Hypertension Detection in Barbershops

Barbershops as Hypertension Detection, Referral, and Follow-Up Centers for Black Men


Abstract—Barbershops constitute potential sites for community health promotion programs targeting hypertension (HTN) in black men, but such programs have not been evaluated previously. Here we conducted 2 nonrandomized feasibility studies to determine whether an enhanced intervention program of continuous blood pressure (BP) monitoring and peer-based health messaging in a barbershop lowers BP more than standard screening and health education (study 1) and can be implemented by barbers rather than research personnel (study 2). In study 1, we measured changes in HTN treatment and BP in regular barbershop customers with poorly controlled HTN assigned for 8 months to either an enhanced intervention group (n=36) or a contemporaneous comparison group (n=27). Groups were similar at baseline. BP fell by 16±3/9±2 mm Hg in the enhanced intervention group but was unchanged in the comparison group (P<0.0001, adjusted for age and body mass index). HTN treatment and control increased from 47% to 92% (P<0.001) and 19% to 58% (P<0.001), respectively, in the enhanced intervention group, whereas both remained unchanged in the comparison group. In study 2, barbers were trained to administer the enhanced intervention continuously for 14 months to the entire adult black male clientele (n=321) in 1 shop. Six barbers recorded 8953 BP checks during 11 066 haircuts, thus demonstrating a high degree of intervention fidelity. Furthermore, among 107 regular customers with HTN, treatment and control increased progressively with increasing intervention exposure (P<0.01). Taken together, these data suggest that black-owned barbershops can be transformed into effective HTN detection, referral, and follow-up centers. Further research is warranted. (Hypertension. 2007;49:1040-1046.)

Key Words: population science ■ special populations ■ blood pressure measurement/monitoring ■ blacks ■ hypertension

Hypertension (HTN) is more prevalent, more severe, and causes disproportionate numbers of premature disabilities and deaths from heart attack, stroke, and end-stage renal disease in blacks than in all other racial/ethnic groups in the United States.1–3 HTN is present in 40% of blacks, with blood pressure (BP) being controlled with medication to a recommended value of <140/90 mm Hg in less than one-third of these affected high-risk individuals.2,4 In the other two-thirds, HTN either is untreated or undertreated.

Among black women, HTN treatment rates are high, and most of the uncontrolled HTN occurs under the watchful eye of the healthcare system.2,5 Black men have less frequent contact with the healthcare system and considerably lower rates of HTN detection and treatment.2,5–8 The black church has been a conventional site for medical outreach and HTN screening programs.9,10 However, regular church attendance is much less common among black men than women.6,11

To reach a larger fraction of the at-risk male population, we approached the black-owned barbershop, a cultural institution that regularly attracts large numbers of black men and provides an open forum for discussing any number of topics with peers.12 Barbershops previously have been used for BP screening, but the effectiveness and sustainability of such programs have never been evaluated.13–16 We hypothesized that the barbershop constitutes a uniquely receptive environment for regular BP monitoring and health messages based on positive experiences of peers, a powerful motivator of health behavior.17

This article reports on 2 nonrandomized feasibility studies to determine whether an enhanced intervention of continuous
BP monitoring and peer-based health messaging in a barbershop lowers BP more than standard screening and health education (study 1) and can be implemented by barbers rather than research personnel (study 2).

Methods

Human Subjects and Research Setting
The study population was restricted to adult black male customers of 3 black-owned barbershops in the southern sector of Dallas County, Tex, a low-to-middle income area of 85% to 96% black households.11 The protocols were approved by the University of Texas Southwestern Institutional Review Board, and all of the subjects gave their informed consent to participate. All of the data collection occurred in the barbershops.

Study 1: Research Staff Intervention (April 2002 to August 2003)

Study Design
The study design and participant flow are depicted in Figure 1. Trial participants were long-term customers (>1 year of barbershop patronage) with persistent HTN after 3 sequential on-site screening visits. Condition assignment was nonrandom and based on staffing requirements; the enhanced intervention group was recruited from 1 large barbershop and a contemporaneous comparison group from 2 smaller shops. Both groups received written results of the 3 BP screenings and standard recommendations for interval medical follow-up.18 For the next 8 months, the comparison group also received a continual supply of the American Heart Association brochure titled High Blood Pressure in African Americans (product code 50–1466), whereas the enhanced intervention group received the theory based intervention described below.

Behavior Theory–Based Intervention
Social cognitive theory17,19 drove the intervention depicted in Figure 2. With accurate electronic BP monitors and medical research personnel in the barbershop as environmental facilitators, intervention messages emphasized the gravity of the personal health risk from elevated BP and the need for a regular medical provider, prescription medication, and continuous BP monitoring for effective risk reduction.

The intervention was conducted by black research assistants and medical/premedical students supervised by a black nurse who was either on-site or available by telephone to facilitate referral to community physicians. Based on individual insurance policies, participants were referred either to physician offices within walking distance of the barbershop or to a physician within their provider networks. Uninsured low-income participants were referred to the

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Figure 1. Cohort recruitment and retention for study 1. *Eligibility criteria: first screening BP >140/90 mm Hg and barbershop patronage >1 year.
Parkland Health and Hospital System.\textsuperscript{20} Patients with undertreated HTN were referred back to their established providers.

The main intervention tools were “BP report cards” giving customers and their providers on-going feedback about the need to initiate or intensify antihypertensive therapy and role model stories depicting successful risk reduction strategies adopted by other members of the target community with whom study participants could readily identify or real hypertensive customers in the intervention barbershop (please see the data supplement for these materials, available online at http://hyper.ahajournals.org). Discounted haircuts ($6 off the regular price of $12) were provided as an incentive for continued intervention participation.

**BP Measurement**

All of the BPs were measured in the barbershops with validated electronic oscillometric monitors (Series 52 000, Welch Allyn)\textsuperscript{21} after 10 minutes of rest using an appropriately sized arm cuff with the participant seated in a barber chair. At each encounter, 4 consecutive BP readings were taken, and the last 2 readings were averaged to calculate a BP value; 2 sets of readings on separate days were averaged to calculate initial and final BP values for each participant.

**Evaluation**

Serial cross-sectional face-to-face structured interviews were conducted by black surveyors to measure group differences in the BP change over the intervention period (the prespecified primary end point), as well as changes in HTN treatment rate (percentage of hypertensive subjects receiving prescription BP medication) and HTN control rate (percentage achieving BP <140/90 mm Hg). Data also were collected on numerous other individual characteristics shown in Table 1. Treatment status was validated by inspection of prescription pill bottles brought to the barbershop.

**Study 2: Barber Intervention (December 2003 to March 2005)**

Under nurse supervision, the barbers in one of the previous comparison shops from study 1 conducted the intervention outlined in Figure 2, with minor refinements explained in the figure legend. All of the adult black male customers were eligible to participate in a continuous onsite BP monitoring and referral program. Training and supervision of barbers, as well as encounter forms and other intervention materials, are available in the online data supplement. Financial incentives to the barbers were $3 per recorded BP and $50 for each BP report card signed by a medical provider and returned to the barber with proof of a new BP prescription.

**Evaluation**

The prespecified primary end point was the proportion of haircuts in which the barber recorded a BP. A secondary end point was the proportion of recorded BPs correctly interpreted by the barbers on encounter forms. Research staff regularly checked the validity of the encounter form data against data stored in the electronic monitors and intermittently observed customer flow to validate the barbers’ counts of adult and child business.

After the intervention, for 2 months surveyors approached all black male customers every day to complete a 10-minute face-to-face structured exit interview and 2 final sets of BP measurements to assess a tertiary end point—HTN treatment and control in relation to intervention exposure (total number of BP monitoring sessions with one’s barber during the preceding 14 months). Age, insurance status, and other potential covariates were also assessed. Treatment status was verified as in study 1. For each completed exit interview, the customer received a free haircut ($12), and his barber received a $5 tip for encouraging customer participation.

**Statistical Analyses**

SAS/STAT software version 9.1 was used for all of the analyses. Baseline characteristics of study participants in study 1 (Table 1) were tested against the null hypothesis of no difference between the enhanced intervention and comparison groups under the assumptions of Student’s $t$ test. Group differences in baseline and final BP were tested using paired $t$ tests. Group differences in baseline and final treatment and BP control status were tested using Fisher’s exact tests. Systolic and diastolic BP changes over the course of the intervention were tested
TABLE 1. Participant Characteristics at Baseline for Study 1

<table>
<thead>
<tr>
<th>Baseline Characteristics</th>
<th>Completed Baseline Interview</th>
<th>Completed Baseline and Exit Interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enhanced Intervention Group (n=50)</td>
<td>Comparison Group (n=44)</td>
</tr>
<tr>
<td><strong>Biological Characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, y</td>
<td>49.5±1.7</td>
<td>49.0±1.7</td>
</tr>
<tr>
<td>BMI, kg/m²</td>
<td>30.7±0.8</td>
<td>30.6±0.8</td>
</tr>
<tr>
<td>Systolic BP, mm Hg</td>
<td>149.2±2.0</td>
<td>146.8±1.7</td>
</tr>
<tr>
<td>Diastolic BP, mm Hg</td>
<td>87.8±1.3</td>
<td>87.5±1.1</td>
</tr>
<tr>
<td><strong>Demographic data, %</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married or living with partner</td>
<td>58</td>
<td>66</td>
</tr>
<tr>
<td>Education beyond high school</td>
<td>64</td>
<td>75</td>
</tr>
<tr>
<td>Employed full time</td>
<td>76</td>
<td>77</td>
</tr>
<tr>
<td><strong>Healthcare characteristics, %</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has a primary source of health care</td>
<td>68</td>
<td>72</td>
</tr>
<tr>
<td>Has health insurance</td>
<td>88</td>
<td>80</td>
</tr>
<tr>
<td>Aware of hypertension</td>
<td>68</td>
<td>66</td>
</tr>
<tr>
<td>Seeing a physician for hypertension</td>
<td>46</td>
<td>52</td>
</tr>
<tr>
<td>Taking antihypertensive medication</td>
<td>40</td>
<td>43</td>
</tr>
<tr>
<td>Controlled to BP &lt;140/90 mm Hg</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Self-reported diabetes</td>
<td>16</td>
<td>27</td>
</tr>
<tr>
<td><strong>Barbershop patronage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years at current barbershop</td>
<td>12.8±1.4</td>
<td>11.8±1.2</td>
</tr>
<tr>
<td>Haircuts per month</td>
<td>2.8±0.2</td>
<td>2.4±0.2</td>
</tr>
</tbody>
</table>

Baseline characteristics of the special intervention and comparison groups both for all of the subjects who completed the baseline interview and for only those subjects who completed the entire study including the exit interview. Expressed as mean±SE for continuous and percentage of discrete variables. BMI indicates body mass index.

against the null hypothesis of no difference between enhanced intervention and comparison groups under the assumptions of a mixed linear model with fixed group×time effects and random effects of barbershops and customers within barbershops. Additional models included baseline age and body mass index as fixed effects.

In study 2, the barbers’ completed encounter forms were electronically scanned into a Microsoft Access database. The cumulative effect of the intervention was tested by applying a Jonckheere–Terpstra nonparametric trend test to HTN awareness, treatment, and control across 4 ordered levels of exposure determined by the number of haircuts accompanied by BP measurement. To control for potential confounding by insurance status, exposure was expressed as a two-level variable (0 to 11 or 12 to 52 barber BP sessions), and the relationship between exposure level and HTN control was tested across two insurance strata (presence or absence of health maintenance organization/private insurance) using a Cochran–Mantel–Haenszel $\chi^2$ test.

**Results**

**Study 1: Research Staff Intervention**

**Cohort Recruitment and Retention**

Cohort recruitment and retention are presented in Figure 1. Successful screening of 1488 (of 1494) adult black male barber-shop customers (age: 43.1±0.3 years, mean±SE) yielded 346 potentially eligible hypertensive subjects, 38% of whom completed 2 additional screening visits followed by a baseline interview. The 132 baseline interview participants were similar to the 214 nonparticipants in all of the measured characteristics including initial BP (152/88 versus 152/90 mm Hg), age (48.0 versus 47.9 years), years of patronage (11.8 versus 11.9), and haircuts per month (2.7 versus 2.2). After 3 sets of BP measurements, 38 men no longer met criteria for HTN.

In the enhanced intervention group, 40 (80%) of 50 men participated in the intervention and had a total of 358 staff encounters (including exit BP measurements); 36 men completed the entire exit interview (Figure 1). In the comparison group, 7 men were lost to follow-up because of barber turnover; exit BPs were obtained on 29 (78%) of the remaining 37 men and complete data on 27 men.

**Regression to the Mean**

Among the 149 men who completed all 3 of the screening visits, BP fell from the first to the second screening visit but remained stable between the second and third visits. At the 3 screening visits, systolic BP was 151.6±1.0, 143.8±1.3, and 142.1±1.1 mm Hg, respectively; diastolic BP was 88.7±.7, 85.5±.8, and 85.4±.8 mm Hg, respectively.

**Baseline Characteristics After Condition Assignment**

The 2 experimental groups were well matched for numerous baseline characteristics, except for the frequency of haircut visits (3.0 versus 2.1 haircuts per month; $P<0.05$ enhanced intervention versus comparison group; Table 1). Despite cohort attrition, the initial and final cohorts were similar in all of the measured baseline characteristics (Table 1).

**Primary and Secondary End Points**

In the enhanced intervention group, BP fell 16±3.9±2 mm Hg (systolic: 149.1±2.2 to 133.4±2.2 mm Hg; diastolic: 87.4±2.6 mm Hg; $P<0.05$ versus comparison) after the enhanced intervention was completed. At the 3 screening visits, systolic BP was 151.6±1.0, 143.8±1.3, and 142.1±1.1 mm Hg, respectively; diastolic BP was 88.7±.7, 85.5±.8, and 85.4±.8 mm Hg, respectively.
to 78.8 ± 2.6 mm Hg) but remained unchanged in the comparison group (systolic: 146.4 ± 2.4 to 146.7 ± 2.4 mm Hg; diastolic: 87.9 ± 2.2 to 88.0 ± 2.2 mm Hg; Table 2). The intervention effect remained significant ($P < 0.0001$) after adjustment for age and body mass index. With the enhanced intervention, HTN treatment increased from 47% to 92% ($P < 0.001$), and HTN control increased from 19% to 58% ($P < 0.001$), whereas both remained unchanged in the comparison group (Table 2 and Figure S3 from data supplement 1).

**Study 2: Barber Intervention**

The barbers recorded 8953 BP checks during 11,066 haircuts (Figure S3 from data supplement 2). They correctly staged 8237 of 8953 BPs (92%) recorded on the encounter forms as “normal” (<135/85 mm Hg), “high” (135/85 to 179/109 mm Hg), or “very high” (≥180/110 mm Hg).

After the intervention, 308 of 321 regular male customers completed the exit interview. Of these, HTN was present in 107 men. HTN control rate increased progressively with increasing levels of intervention exposure ($P = 0.01$), from 20 ± 10.7% in those who did not participate in the intervention to 51 ± 9% in those with maximum intervention exposure (Figure 3). The relationship between intervention exposure and HTN control remained significant after controlling for insurance status ($P = 0.01$).

**Discussion**

The principal new findings are 2-fold. First, in a cohort of hypertensive barbershop customers, an enhanced intervention program of continuous on-site BP monitoring and peer-based health messaging was more effective than intermittent BP screening and standard educational brochures for increasing treatment rates and lowering BP. Second, with nurse supervision, much of the responsibility for administering the intervention could be shifted from research personnel to barbers, who demonstrated a high degree of sustained intervention fidelity.

We are not the first to propose barbershops for HTN surveillance in black men, but the existing peer-reviewed literature is scant.14,15 Black barbers and stylists have been taught previously to measure BP, enabling screening and referral in low-income neighborhoods.14,15 Our work confirms and extends these earlier studies by providing quantitative data on barbershop patronage,

### Table 2. Hypertension Outcomes for Study 1

<table>
<thead>
<tr>
<th>Hypertension Outcomes</th>
<th>Enhanced Intervention Group (n=36)</th>
<th>Comparison Group (n=27)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initial</td>
<td>Final</td>
</tr>
<tr>
<td>Systolic BP, mm Hg</td>
<td>149.1 ±2.2</td>
<td>133.4 ±2.2</td>
</tr>
<tr>
<td>Diastolic BP, mm Hg</td>
<td>87.4 ±2.6</td>
<td>78.8 ±2.6</td>
</tr>
<tr>
<td>Treated with BP medication, %</td>
<td>47</td>
<td>92</td>
</tr>
<tr>
<td>BP controlled to &lt;140/90 mm Hg, %</td>
<td>19</td>
<td>58</td>
</tr>
</tbody>
</table>

Initial and final hypertension outcomes for the enhanced intervention and comparison groups. Expressed as mean ± SE for continuous and percentage for discrete variables.
demographics, research participation, intervention fidelity, exposure, treatment rates, and BP.

We found that barbershops constitute efficient HTN screening sites because of high rates of customer participation and of uncontrolled HTN. The majority of customers were 40 to 60 years of age, which is old enough for HTN to be prevalent but still young enough for an intervention to prevent premature hypertensive complications. Because most hypertensive study participants had health insurance, and the uninsured participants had access to the county public healthcare system, there was a large opportunity to improve low baseline rates of HTN treatment and control.

**Study 1: Research Staff Intervention**

The 16/9 mm Hg BP fall in the enhanced intervention group is equivalent to that produced by the addition of 1 or 2 antihypertensive drugs from different drug classes. This sizeable BP fall is not regression to the mean, because most of the regression to the mean occurred by the second set of measurements during cohort recruitment, providing a stable baseline on which to test for an intervention effect, and BP remained unchanged in the contemporaneous comparison group, an important strength of the study design.

This lack of BP change in the comparison group confirms and extends previous data documenting the ineffectiveness of standard community HTN screening and health education. After standard screening events, only a minority of those found to have elevated BP pursue medical follow-up. Extensive interval tracking and appointment reminders by community health workers has been shown in 1 study to increase short-term clinic appointment keeping among low-income individuals, including African-American men. However, it is unknown whether the effect can be sustained and can improve HTN control. Here we found that, without the enhanced behavior theory-based intervention, even repeated documentation of elevated out-of-office BP together with standard health education did not motivate most men to seek medical follow-up.

Our observed intervention effect is consistent with a behavior change model in which knowledge of a personal health risk must be coupled with peer influence: peers modeling specific health behaviors plus frequent social support and peer approval for adopting these new behaviors. This model previously has been used successfully to increase risk-reduction behaviors for avoidance of HIV infection but not for management of HTN or other cardiovascular risk factors.

Although further research is needed to pinpoint the most successful intervention elements, the customers’ remarkable barbershop patronage deserves special note. That most customers regularly visit the same barbershop twice monthly afforded intervention staff a ready-made opportunity for frequent face-to-face interaction with study participants. Although ethnically congruent intervention staff (eg, community health workers) have been a common component of several different HTN intervention models, home visits to study participants typically are scheduled only once or twice per year. Furthermore, barbershops offer a more receptive environment for health messaging than standard medical clinics where 10 minutes are allotted for a routine office visit.

Because we did not intervene directly with the customers’ medical providers, greater increases in HTN control may be achievable if our community-based intervention were linked directly to a clinic-based intervention that provided standardized antihypertensive drug therapy in a culturally competent healthcare setting. When administered by nurse practitioner–community health worker–physician teams, a comprehensive educational–behavioral–pharmacological intervention has been shown previously to improve HTN control and slow progression of hypertensive heart disease in urban black men.

**Potential Limitations**

Study 1 has all of the limitations of a small nonrandomized feasibility trial. In addition to small sample size, other methodologic limitations include a high rate of nonparticipation in the early multistep recruitment process followed by significant cohort attrition. We attribute the early nonparticipation to both incomplete research staffing during the barbershops’ long business hours and customers’ initial reluctance to pursue medical follow-up for elevated BP (even additional on-site BP measurement). Although the trial participants resembled the nonparticipants in all of the measured characteristics, the study’s positive outcomes are limited to those hypertensive barbershop customers who were early adopters of the health promotion program. Excluding cohort attrition because of barber turnover, we were able to track BP for 8 months in ~80% of the remaining hypertensive study participants. Despite cohort attrition and lack of randomization, the 2 experimental groups who completed the entire study were well matched for numerous baseline characteristics, and they closely resembled the original study population. Thus, methodologic limitations notwithstanding, the positive findings of study 1 suggest that the barbershop intervention model merits further testing.

**Study 2: Barber Intervention**

In study 2, a much higher and more sustained level of customer participation was achieved when the multistep recruitment was eliminated and BP monitoring was offered continuously to all of the adult male customers by their barbers rather than research personnel. Black barbers constitute an existing workforce of influential peers and, with the legacy of barber surgeons, are uniquely positioned to administer the HTN intervention provided that they acquire the requisite skills and motivation. Thus, the salient finding is that barbers successfully incorporated BP monitoring, as well as health education and medical referral, into their daily routine for the full 14-month study period. Their continued fidelity to the intervention protocol is evidenced by the high percentage of haircuts accompanied by a BP recording, as well as BP readings interpreted correctly.

**Potential Limitations**

Study 2 was not designed to test for a treatment effect. Nevertheless, that HTN treatment and control were graded to intervention exposure suggests but does not prove a positive influence of frequent BP monitoring and barber approval on treatment-seeking behavior. This interpretation is further supported by a progressive increase in the return of physician referral cards. That barbers were paid financial incentives for their participation may limit the generalizability of the present findings. However, the total reimbursement to 6 barbers combined was...
less than the stipend for 1 entry-level research assistant. To develop a model program that can be widely disseminated, further research is needed to devise a cost-effective reimbursement structure that is attractive to the major stakeholders (barbers, healthcare providers, and third-party payers).

In conclusion, these 2 feasibility studies suggest that barbershops can be transformed into effective HTN detection, referral, and follow-up centers for black men. Further investigation is warranted.

**Perspectives**

If these positive findings can be replicated in a randomized multicenter trial, this innovative biobehavioral approach could serve as a new model to help manage other cardiovascular risk factors and other chronic diseases that disproportionately affect black men. If a fall in systolic BP of 10 to 20 mm Hg could be sustained for 5 years, the risk of fatal myocardial infarction could be reduced by \( \approx 30\% \) and the risk of fatal stroke by \( \approx 40\% \). The potential public health impact of this community-based research is high, with thousands of black-owned barbershops nationwide.\(^{12}\)

**Acknowledgments**

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**Disclosures**

None.

**References**

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DATA SUPPLEMENT I

This supplement provides the following additional information for Study 1: 1) the model stories (Figure I); 2) the BP Report Card (Figure II); and 3) a figure showing subject-specific changes in hypertension status in the enhanced intervention and comparison groups (Figure III).

Role Model Stories

Role model stories can facilitate the adoption of new health behaviors through peer influence (“everyone else is doing it”) and increasing a person’s self-efficacy to adopt the same behavior (“I can do it if they can”). Informed consent was obtained from each model to record and depict his story in which fictitious names were used. The models’ own words were used as much as possible.

With each intervention encounter, our staff distributed and discussed an appropriate model story and provided positive reinforcement for any actual or intended change in the following treatment-seeking behaviors: participation in the BP monitoring program (Stories 1 and 2), new patient referrals (Stories 3 and 4), follow-up office visits with an established provider (Stories 5-7), and medication adherence (Stories 8-10). Each story emphasized group identification, one desired behavior change, one influencing factor, and one positive outcome. The actual model stories are shown below in Figures I (Stories 1-10).
Figure Legend

Figure I. Role model stories.

Figure II. After each haircut, research staff plotted participants’ initial and current BPs on a wallet-sized “BP Report Card.” The customers were encouraged to bring the card to their provider to give feedback about the need to initiate or intensify antihypertensive therapy.

Figure III. Initial and final hypertension treatment & control status in an enhanced intervention and comparison subjects in Study 1 whose hypertension was initially untreated (black circles), treated with prescription medication but uncontrolled (BP ≥140/90 mm Hg, yellow circles), or treated and controlled (BP <140/90 mm Hg, blue circles).
Figure I. Model Stories

Story 1: Participation in BP monitoring program

“Just to be sure”

I’m Walter, and I’m a 47 year old African American man who has been living in Dallas for the past 6 years. I never thought much about my blood pressure, even though my parents both died from heart disease when I was really young. Since I exercised and ate right, I felt that everything was okay, until my best friend died from a heart attack four months ago. He had high blood pressure too.

That experience gave me a sort of “reality check” concerning my health. I began getting my blood pressure checked every week or two, and when I was told that it was a bit high, I went to the doctor just to be sure that the numbers that I had been getting at the barbershop were accurate. I was diagnosed as borderline, so instead of medication, the doctor told me to continue exercising and change a few things that I eat, so now it has been normal for the past few weeks.

My lifestyle changes have been great so far, and I still get my blood pressure checked every week, just to be sure.
Story 2: Participation in BP monitoring program

“I Know What My Numbers Are”

My name is Earl, and I've been living here in Dallas since 1964. I am married with 3 kids, and I'm also active in the local church that I attend.

I was not aware of how serious high blood pressure was until I got mine checked at the barbershop. After getting my blood pressure checked a few times, the staff person told me that my numbers were high, but I didn’t understand what numbers were. The staff person explained to me how blood pressure works in the human body and the importance of getting it checked regularly.

Since then, I have joined the YMCA and I made a doctor's appointment. I now know what my numbers are, and I get regular checkups.
Story 3. New patient referral

My name is Earl, I am 62 years old and when I had my blood pressure checked with the Cut Your Pressure staff here at the barbershop. They told me that it was high so, I made an appointment with my doctor a month later.

I do understand that there are a lot of people that die from high blood pressure that don’t know that they have a problem. My father died unexpectedly at the age of 65 from high blood pressure and my uncles have been told that they have it too. So, I feel blessed that I was made aware of my condition before I had any serious consequences.

Now, my treatment consists of taking my medication, exercise by walking 1 mile 3 days a week and changing my diet. By doing these things, I will be able to live healthier and longer.
I'm a 48 year old African American man who has lived in Dallas since 1986. A few years ago I was diagnosed with high blood pressure by my doctor, and to remedy it **he simply gave me a pill and told me to take it.** However, after a few years, I eventually got out of the habit of taking the pill.

In August of 2002 I got my blood pressure check by the Cut Your Pressure Staff here at the barbershop, and the numbers were quite high. Two months later, my readings were still high, so I went to see a different doctor. This time, **my doctor and I decided on what type of medication would be best for me,** and so far, the medication has lowered my blood pressure.

My advice to anyone who has high blood pressure is to keep up the communication with your doctor, so that your doctor will know if the medication is working. If your doctor feels threatened by your questions and concerns, simply get another doctor.
I’m a 41 year old Black man, and I’ve been a barber here at Grahams for the past 2 years. Chicago is my home, but I have lived in Dallas for a few years.

I never had any problems with my health, so my visits to the doctor were few and far between. But back in 1995, I went to the doctor after I sprained my wrist, and after a routine exam, I found out that my blood pressure was so high that they had to give me a shot and keep me at their clinic until they felt that my pressure was back to normal. They also put me on medication following that visit.

After a few years on the medication, I felt good. So good, that in 1999, I stopped my regular doctors visits, and also stopped taking my medication. I was like “it served its purpose.” Well, when UT Southwestern came into our barbershop with this blood pressure project, I sat down and got my blood pressure checked again. After getting it checked a few times, and going back to the doctor, I found out that my blood pressure readings were high again. So the doctor put me back on medication, and for the past six months, I’ve been taking it non-stop. I feel better again, but this time, I will keep my blood pressure down by going to my doctor regularly and taking my medication.
Story 6: Follow-up visits with an established provider

Now I KNOW what it takes

Mr. Charles is 64 years old and has lived in Dallas all of his life. He was told he had high blood pressure in his early 40’s. He did not want to take ANY medications. So, he began to exercise daily, taking vitamins and eating healthier (no fried foods chicken and fish only).

He went back to the doctor and his numbers still did not come down. He made the decision to go ahead and take the medicine. His blood pressure numbers lowered.

Mr. Charles decided that since his numbers had lowered that he could stop taking his medicine and so he did. However, he continued exercising and healthier eating habits. After his next visit to the doctor, his blood pressure numbers were elevated again. His doctor placed him back on his medicine. Mr. Charles says that he realizes that now he has to take his medicine to keep his numbers down.
My name is Paul, and I’m 50 years old. I’ve been living in Dallas all of my life, and I currently live less than 2 miles from the barbershop. I’ve been married for 27 years, and I have 3 kids.

As an “insurance card carrier,” I took advantage of making regular doctors visits. I also had a yearly physical, which kept my mind at ease. However, back in 1992, I was diagnosed with high blood pressure, so my question to the doctor was “now what?” The doctor suggested medication and lifestyle changes like exercise, less salt (I ate a lot of processed foods), and reducing the stress in my life.

The changes with my exercise and my eating habits have become permanent, and over the past few years, I’ve lost over 25 pounds and 6 inches on my waist. Most importantly, I’ve been consistent with taking my medication for the past 10 years, with no side effects whatsoever. I feel healthier and more secure.
Story 8: Medication adherence

“High Blood Pressure; IT’S SERIOUS”

In 1982 Mr. Emanuel Phillips, a barber for 32 years, was diagnosed with high blood pressure. Not really knowing what high blood pressure was, it took Mr. Phillips 6 months to follow-up with his doctor to get his medication.

In 1992, he was only able to purchase some of his medicines. As a result, Mr. Phillips suffered from a failing kidney and he had to be placed on dialysis treatments (3 times a week for 4 ½ hours each visit) and he was also placed on a list to receive a kidney. The dialysis treatments were so draining but, he said “I knew if I wanted to make it, I had to do it”.

The treatments took its’ toll and forced him into retirement. In April 2002, Mr. Phillips received his kidney transplant. His advice is for any one would be to take high blood pressure serious.
Story 9: Medication adherence

Mr. Chambers is a retired 62 year old. He has been getting his hair cut at Grahams' for a little more than 5 years now.

Mr. Chambers felt his health was out of control. He was up to 280+ lbs, he was having dizzy spells and he had no energy. Mr. Chambers is also a diabetic and he said “I should have known better.”

That’s when he began making some changes. He only eats chicken, fish and turkey, he walks at least 45 minutes a day and since October 2002, he has lost 40+ lbs. Mr. Chambers says that now he is doing the right things: taking his blood pressure medicine, getting his blood pressure checked at the barbershop and checking his blood sugar level every morning.
Story 10: **Medication adherence**

Calvin is a 41 year old man who has lived in Dallas all of his life. Although being diagnosed over 5 years ago, after about 4 years of being under a doctor’s care, Calvin stopped taking his prescription medication because he had been feeling great. However, in October of 2002, Calvin suffered a stroke.

Now he takes his blood pressure medication religiously, since he knows that the medication will keep his pressure under control and also reduce his risk for another stroke.

Calvin says “I feel that anyone can prevent themselves from having a stroke if you know that you have high blood pressure and get treatment with pills. So now whenever I see a blood pressure machine, I get my pressure checked.”
BP Report Card for Study 1

Front

Todays' Date: __/__/__

Back

“CUT YOUR PRESSURE”

Dear Doctor: Your patient is enrolled in a barbershop-based educational program (“Cut Your Pressure”) to improve hypertension control in African American men. Our staff will measure his BP and update this card every time he comes to the barbershop for the next 6 months to provide feedback on his out-of-office BP (goal <135/85). Thank you for your cooperation. Sincerely, Ron Victor, MD Principal Investigator Phone: 214-648-6871

The blood pressure cuff and barber pole logo is used with the permission of UT Southwestern. Copyright 2007.
Figure III. Subject-Specific Changes in Hypertension Status During Study 1.
DATA SUPPLEMENT II

This supplement provides the expanded methodology of training and supervision of barbers, the Barber Encounter Form (Figure I), the BP Report Card (Figure II) used in Study 2, and a figure showing the number of haircuts performed on African-American men and blood pressure checks recorded per study month by their barbers (Figure III).

Training and Supervision of Barbers

All six barbers were trained, equipped with an electronic monitor, and reimbursed to offer a free BP check with each haircut, encourage medical follow-up for elevated BP using model stories and BP report cards, and provide on-going peer approval for medical follow-up and lowered BP. Each barber underwent an initial four-hour training session that included BP measurement technique, BP interpretation, informed consent, and utilization of written project materials. In addition, barbers participated in monthly one-hour motivational booster sessions on intervention protocol fidelity.
Figure Legend

Figure I.
After each haircut, the barber asked each customer’s permission to take three BP measurements at no charge. If the customer agreed, the barber recorded the third value on an encounter form that was used for customer education, data collection, and barber reimbursement.

Figure II.
BP report cards were distributed by barbers to each customer and were to be signed by the healthcare providers and returned to the barber in return for a free haircut. During the course of the intervention, 26 customers returned 51 physician-signed BP report cards to their barbers; only 11 cards were returned in the first 7 months and the remainder during the second 7 months.

Figure III.
Panel A, set-up for a barber to measure a customer’s blood pressure with an electronic monitor with each haircut. Panel B, monthly counts of haircuts (black line) and BP checks (red line) during the intervention.
BP denotes blood pressure
Figure I. Barber Encounter Form for Study 2

"Cut Your Pressure Too" Project
Blood Pressure Results Form

1. Today's date is: [ ] / [ ] / [ ]
2. Are you 18 or older? [ ] Yes [ ] No
3. May I take your blood pressure today? [ ] Yes [ ] No
4. Do you have a doctor? [ ] Yes [ ] No
5. Are you being treated by a doctor for high blood pressure? [ ] Yes [ ] No

Your blood pressure today is: [ ] / [ ]

This reading is:
[ ] Normal (below 135/85)
[ ] High (135/85 or higher)

(1) Please take the wallet-sized card to your doctor.

(2) If you do not have a doctor, please call our nurse at (214) 923-5392 and she will help you find one.

[ ] Very high (180/110 or higher)

(1) Please take the wallet-sized card to your doctor today.

(2) If you do not have a doctor, please go to the nearest emergency department or walk-in clinic. If you want further information, please call our nurse at (214) 923-5392.

NOTE: This is only a screening and not meant to be a medical diagnosis.
Red Bird Corners Barber Shop
(972) 298-0004

Dear Customer: If (1) your doctor signs the back of this card and (2) you return the signed card and a receipt from your doctor’s office, you will receive a free haircut (tip included).

Barber Initials

Date

200
180
160
140
Systolic Goal
120
100
80
Diastolic Goal

BP Report Card for Study 2

“Cut Your Pressure Too” Project
Dear Doctor: Your patient’s blood pressure was measured by his barber, who has been trained in the accurate use of an oscillometric sphygmomanometer. As part of a pilot project designed to improve hypertension control in African American men, this card provides feedback on his out-of-office blood pressure (goal <135/85 mm Hg). If you sign below, your patient can get a free haircut. Thank you for your time and participation. Sincerely, Ron Victor, MD
Principal Investigator Phone: 214-648-7950

Name of MD, DO, or Doctor’s Representative (printed)

Signature

Date

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Figure III. Number of Haircuts Performed on African-American Men and Blood Pressure Checks Recorded Per Study Month in Study 2.