Closing the Gap on Health Disparity and Outcomes in Hypertension: Utilizing a Quality Improvement Method on Hypertension Management for Black Patients

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LINCOLN COMMUNITY HEALTH CENTER

BACKGROUND

Introduction

Hypertension affects over 116 million adults in the US, with direct costs projected to exceed $220 billion by 2035. Despite proven interventions outlined in practice guidelines, **only 48%** of patients who are diagnosed with hypertension **have their condition controlled**. Disparities are well documented in hypertension treatment, control and outcomes. Prevalence among Black individuals is much higher than non-Hispanic whites, and deaths attributable to hypertension are twice as frequent.

In Durham, the prevalence of hypertension is **42%**, suggesting opportunities to intervene at a community level to reduce hypertension disparities and improve overall population health.

Study Aims

1. Improve SBP by 10mmHg in Adult Black/African American patients (n = 200) with uncontrolled hypertension from baseline to 6 months
1. Increase the proportion of patients screened for health-related social needs (HSRN) identified by 10% from baseline to 6 months
2. Evaluate the referral and follow-up rate by clinicians from baseline to 6 months.
3. Improve delivery of evidence-based interventions (teach-back for home monitor use, SMART lifestyle goal setting, feedback and follow-up on BP).

METHODS

This intervention was conducted at two sites: **Lincoln Community Health Center (LCHC)** and **Duke Outpatient Clinic.**

Lincoln Community Health Center Leg:

Cohort: 291 Adult Black/African American Lincoln Community Health Center patients were identified. All patients had cases of moderately severe to severe hypertension (SBP ≥ 160mmHg, DBP ≥ 100mmHg).

Implementation: A general script was followed to make weekly calls to notify patients about their high blood pressure and invite them to a weekly 'Hypertension Heroes' class. During class free BP monitors and physician advice was offered to class attendees, as well as Q&A session and guided goal setting.

Follow-up and Analysis: Returning patients had their follow-up blood pressures monitored and recorded and were also asked about their SMART goal progress. Recorded BP data was analyzed for statistical significance of change in self-monitored blood pressure.

Duke Outpatient Clinic Leg

Cohort: 471 Adult Black/African American Duke Outpatient Clinic Patients on the Hypertension registry, but not enrolled in DukeWell. All patients had severe hypertension (SBP ≥ 140mmHg, DBP ≥ 100mmHg).

Implementation: A three-call script was followed to make weekly calls to patients to invite them to participate in the intervention, gain BP education, and receive a BP cuff. We recorded all calls into EHR, referring patients to pharmacists and SDOH resources. Patients also took a pre- and post-HTN knowledge survey to best understand HTN education improvement.

Follow-up and Analysis: All patients were referred back to DukeWell if in need of further resources. Call data was analyzed for intervention success.

Abbreviations:
SBP= Systolic blood pressure SDOH= Social Drivers of Health DBP= Diastolic blood pressure
EHR= Electronic health record

RESULTS

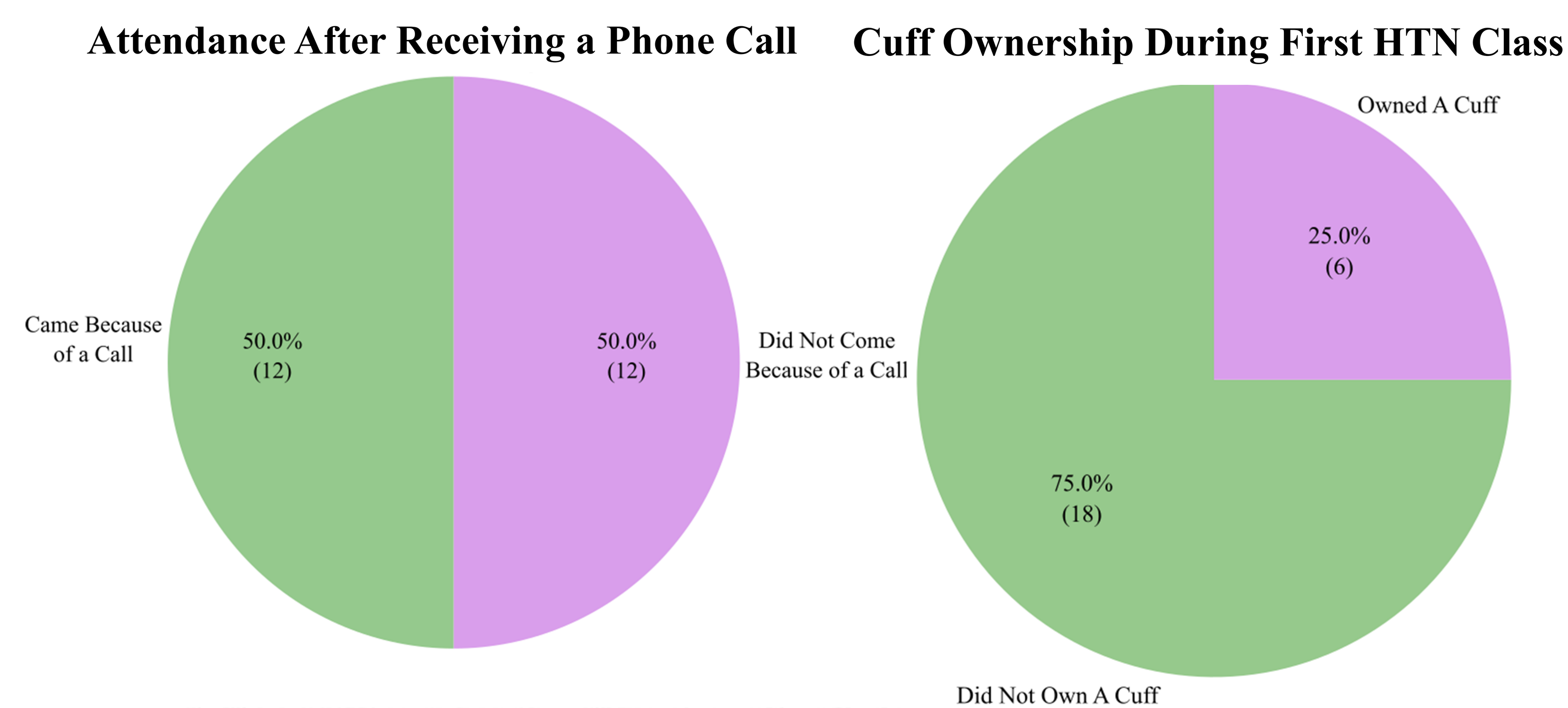
Lincoln Community Health Center Leg

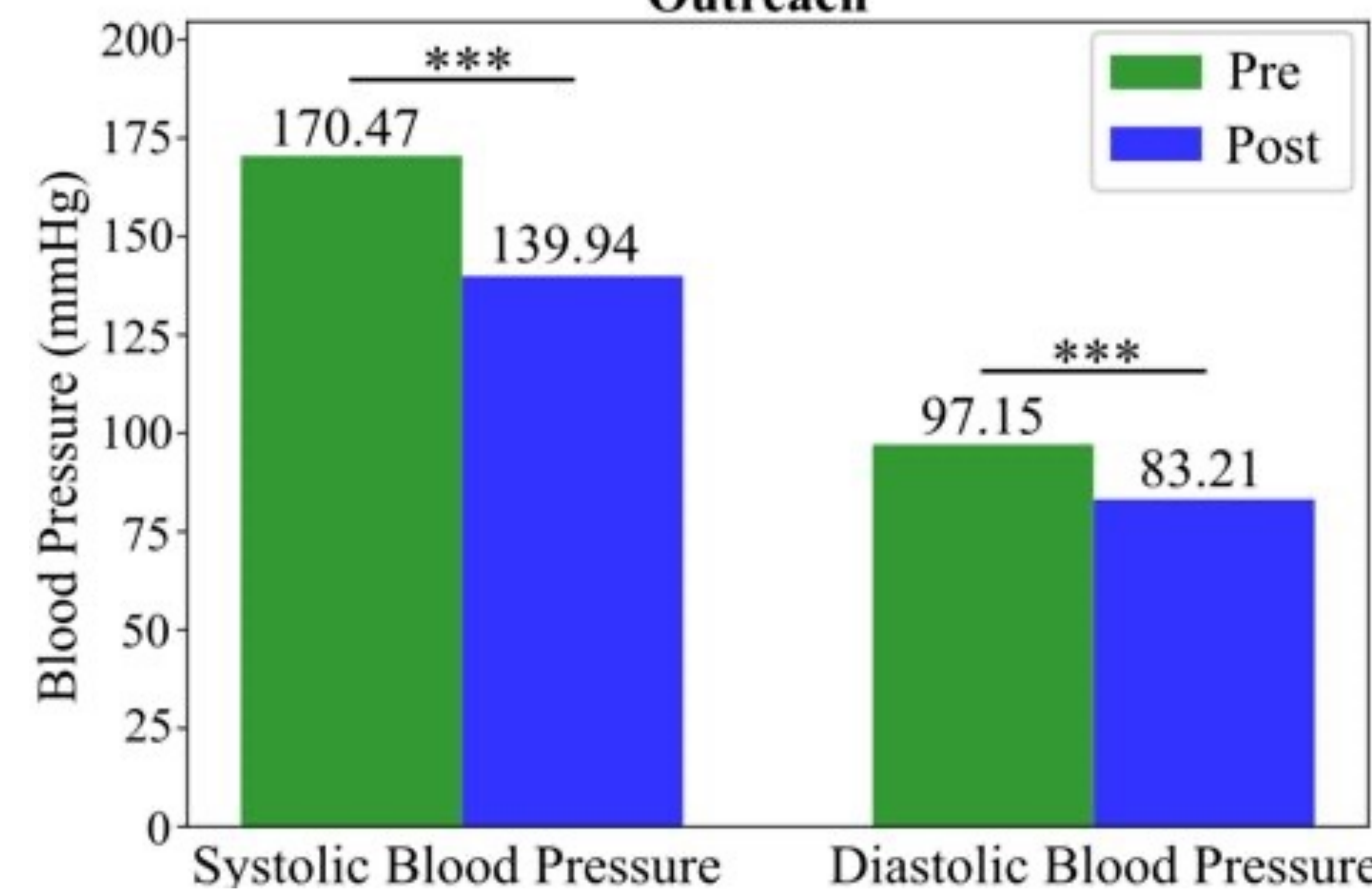
Patient Cohort

Patient Characteristic	Total (*n*=291)	Reached (*n* =149)	Unreached (*n*=142)	*p-value*
Age, mean (SD)	54.6 (9.07)	55.8 (9.57)	53.3 (8.37)	-
Sex, *n* (%)				*1.0*
Male	149 (51.2)	76 (51.0)	73 (51.4)	
Female	142 (48.8)	73 (49.0)	69 (48.6)	
Race/Ethnicity, *n*(%)				-
NH Black	291 (100.0)	-	-	

Patient Attendance at Hypertension Class

Average # of Classes Attended	Minimum # of Classes Attended	Maximum # of Classes Attended
2.04	1	14





Significant Reduction in Blood Pressure Following Phone Call Outreach: The chart depicts a marked decrease in both systolic and diastolic blood pressure among patients after receiving personalized phone calls. The triple asterisks ($p<0.001$) denote a highly significant change, indicating that telephonic outreach can be a helpful component in lowering blood pressure.

Duke Outpatient Clinic Leg

Baseline Demographics of Patient Cohort

	N	Minimum	Maximum	Mean	Std. Deviation
Age in Years	959	20	98	62.43	14.492
Days Since Last MyChart Login	824	1	202	**19.28**	34.318
BP (Systolic)	672	90	215	**137.98**	18.704
BP (Diastolic)	660	27	140	**79.04**	12.730
Valid N	471				

Methodology

HOW	Patient cohort was identified and assigned to student volunteers	**Call 1** Initial calls were made to gauge study interest	**Clinic Visit** Patients made pharmacy visit and picked up BP cuff	**Call 2/3** Follow-up weekly phone calls made to interested patients	**Call 2/3** SMBP and goal setting encouraged; SDOH+ Pharmacy referrals made	Patient activities reviewed and analyzed

DISCUSSION & FUTURE DIRECTIONS

Lincoln Community Health Center Leg

- 50% of class attendees were prompted to attend by our outreach calls.
- Notable reductions in systolic and diastolic blood pressure post-phone outreach.
- 75% of class attendees received a cuff at class.
- From our phone call outreach, only 12 out of 71 patients expressing interest attended the 'Hypertension Heroes' classes.
- Barriers include transportation, scheduling, and socioeconomic factors.

Duke Outpatient Clinic Leg

- Use of a pharmacist to address medicinal access concerns.
- Assessing patient understanding of hypertension risk factors via questionnaire.
- More direct access to the EHR & DukeWell for quicker patient connection to DOC.
- Barriers include transportation for in-person visits, scheduling visits, and addressing the Health-Related Social Needs of the patient cohort.

Future Directions

- Working with the local community health center to develop robust programming alongside the Hypertension Heroes course to reach more patients.
- Expand our Closing the Gap program to other FQHCs, universities, and colleges to recruit more student ambassadors.
- Continuing to collect student ambassador feedback to develop a more directed caller script to enhance patient engagement.

References & Acknowledgements:

See QR Code