

Highlights

- There is an urgent need to address hypertension and uncontrolled hypertension among minority racial/ethnic populations.
- NYU Langone Health researchers have developed evidence-based solutions to address hypertension, including an mHealth intervention that increased hypertension medication adherence among Black patients and a community health worker-led intervention that resulted in improved hypertension control in South Asian patients.
- Healthcare system wide programs can improve patient hypertension outcomes through comprehensive social and medical assessments of patients, and leveraging trained experts to provide tailored care to patients.
- Government agencies can contribute to these efforts through funding of initiatives to strengthen electronic health record interoperability between healthcare systems, health prevention programs, and incentives for healthcare systems to hire, train, and retain community health workers and other lay health personnel.

What is the problem?

Heart disease is one of the leading causes of the death U.S.¹ Heart disease encompasses a range of disorders, including coronary artery disease, stroke, and hypertension. Minority racial/ethnic populations are overrepresented in heart disease statistics, specifically Black adults are twice at risk of strokes in comparison to White adults and stroke deaths have increased among Hispanic adults over the past decade.³ Relatedly, rates of hypertension (HTN) and uncontrolled HTN are high among minority racial/ethnic populations.⁴ Researchers at NYU Langone Health (NYULH) have studied these disparities and designed, implemented, and evaluated novel community-clinical linkage interventions to reduce uncontrolled hypertension among minority racial/ethnic communities in NYC. In this policy brief we present two examples of NYULH findings on HTN focused research, and offer intervention and policy recommendations.

What do we know?

Hypertension Disparities

NYULH research indicates significant HTN disparities among Black patients, specifically related to comorbid conditions, lower healthcare utilization, and poorer living conditions. These disparities highlight the importance of addressing social needs among patients, such as food, housing, and financial insecurity.

- Findings from the Jackson Heart Study revealed that Black participants with high stress and depressive symptoms had lower composite Life's Simple 7 (metrics on blood pressure, cholesterol, blood sugar, physical activity, diet, weight, and smoking status) scores.⁵
- Data from the Genetic Testing to Understand and Address Renal Disease Disparities (GUARDD) trial indicated poor HTN control (45%), obesity (61%), medication non-adherence (48%), smoking (32%), physical inactivity (45%), poor diet (71%), and high social support (average of 69.4 of 100) among Black participants. Moreover, participants reported living below the federal poverty line (26.1%), in segregated neighborhoods (81.4%), and experiencing racial discrimination in doctor offices (30.6%).⁶
- Analysis of NYULH electronic data records revealed gaps in care among Black patients with uncontrolled or elevated HTN. In comparison to patients with a HTN diagnosis and controlled HTN, patients with uncontrolled or elevated HTN had fewer physician visits.⁷

Hypertension Interventions

Researchers at NYULH are designing and implementing innovative community-clinical linkage interventions to improve HTN outcomes. We present examples of 2 studies that used community health workers (CHW), mHealth interventions, and partnerships with community and clinical sites to improve HTN control and increase HTN medication adherence.

- A scoping review of the literature on HTN and medication adherence showed that interventions led by trained personnel (health educators, medical assistants, and pharmacists) were effective in lowering HTN and increasing HTN medication adherence.⁸
- A pilot study to improve HTN medication adherence using an mHealth intervention that was personalized to Black patients' barriers to adherence (e.g., forgetfulness, concerns about taking medications). The intervention used a

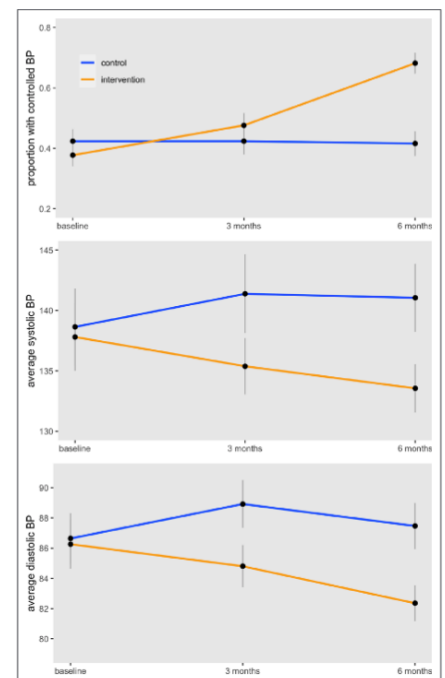


Figure 1: Changes in BP control, systolic BP, and diastolic BP across intervention and control groups. BP indicates blood pressure.²

tablet to deliver tailored strategies such as peer vignettes, guided relaxation activities, health education videos, checklists for preparing for provider visits, and goal-setting for medication adherence based on patients' barriers. The researchers found that medication adherence and systolic blood pressure improved in the control (i.e., non-tailored health education videos) and intervention groups.⁹

- Project IMPACT (Integrating Million Hearts for Provider and Community Transformation) used a CHW-led intervention to improve HTN control among South Asian patients. Control and intervention groups received one education session on HTN, while the intervention group received four additional CHW health education sessions and individualized health coaching over a 6-month period. Results from the project indicated that the intervention group had 3.7 times the odds of HTN control at follow-up (Figure 1).²

What can we do?

Based on NYULH research findings we recommend the following interventions and policies to address HTN disparities and improve HTN outcomes among patients:

Intervention Recommendations

- Assess and document each patient's social needs related to housing, food, and employment insecurity. Make appropriate social needs referrals to government and non-profit organizations. Track referrals in coordination with the patient and social service organization.
- Assess patient's health behaviors (e.g. tobacco use, physical activity) and comorbid conditions, and prescribe appropriate treatment plan (e.g. health education classes, referrals to specialists).
- Leverage trained experts (e.g. community health workers) to provide individualized health education sessions to patients with uncontrolled HTN.
- Novel behavioral economics and mHealth interventions have the potential to increase HTN medication adherence.
- Embed interventions within clinical workflows to ensure sustainability of the intervention.

Policy Recommendations

- Enhance EHR interoperability between healthcare systems to track and monitor social needs of patients.
- Increase the availability and quality of health prevention programs.
- Train community health workers and other lay health personnel.
- Provide incentives for healthcare systems to hire and retain community health workers and other health lay personnel to provide remote patient monitoring and health coaching and other services to patients outside of the provider's office.

Conclusion

There are significant HTN disparities among minority racial/ethnic patient populations. Addressing these disparities requires partnerships with government and non-profit organizations to address the complex social needs of patients, and community-clinical linkage interventions to provide comprehensive care to patients.

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