Circulation

PERSPECTIVE

# Novel Interventions in Addressing Racial Disparities in Blood Pressure Control

## Potential Utilization of Barbershops in Black Men

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Hypertension prevalence in blacks is among the highest in the world. Despite overall positive trends in hypertension awareness and treatment among all US racial/ethnic groups, black males continue to experience unacceptably poor control, with no signs of recent improvement, and high rates of nonfatal and fatal stroke, chronic kidney disease (including end stage renal disease), heart failure, and premature myocardial infarction. The social determinants greatly impact this excess high blood pressure (BP)–related morbidity and mortality, including higher uninsured rates or the absence of a personal healthcare provider.

## EFFORTS TO INCREASE BP CONTROL WITH PRIOR NOVEL INTERVENTIONS

There are multiple barriers to reducing disparities in BP control, specifically in black men. However, intensification of counseling- and practice-based education does not appear adequate to overcome the unacceptably low rates of hypertension control and subsequent morbidity and mortality.[1] In the CAATCH trial (Counseling African Americans to Control Hypertension), a cluster-randomized study of 30 community health centers, among 1059 black patients with hypertension (28% men), an intervention including patient education, home BP monitoring, and monthly lifestyle counseling did not significantly improve BP control compared to usual care.[1] However, barbershops have been used as a source of socialization and comfort for black men. In 1978, Elijah Saunders and B. Waine Kong initiated health promotion in Baltimore, MD, using barbershops and churches.[2]

Thereafter in New Orleans, LA, Daphne P. Ferdinand and the author[2] developed the Healthy Heart Community Prevention Project, using barbershops and beauty salons as hypertension awareness and control sites. However, demonstration of the effectiveness and sustainability of these early projects had been a missing but critical factor. Nevertheless, because black women have higher church attendance and conventional medical contacts, barbershops remained of significant interest to address hypertension in black men.

In 2011, Ron Victor and colleagues[3] published BARBER-1 (Barber-Assisted Reduction in Blood Pressure in Ethnic Residents), a cluster-randomized trial of hypertension control in 1022 patrons from 17 black-owned barbershops in Dallas County, TX. Although black barbers were trained, equipped, and paid to monitor BP, this intervention with referral to usual clinical practice was insufficient to significantly lower BP. The physician referrals led to hypertension control rates that were marginally higher in intervention barbershops (absolute group difference, 8.8%; 95% confidence interval [CI], 0.8–16.9; $P$=0.04), and the intervention effect showed only a slight trend for systolic BP change (absolute group difference, −2.5 mm Hg; 95% CI, −5.3 to 0.3; $P$=0.08).[3]



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Alternatively, a physician-pharmacist collaboration in 32 medical offices in 15 states demonstrated positive effects for controlling BP in subjects of low socioeconomic status.[4] Anderegg and colleagues[4] in 539 randomized patients reported a 7.3 mm Hg (95% CI, 2.4–12.3) lower BP in racial minority groups that received the intervention versus controls ($P$=0.0042). In patients with less than a high school education, the intervention group had 8.1 mm Hg (95% CI, 3.2–13.1) lower BP than controls ($P$=0.0001).[4]

The recently published Cluster-Randomized Trial of Blood-Pressure Reduction in Black Barbershops by Victor et al,[5] in Los Angeles, CA, otherwise known as the LABP study (LA Barbershop BP), was impressive in its positive outcomes and 95% CI cohort retention, confirming the potential benefit of black-owned barbershops combined with a physician-pharmacist collaboration as hypertension control centers. Hence, LABP portends a possible significant advance in addressing racial disparities in BP control and, if reproducible, could potentially impact the disparate rates of hypertension control and associated morbidity and mortality in black men.

## IDENTIFICATION OF THE IMPORTANT POSITIVE COMPONENTS OF THE LABP INTERVENTION

The LABP study, including 319 black male patrons with hypertension, demonstrated statistically and clinically significant BP lowering with specialty-trained, pharmacist-led medication management compared with an active control cohort of lifestyle modification and physician follow-up appointments. Baseline BP levels were 152.8 mm Hg and 154.6 mm Hg in the intervention and control groups, respectively. At 6 months, the mean systolic blood pressure fell by an impressive 27.0 mm Hg (to 125.8 mm Hg) in the intervention group compared with 9.3 mm Hg (to 145.4 mm Hg) in the controls.[5] Furthermore, for the recently recommended BP goal of <130/80 mm Hg, the intervention group achieved this goal in 63.6% versus 11.7% in the controls ($P$<0.001).[5]

Unfortunately, salient components of the effective LABP intervention may be difficult to replicate in other geographic areas, including the pharmacist-physician collaboration and the potent and closely monitored medication regimen with point-of-care laboratory testing (Figure).

Despite this positive trial, in traditionally difficult-to-reach, mainly low-income males, a similar collaborative arrangement may not be legal or widely available in other regions. Another important advantageous component of the LABP study was effective combination therapy and, if needed, indapamide, a thiazide-type diuretic often underutilized in usual clinical practice. It is important to note that there were no serious treatment-related adverse events, and 3 participants with transient acute kidney injury had resolution with indapamide discontinuation. Accordingly, the LABP intervention used a greater number of antihypertensive drug

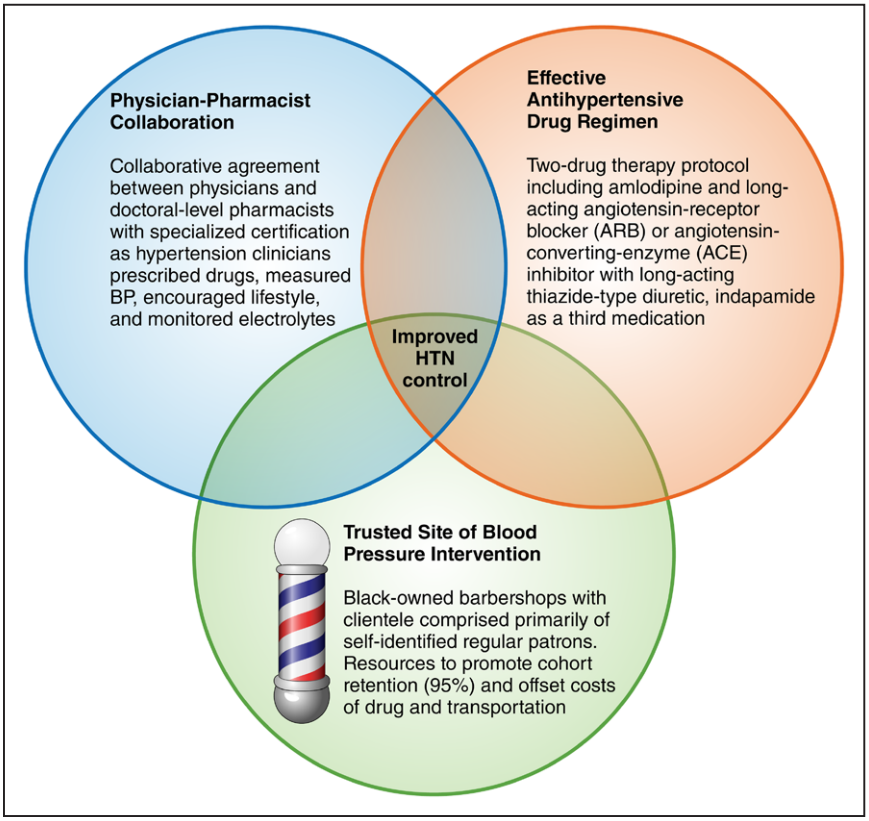


**Figure. Positive components of the LABP intervention.**
BP indicates blood pressure; HTN, hypertension; and LABP, LA Barbershop BP.


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classes per regimen and preferred first-line drugs than used in the active control.[5]

## FUTURE PERSPECTIVE

The challenge now will be to see how widely accepted the LABP intervention approach may be as a tool to reduce and potentially eliminate the unacceptable disparities in hypertension morbidity and mortality, with decreased life expectancy and the white-black death gap, especially in black compared to white men. Further research needs to be done to determine what specific aspects of the LABP intervention most prominently contributed to the robust BP reduction.

Team-based care for hypertension treatment has been shown to achieve significantly better overall BP control rates than usual care by an individual provider. Moreover, in usual clinical practice, with difficult-to-control hypertension, combination therapy and more effective thiazide-type diuretics, such as indapamide or chlorthalidone, are often underutilized, and unfortunately antihypertensive medications are often not intensified even when BP is clearly uncontrolled (clinical inertia). In the future, the LABP study approach using specialty-trained clinical pharmacists and superior drug regimens may lead to large-scale effective BP control in a wide range of patients and locations beyond black men in barbershops, including women in hair salons, churches, and public facilities, while targeting other minority patients who are often poorly controlled.

## ARTICLE INFORMATION

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### Disclosures

Dr Ferdinand is a member of the Data and Safety Monitoring Board of the LABP.

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