

# Hypertension-Palooza:

## Community-Based Collaborations to Address Blood Pressure Control

In April 2024, Access Community Health Network (ACCESS) hosted *Hypertension-Palooza: Community-Based Collaborations to Address Blood Pressure Control*, a two-day program with a professional symposium and community event that focused on hypertension prevention, treatment, and education, with a focus on addressing the social factors that impact health outcomes of Black and Brown communities.

On the first day of *Hypertension-Palooza*, research partners, ACCESS team members, nursing students, and representatives from local and national public health organizations gathered at the ACCESS Center for Discovery and Learning for a professional symposium, to learn how community-based, clinical partnerships can help health systems, providers, and community organizations address hypertension control, education, and awareness with consideration to the social determinants of health that impact patients' health outcomes.

The event highlighted nearly eight years of collaboration between ACCESS and its partners, including Northwestern University, University of Sydney, and Washington University in St. Louis, and shared the results of the QUARTET USA (Quadruple Ultra-Low-Dose Treatment for Hypertension USA) clinical trial – a convergent parallel-design mixed-methods process evaluation that explored patient and health care professionals' perceptions about the use of low-dose quadruple therapy (LDQT) as a novel strategy for hypertension management. Knowing that hypertension disproportionately affects the populations FQHCs serve, the trial also included results and insights into how this kind of treatment and nurse involvement makes an impact on hypertension management within a community health care setting.

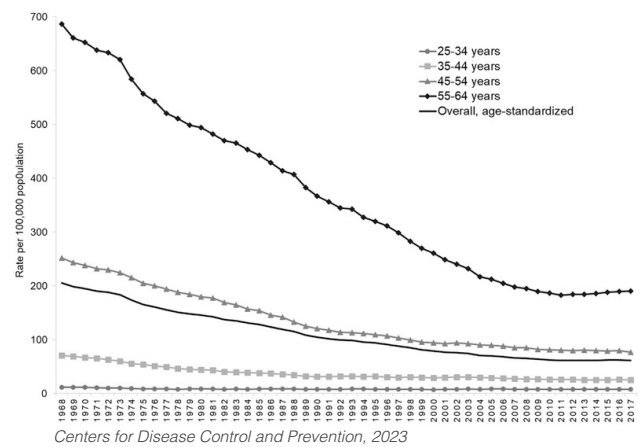
Participants also heard about research projects across the city of Chicago that are putting the community at the center of their strategy. From faith-based partnerships with local pastors to culturally competent diabetes support groups, participants learned how community-based clinical partnerships are critical for translating science into community health practice.

This set the stage for the second day of *Hypertension-Palooza*, where community members were invited to learn more about nutrition, physical activity and proper blood pressure measurement to help improve their heart health.

### Keynote Address: Hypertension in the U.S. and Chicago. The Problem and Impact on Communities and Potential Innovative Solutions

Day one of the practice symposium was kicked off by keynote speaker **Paul Muntner, Ph.D.**, Professor and Chair of Epidemiology, University of Alabama at Birmingham, who level-set hypertension rates in the United States and Chicago and offered some innovative solutions that are moving the needle on hypertension awareness, treatment, and control.

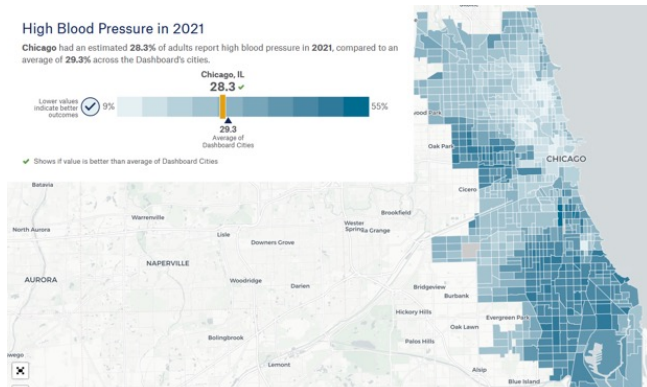
Since 1976, considerable progress has been made in blood pressure awareness and control among treated patients, but since 2012, progress has been relatively stagnant.



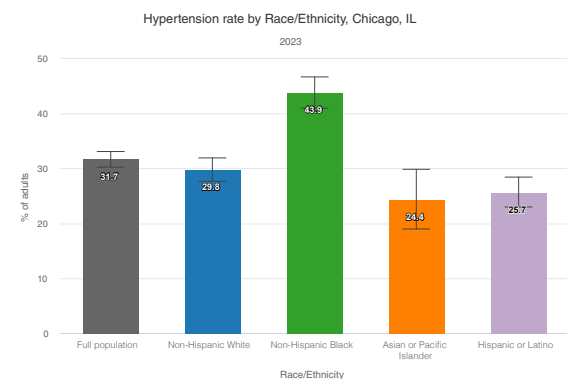
In 2017, the definition of hypertension changed from a threshold of 140/90 mm Hg to a lower threshold of 130/80 mm Hg based on new research evidence on treating patients with lower blood pressures. This change resulted in an increase to 60% of adults 45 and older to be considered hypertensive. The revised definition was widely accepted by clinicians who were focused on preventative measures to help their patients control their blood pressure. With this new guideline, by 65 years of age, the rate of U.S. adults that will develop hypertension throughout their life increased to 80%.

**By 65 years of age, 80% of U.S. adults will develop hypertension in their lifetime.**

According to the Chicago Health Atlas, Chicago follows national hypertension trends, with one in four Chicagoans having hypertension and a higher prevalence among Black and Hispanic individuals, especially those living on Chicago’s South side. With consideration to social determinants of health, including food and housing



Source: Chicago Health Atlas



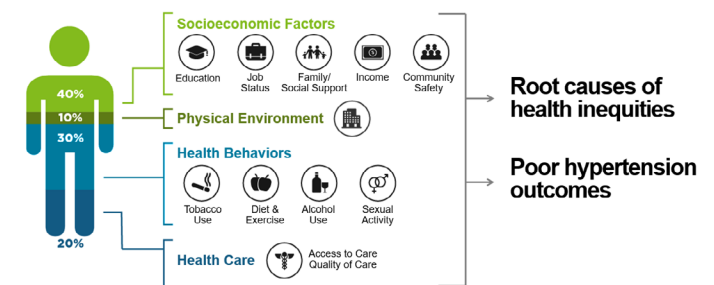
Source: Chicago Health Atlas

security, and the lack of access to grocery stores and transportation, these systemic inequities are resulting in disproportionate rates of hypertension among socioeconomically marginalized Black and Hispanic Chicagoans.

Despite hypertension being common, awareness, treatment and control remain an issue. Only one-fourth of adults who are aware they have hypertension have their blood pressure controlled to the recommended levels. For those who are aware that they have hypertension, most are taking antihypertensive medication, but many are not adhering to their treatment plan.

### Strategies to Prevent Hypertension

When strategizing on how to control blood pressure and prevent and treat hypertension, Dr. Muntner reiterated that clinicians know how to prevent and treat the issue, but overcoming stagnant outcomes is not as simple as merely increasing access to care. Considering the root causes of hypertension, including access to health care, diet, capturing better blood pressure measurements at routine visits, and prescribing medication constitutes just



Source: Institute for Clinical Symptom Improvement: Going Beyond Clinical Walls: Solving Complex Problems (October 2014)

20% of hypertension treatment. Upon diving deeper into the data, the issue reveals itself to be even more complex, with estimates suggesting that socioeconomic factors, patients’ physical environments, and their health behaviors contribute to health inequities and poor hypertension outcomes.

Clinicians know how to treat hypertension, but the stagnant control rates point out that health systems and providers are still not sufficiently meeting the needs of patients, especially within Black and Hispanic communities that experience disproportionate rates of cardiovascular

disease and hypertension. To effectively support patients, health systems and clinicians can offer resources outside the walls of the health care setting, provide a holistic approach to treatment, including healthy lifestyle habits, and consider the social determinants of health that impact patients' health outcomes.

### **Session 1: Measuring and Talking about Blood Pressure, Patient and Clinician Perspectives. SMBP in Community Based Settings: ACCESS and SMBP – Steps Forward and Back**

Following the keynote presentation, the second session provided audience members with a deep dive into how ACCESS is approaching hypertension by using a hands-on approach to monitoring blood pressure. This session was presented by ACCESS Director of Clinical Support Services **Michelle Ubau, DNP(s), APRN, FNP-BC**, ACCESS Manager of Health Center Nursing **Zehra Kanji-Ghaziani, DNP, APRN, FNP-BC**, and ACCESS Quality Improvement Specialist **Cherin Jaradat, MS**.

#### **Background**

In 2020, ACCESS applied for Health Resources and Services Administration (HRSA) supplemental funding through the National Hypertension Control Initiative (NHCI) to decrease barriers to patient engagement, achieve improved blood pressure control, and reach a minimum of 51% of patients, approximately 11,880 patients at the time of the application. The three-year grant was awarded in January 2021 and ran thru December 2023.

As a Federally Qualified Health Center (FQHC), ACCESS is on the frontlines of community-based health care offering primary and preventive health care to some of Chicagoland's most socioeconomically marginalized individuals. In addition to providing primary and preventive care in a community-based setting, ACCESS' care model is constantly evolving to address the total health needs of its patients and bring together resources that address barriers to care and social determinants of health.

**Goal 1:** Provide technical support including the use of Bluetooth or wireless-enabled SMBP devices so that the provider has access to the patient's data to inform their hypertension treatment plan.

**Of all groups, hypertension is most prevalent in Non-Hispanic Black individuals.**

To address any barriers to participation in the program, ACCESS developed several workflows in collaboration with various internal stakeholders and departments, and selected two blood pressure monitoring devices to accommodate patients' access to technology.

Patients with a smartphone device with internet access and/or Bluetooth capabilities were given the Withings BPM Connect device, which was integrated with ACCESS' electronic health record, Epic, and automatically transmitted data to patients' electronic health records. Patients who did not have access to a smartphone or internet and Bluetooth access were given a Welch Allyn 1700 Series device and manually entered their data into myACCESSHEALTH, ACCESS' online patient portal, or used paper blood pressure logs.

**Goal 2:** Patients learn how to take an accurate blood pressure measurement with the SMBP device.

Given the volume of patients, additional support was needed to provide patient education, support device deployment, and program implementation within health centers. ACCESS hired health center RNs and assigned them to seven participating ACCESS health centers to provide on-the-ground support for the program. In addition to patient education, health center staff were provided training and education on new Epic workflows, proper blood pressure measurement, and more.

#### **SMBP Implementation**

After two years of planning, ACCESS launched the Self-Monitored Blood Pressure (SMBP) program in February 2023 at seven ACCESS health centers. Patients 18-85 years of age who had been diagnosed with hypertension were enrolled on a rolling basis at the pilot health centers.

As of April 2024, a total of 1,222 patients have been enrolled in the ACCESS SMBP program. This number is expected to increase as providers not at ACCESS pilot sites continue to refer patients to the program.

**Areas of Opportunity with SMBP**

A key to the success of this program was the weekly internal workgroup meetings that allowed stakeholders to check in on the progress made and troubleshoot any challenges. A few months after the program launched, it was discovered that patients’ Withings devices were not automatically transmitting data to Epic. Following this discovery, the automatic transmission of SMBP data was turned off. Patients were alerted to the issue and ACCESS replaced their Withings devices with Welch Allyn devices so they could continue to monitor their blood pressure. While patients continued to be referred to the program, ACCESS’ Information Systems department worked with Withings to resolve the technical issues. In March 2024, the technical issues were resolved, and a limited rollout of the Withings devices began at ACCESS at Sinai.

**Results of SMBP**

Action	Percentage of Patients	Number of Patients
Offered an SMBP device	3%	827/25448
Accepted a device or participated in SMBP	55%	456/827
Trained on how to use the device	100%	N/A
Had readings transmitted from the device	61%	278/456
Had treatment changes	28%	61/215
Achieved hypertension control	57%	258/456

**Quantitative Results**

- Statistically significant differences were found between race and ethnic groups, and health center RN involvement (p <.001).

- When comparing Caucasian patients to Black patients, Caucasian patients were more likely to enroll in SMBP and work with a health center RN.
- Non-Hispanic patients were more likely to enroll in SMBP and work with a health center RN than Hispanic patients.
- Differences were also found among payor types (p = .003).
- Patients with health center RN involvement had higher rates of patient engagement (p < .001).
- Patients with health center RN involvement had higher rates of blood pressure control (p = .004)
- Patients without health center RN involvement saw a decline in blood pressure control.

**Qualitative Results**

- Overall, feedback on the SMBP pilot was positive from patients, providers, and staff.
- Health center RNs started to receive referrals from providers at health center locations not involved in the pilot.
- Health center RNs have found that the majority of patients who engaged with the pilot are motivated to manage their health and were excited to receive a SMBP device so that they can monitor their blood pressure at home.
- Some patients expressed an increased adherence to anti-hypertensive therapy after seeing the impact of their medication through SMBP.

**Looking Forward**

Planning for a SMBP expansion has begun and ACCESS’ Clinical Operations team is working to standardize workflows. In addition, the strategic workgroup is collaborating to find streams of funding to help sustain and build upon the success of the SMBP project.

## Session 2: The QUARTET USA Trial: The Importance of Community-based Clinical Trial Partnerships. Results from the Trial, Process Evaluation, and Next Steps

The QUARTET USA Trial, a collaborative effort between Washington University in St. Louis, University of Sydney, Northwestern University, and ACCESS, was a double-blind randomized controlled trial aimed at evaluating the efficacy and safety of a novel low-dose combination therapy compared to standard monotherapy (candesartan 2 mg, amlodipine 1.25 mg, indapamide 0.625 mg, and bisoprolol 2.5 mg or candesartan 8 mg) for those with mild to moderate hypertension. In the first FDA-regulated trial at ACCESS, 62 participants were randomized from two health centers in Chicago from August 2019 to May 2022. Most participants were Hispanic (73%), almost half (48%) were uninsured, and 65% had a household income of less than \$25,000 annually. The QUARTET USA team found that although there was no statistically significant systolic blood pressure lowering effect, those randomized to the combination therapy arm showed a diastolic lowering effect of 5mmHg than the control arm. Those in the combination therapy arm also had 92% lower odds of being titrated up with 5mg amlodipine at the six week follow-up compared to the control arm. There were also encouraging, but ultimately not statistically significant, improvements in the hypertension control rate in combination therapy patients compared to controls. Importantly, there were no statistically significant differences in adverse events between intervention and control arms.

In addition to the trial's primary results, the process evaluation of the QUARTET USA trial showed promising feasibility and acceptability of the combination therapy by participants and clinicians. 96% of participants believed the benefits of combination therapy outweighed the potential risks and that it was convenient to take. A participant in the study had remarked, "It's easier to take one pill than four or five." Clinicians also indicated they would prescribe combination therapy if the evidence supported its affordability along with a favorable safety profile. Process evaluation results provided detailed information on how to improve the acceptability of combination therapy. This included promoting insurance coverage of combination

therapy and addressing titration inflexibility by introducing stepped care combinations and providing guidelines for managing adverse effects.

The QUARTET USA Trial reinforces the impact and necessity of community participation in all aspects of research

Much like combination therapy shows promise in the treatment of hypertension, the overall management of hypertension needs to be a combination of medication and addressing social determinants of health. ACCESS Consumer Board Member **Perla Herrera**, and strong community champion, served on the Data and Safety Monitoring Board (DSMB) for the QUARTET USA trial. Ms. Herrera joined the panel to represent community voice and stressed the need to address social determinants beyond medication, ending the conference with an earnest plea to health care providers to listen to your patients.

The fundamental goal of the QUARTET USA study team was to embed research in the community and integrate community voices within the research process. Inclusion created mutual trust between the study team and community, and improved participation. While the inclusion of a patient or consumer board member on a DSMB is not typical, having Ms. Herrera included at the highest level of decision-making provides a potential model for how other clinical trials can partner with the community at all phases of research and realize its benefits including creating relevance, trust, engagement, sustained impact, and an improved sensitivity to culture.

## Session 3: C3EN Chicago: Creating a Collaborative Network of Stakeholders and Researchers to Make Change in Hypertension and Other Chronic Diseases

A key takeaway from the QUARTET USA clinical trial and ACCESS' SMBP program was the need to engage the community in meaningful ways throughout all phases of the research cycle so that researchers know the right questions to ask, understand the contextual and intersectional factors on chronic disease, and can create solutions that work for the community at large.

**Elbert Huang, M.D.**, with Department of Medicine Public Health Sciences at the University of Chicago kicked off this presentation by sharing the mission of Chicago Chronic Condition Equity Network (C3EN), which is to build an infrastructure to support community-partnered research with the vision of eliminating disparities of multiple chronic diseases in the Chicago region so that individuals may live their life fully, regardless of their race, gender, socioeconomic status, and neighborhood.

According to Dr. Huang, establishing community partnerships from the beginning of a research project ensures the questions being asked are relevant and applicable to the needs and priorities of the community. Partnership requires a level of trust and cultural sensitivity that increases the likelihood of participation, engagement, and access to settings or populations that may be difficult to reach throughout the research process. Once the research concludes and a program is implemented, these relationships between researchers and the community have a higher chance of being successfully implemented or sustained.

Among the challenges of engaging the community at every phase of the research process, Dr. Huang admits, is time. Not just the time needed to identify a viable community partner and build a relationship, but also the timing against funding deadlines and the nature of studies having a definitive end date. Overcoming the divide in the culture of the community and that of academic research is also a challenge. Below readers will learn how The Alive Faith Network and the Virtual Diabetes Group Visits Across Health Systems (VIDA) Study brought in community voice in their research.

### **Case Study #1: Alive Faith Network**

The Alive Faith Network (AFN) is a community-academic partnership that is addressing chronic conditions and health disparities facing the Black community by leveraging pastors in low-resource areas and using their knowledge and expertise to inform researchers of the needs of their clergy, congregants, and communities to improve health outcomes and reduce chronic disease disparities.

When considering the trusted individuals and groups

within the Black community, **Elizabeth Lynch, PhD**, health equity researcher and founder and research director of the Alive Faith Network (AFN) prioritized building strong relationships with the pastors in the area and creating an advisory council of AFN church members to help harness the voice of the community and build trust and participation in research studies.

To date, AFN has brought together over 77 congregations and established a clergy wellness network for pastors with programming that Dr. Lynch says, has helped pastors lean on one another for support whether that be sharing best practices or discussing their well-being with peers who understand the stress of this role. Additionally, historically smaller or under-resourced churches were able to use the AFN health ministry curriculum that was informed by the needs of congregants to address health inequities and improve the health of their congregants.

### **Case Study #2: Virtual Diabetes Group Visits Across Health Systems (VIDA)**

Another example of a Chicago-based clinical research partnership is the Virtual Diabetes Group Visits Across Health Systems (VIDA) Study, which provided virtual diabetes education classes aimed at improving clinical outcomes among adults with Type 2 diabetes. This study was a collaboration between ACCESS, Advocate Aurora Health, Midwest Clinicians' Network, and UChicago Medicine and included group-based interventions that focused on providing education, social support, and goal setting in conjunction with a patient's care plan with their primary care provider.

The pilot was launched at ACCESS Servicios Médicos La Villita and an Advocate Aurora Health site, with the intention to recruit 4-6 patients at each site who would attend the six group visits. ACCESS had five patients enrolled (of 30 eligible patients) and Advocate enrolled six patients (of 67 eligible patients). At the end of the pilot, the eleven patients attended, on average, 3.6 sessions out of the six scheduled.

Before expanding into the second phase of the study, researchers conducted interviews with pilot program participants, including patients and providers, to learn

more about their experience and gather feedback about the session structure and content, as well as the group session. The following feedback was collected:

- By participating, group members hoped to learn a variety of enjoyable recipes, manage clinical aspects of their diabetes, and increase their exercise habits.
- Creating a routine, organizing pills, and seeking education from primary care providers were among patients' medication goals.
- Increased exercise and use of trackers were among physical activity goals, but there were unexpected or systemic barriers (asthma, weather-dependent, etc.).
- Participants were happy with the discussion portions relevant to the curriculum.
- Participants felt empowered and engaged in the sessions, especially when learning how common their experiences were and gaining practical tools to manage their diabetes.

Throughout the design of the pilot program and results, **Arshiya Baig, M.D., M.P.H.**, Associate Professor of Medicine at the University of Chicago Medicine and Co-Director of the VIDA Study, reinforced the importance of collecting feedback from staff, patients, and providers to tailor the program curriculum and harness the wealth of knowledge from diverse team members that meets the needs of patients and communities.

### Panel Discussion: Day One Highlights and Concluding Remarks

To close out the first day, the presenters gathered for a panel discussion to talk about next steps and reactions to the day's presentations. There was shared agreement among panel participants that in order for researchers to properly address society's research questions, they must 'peel back the layers' to examine how social determinants of health, including structural racism and disinvestment, are impacting health outcomes. Resounding advice from panel participants was to engage and build trust with community partners along the continuum of the research process so that those barriers can be built into the design

of the project and effective results can be delivered to the community. Additionally, researchers who have gained the trust of the community have also gained insights and access to spaces that they may have not been welcomed to before forming a relationship.

To further illustrate the need for researchers and providers in the room to listen to their patients and consider the social determinants of health impacting the community, ACCESS Consumer Board Member **Perla Herrera** pointed outside and said, "When you walk out these doors, you won't find a grocery store within a few miles to find the healthy foods your provider is recommending. If you do have access to a store, you may not be able to afford it. A banana at a gas station is nearby, but that will cost you one dollar for one banana. How can we expect people to follow their doctor's advice or treatment plan when it feels impossible?"

Ms. Herrera added, "We don't want to talk about where our next meal is coming from with strangers, but it's important as health care providers that we are asking these types of questions, in a non-judgmental way, so we can not only treat their high blood pressure, but address the food insecurity that is playing a role in their overall health." Ms. Herrera's comments were met with agreement from panel participants.

To close out the session, ACCESS Vice President of Research and Evaluation **Danielle Lazar, DrPh** called on the professionals in the room to embrace community within the research process and lead the charge to close the gap between academia and the community.

### Day Two: Hypertension-Palooza: Fitness and Nutrition for a Healthy Heart Community Event

On the second day of *Hypertension-Palooza*, ACCESS, partners from health organizations and the community came together at the ACCESS Center for Discovery and Learning for *Hypertension-Palooza: Fitness and Nutrition for a Healthy Heart*. This event was open to the public, and featured presentations and demonstrations about healthy choices, resources, exercise tips and other resources to increase awareness around hypertension within our

communities and teach individuals about making choices for better health outcomes. Attendees had the opportunity to visit other community partners' tables for information and resources, and ACCESS also provided an opportunity for attendees to get their blood pressure taken by clinical staff.

Attendees listened to a presentation on the importance of managing hypertension, including tips on exercising, choosing healthy foods, and a demonstration geared towards community members on best practices for taking their own blood pressure measurements at home. The event also featured a cooking demonstration from ACCESS community partner, Star Farm Chicago. The cooking demonstration highlighted healthy choices and partners also introduced themselves as a resource for our communities. After their presentation, Star Farm Chicago provided community members in attendance with their own fresh produce bag, which included the healthy recipe from their demonstration for members to enjoy at home.

After the day's presentations, community members had the opportunity to join a dance and aerobic exercise class led by a trainer. The community event was a success and participants learned about hypertension treatment and prevention measures in an engaging and approachable way.

## Looking Ahead

Hypertension continues to be a significant health issue for people across the country, including ACCESS patients and Chicago residents. *Hypertension-Palooza* highlighted many of the efforts of ACCESS and our partners to address blood pressure control at the individual level and population level. However, this is just the beginning. The networking between partners, community members, academic institutions, and health care providers at *Hypertension-Palooza* has inspired new collaborations and deeper relationships in the service of improving health. The collaborations and learnings shared during this summit will continue to serve as a jumping off point to the development and implementation of better and more effective strategies for addressing hypertension and other chronic diseases, while inviting community members' voices in at the design and implementation of research studies.

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