians in the full sample. There were 3 stages in this analysis. First, a hierarchically structured codebook was developed\(^24\) from summaries provided by the facilitator of the focus groups and was applied to every transcript. A single coder with training in qualitative methods read each transcript and used the software to attach the relevant codes to the appropriate sections of text. For quality control purposes, a second independent reader coded a 25% subsample of the transcript to assure reliability of the coding procedures. Second, coded transcripts were used to make comparisons between the different groups, searching for topics that were mentioned more frequently by one group vs another. Third, segments of the transcripts were examined for topics that each group discussed with an unusually high or low frequency, with a focus on identifying topics that generated meaningful differences between the groups.

The final stage in data analysis comprised marking each code where the transcript mentioned a topic either more or less frequently in one focus group vs another at multiple locations. In addition, the software sorted these text segments according to the type of group in which they occurred, in this case, distinguishing more vs less successful physicians.

**RESULTS**

A summary of the qualitative factors for the more successful physician focus group compared with the less successful group is presented in Table II. Generally, the factors were categorized as follows: emphasis on patient involvement and engagement, awareness of access issues and the patient’s ability to afford prescribed medications, and patient involvement in treatment decisions.

**Detection and Confirmation**

Both the more successful and less successful groups of physicians used similar technical procedures to detect and confirm HTN. In particular, there was broad agreement on the value of using several separate readings to confirm a diagnosis of HTN. For example, in discussions of a scenario in which physicians were presented with a patient whose BP was elevated to levels considered unacceptable, both sets of physicians indicated hesitation to make a diagnosis of HTN on that visit unless the levels were dangerously high. Physicians in both groups discussed spending time to know and interact with the patient before a diagnosis is confirmed at repeated visits. This enables the physicians to address potential patient anxiety with initial diagnosis.

While both sets of physician groups approached a new diagnosis of HTN similarly, the more successful physicians were more likely to use the period between initial detection and confirmation of diagnosis as an opportunity to encourage the patient’s involvement. In particular, the more successful physicians used monitoring as an opportunity to advise and educate patients. The successful physicians spent more time discussing the condition and the attendant risk of cardiovascular complications (eg, heart failure, myocardial infarction, and stroke).

Although both groups of physicians discussed limits imposed by managed care, the more successful
physicians were more aware of the access issues that their patients experienced during the process of detection and confirmation. The two common strategies that these physicians used to meet patients’ access needs were a greater emphasis on home monitoring and more flexible scheduling of office visits.

Guideline Treatment Goals

There was a high awareness among physicians of the national guidelines for HTN. Both groups of physicians concurred with the treatment goals recommended by the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) guidelines and especially the recommendations for individuals with comorbidities such as diabetes. Discussions and statements among physicians in each of the groups were similar regarding treatment recommendations.

However, some physicians in both sets of groups debated whether the same guidelines should apply equally to both younger and older patients. These physicians stated that they would pay more attention to recommendations of 140/90 mm Hg when dealing with their younger patients. One participant noted that “[there is a . . .] range of systolic BP that would make me pay attention but not intervene. So I would pay attention if it’s over 140 [mm Hg] if he was younger, 160 [mm Hg] in someone older, but probably not initiate therapy on the first visit.”

Lifestyle Approaches to Management

Both sets of physicians reported that they were likely to begin management with lifestyle modifications, unless the initial BP levels were unusually high (eg, >160 mm Hg systolic). Physicians believed that starting with a lifestyle approach reflected the preference of patients who were often unwilling to try medications until it was clear that lifestyle modifications were not sufficient. The lifestyle and behavioral factors that were focused on in the discussions included weight reduction, exercise, salt reduction, and alcohol reduction. Physicians in both focus groups indicated that they would start pharmacologic treatment if lifestyle modification did not contribute to normalizing a patient’s systolic BP at ≤140 mm Hg within 3 or 4 months.

Most physicians were pessimistic about the likelihood of success utilizing lifestyle modifications alone, but they were willing to try this approach for 2 or 3 months before insisting that patients start pharmacologic therapy. Discussions of the use of lifestyle modification were animated, eliciting more

| Table II. Qualitative Factors for Successful vs Unsuccessful Treatment |
|---------------------------------|---------------------------------|
| **MORE SUCCESSFUL (n=18)**     | **LESS SUCCESSFUL (n=24)**     |
| Greater Emphasis on Patient Involvement and Engagement | Less Emphasis on Patient Involvement and Engagement |
| Encourage lifestyle changes | Fail to achieve patient buy-in for treatment plan |
| Educate patient on asymptomatic hypertension | Underestimate home environment’s effect on compliance |
| Educate patient on home monitoring | Set inflexible treatment goals |
| Involve patient through review of self-recorded BP data | Fail to consider cultural or trust issues that affect compliance |
| Discuss attendant health risks (cardiac events, stroke) | Fail to recognize comorbid illnesses |
| Establish interim treatment goals | 
| Pay greater attention to patient’s sex, comorbidities, and age when prescribing | 
| Greater Awareness of Access Issues | Less Awareness of Access Issues |
| Allow flexible scheduling | Fail to consider insurance (or lack of insurance) in treatment planning |
| Allow walk-in BP checkups and health advisories | Fail to consider cost of multiple prescribed medications |
| Understand and explain the formulary’s role (eg, VA clinics) | Stress lifestyle modification |
| Practice cost-conscious prescribing by using the least expensive appropriate medications whenever possible | Fail to be aware when patient changes providers or insurance plans |
| Consider all available settings for care | 
| Greater Patient Involvement in Decision Making | Less Patient Involvement in Decision Making |
| Use medication changes to educate/engage patient in treatment decisions | Limit information sharing |
| Add patient-maintained record card to monitor compliance | Discuss only technical aspects of drug benefits (eg, “only explain if asked”) |
| Progressively introduce effective dose and multiple medications | Allow insufficient time for discussion of side effects |
| 

Abbreviations: BP, blood pressure; VA, Veterans Administration.
questions from the physicians themselves. Discernible differences were noted between the successful and less successful physician groups regarding the role of patient lifestyle modifications and their effectiveness in HTN management strategies.

Pharmacologic Management
Although both sets of physicians discussed the same types of medications and their side effects, the less successful physicians discussed them primarily in terms of technical issues and procedures. Physicians from both the successful and less successful groups utilized the same medications without particular preference for one class. Some of the physicians in the less successful group tended to be more technical in their approach and discussed the issue in terms of “deal making.” One physician noted that it was as if he/she was “contracting with children,” and he/she seemed to be less willing to share information with patients up front.

The more successful physicians involved their patients in decision making, allowing for greater use of both the initial selection of medication and changes in medications as an opportunity to advise and educate patients.

A further indication of the more successful group’s involvement with patient considerations was their greater tendency to mention access issues (eg, money and insurance). They also spent more time talking about how specific comorbidities (eg, diabetes) affected their choice of medication. In making the decision regarding the choice of initial therapy, the more successful group of physicians in the focus groups considered sex and comorbidities; for example, prescribing angiotensin-converting enzyme inhibitors for diabetes patients with HTN or α-blockers for hypertensive patients with benign prostatic hyperplasia.

Another factor that appears to influence the choice of initial therapy that emerged from discussions within the more successful group was the influence of practice setting, for example, those that have formulary restrictions, such as managed care settings and the Department of Veterans Affairs clinics (Table II).

Treatment to Guideline Recommended Goals
Both groups of physicians had a wide range of opinions about how difficult it was to get most patients’ BP to the recommended <140/90 mm Hg standard. Some physicians reported widespread success, while others noted that this goal was never achieved in a number of patients. Both groups frequently stated that it was difficult to get “those last few points,” even with up to 4 medications.

Physicians in both groups reported having more difficulty in treating older patients to recommended guideline levels and questioned the value of those goals for older patients. This issue was particularly apparent regarding potential side effects and the added challenges of managing elderly patients with HTN and other comorbidities. There were questions about the value of aggressive treatment when older patients have other serious problems. In several cases, physicians raised doubts and debated the appropriateness of guideline BP goals for older patients.

Specific to the question of why so few patients with HTN have BP at or below goal levels, the less successful group (who were more likely to accept a wider gap above JNC 7–recommended BP target levels before initiating or adjusting therapy) indicated that there are wide variations in the persistent and rigid levels of what physicians may accept and follow regarding treating individual patients to achieve JNC 7 guidelines.

DISCUSSION
These physicians were drawn from the ALLHAT study and as such were thoroughly exposed to and aware of the guideline recommendations, since the ALLHAT protocol was based on the JNC VI recommendations. Thus, they were given the same information about treatment strategy and goals, yet the results of this focus study reveal physician group differences.

To the extent that there were differences between physicians who had higher or lower success rates in their treatment of HTN, these appeared in discussions that involved doctor-patient relationships. The discussions among the more successful physicians suggest greater use of activities, such as diagnostic evaluation and changes in medications, as opportunities to educate their patients about HTN. In addition, the physicians with higher success rates seemed more likely to be concerned with patients’ access issues that might affect compliance and seemed to involve their patients in a shared decision making. These findings appear to be supported by Stewart and colleagues, who reported that patient-centered care was associated with favorable outcomes. It was clear from the discussions that the physicians who were more successful in treating HTN used a more patient-centered approach. In particular, they put greater emphasis on educating their patients about HTN and they were more aware of access issues that affected their patients. These differences were noticeable even though there were no perceptible differences in the discussions regarding the knowledge or
Although the focus group approach was well-suited to generating the kinds of insights that were the goals of this study, the method does not lend well to statements as generalizable as would be possible from a truly representative sample. Despite the limitations, one can generate several hypotheses as to why some physicians are more successful than others in their treatment of HTN from these results. Although qualitative research cannot provide a definitive answer to such a question, it can illustrate the real-world complexity of these issues and provide ideas about factors that are important in the successful management of high BP.

Acknowledgments and disclosures: The authors are fully responsible for the methodology, inclusion and interpretation of data, and opinions and conclusions expressed in this article, which are independent of and do not necessarily reflect the study funders. The authors had access to the data, reviewed each manuscript draft, and approved the final manuscript. We would like to thank Joe Riley (Editorial Director, Nexus Communications, Inc.), Carol Greco (Managing Editor, Nexus Communications, Inc.), and Wendy Henson (Editorial Associate, Nexus Communications, Inc.) for their editorial support during preparation of the revised manuscript. This study was funded by Boehringer Ingelheim and the National Heart, Lung, and Blood Institute. ALLHAT was supported by contract N01-HC-35130 from the National Heart, Lung, and Blood Institute. ALLHAT was supported by contract N01-HC-35130 from the National Heart, Lung, and Blood Institute and by Pfizer Inc. The authors of this paper disclose their affiliations below, and these relate to personal or institutional-affiliated receipt of income in the areas of research grants, consultant fees, or other compensation: KLM, King; BRD, BioMarin, GlaxoSmithKline, Proctor & Gamble, and Takeda Pharmaceuticals; MC, GlaxoSmithKline and
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