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

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BACKGROUND

Introduction

Hypertension affects over 116 million adults in the US, with direct costs projected to exceed $220 billion by 2035. Over one-third of Americans with hypertension are not aware they have it. 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 County, the prevalence of hypertension is 42%, with a strong association with residential racial isolation, suggesting opportunities to intervene at a neighborhood level to reduce hypertension disparities and improve overall population health.

Study Objectives

1. Reduce barriers to effective care in the Durham community through targeted opportunities to improve access to care regarding blood pressure monitoring, diet, exercise and medical management.
2. Adapt proven strategies for blood pressure measurement, monitoring and reporting, and improve delivery of evidence-based interventions to the Durham community, including the use of community-based resources.
3. Design an evaluation and implementation plan tailored to Durham County with patient and community stakeholders, with a focus on using the patient portal for SMBP and continuous quality improvement.
4. Develop a plan with community and external stakeholders using common practices that are generalizable to other communities and regions.

METHODS

Study Planning:

The patient cohort was identified as 345 Black/African American patients (18+) with severe hypertension (SBP $\geq$ 160 mmHg and/or DBP $\geq$ 100 mmHg) from Lincoln Community Health Center.

Study Implementation:

Calls were made to patients following a script in which patients were asked of their interest to enroll in the program and if they would like a free BP cuff to monitor their BP at home. Follow-up calls included SMART goals, measuring BP values, and creating personalized goals to reduce hypertension.

Follow-Ups and Analysis

After working with patients from September 2022 to December 2022, BP values were collected until March 31, 2023. Our team then worked in three streams:

Health: RE-AIM framework application to hypertension
Hope: Quantitative Results: SDOH/Health Equity and referrals made
Heart: Qualitative Results: "Reasons why" patients can't, don't engage

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

RESULTS

Demographics of the Cohort

- 345 Black patients; Average age 52.5; 173 males, 172 females
- Insurance status:
  - Uninsured (n=116); Medicaid (n=20); Medicare (n=18); Private insurance (n=190)

Process Measures and Outcomes

Process Measure	Number of patients	Operational Definition
Patients identified	345	All English speaking, identifying as AA/Black patients identified from EHR with most recent SBP 160+ or DBP 100+ and a phone # on their chart.
Attempts to reach	899*	Number of attempts to contact patients by telephone
Process Measure 1: Patients reached over phone	234	Study team was able to reach and confirm correct number
Patients enrolled	201	Patient agreed to be called again and participate in hypertension telehealth
Patients participated	70	Patient completed 2 or more telephone calls
Patients completed	20	Patient engaged 3 or more times in telehealth calls
Process Measure 2: BP cuffs given	56	BP cuff was received by the patient
Lost to follow up	53	Not able to contact the patient AND patient did not return for a follow up clinic appointment by end-date.
Process Measure 3: Home BP value obtained	37	Patient was able to demonstrate self-monitoring BP skills and give the study team a BP value over the phone
SDOH referral made	54	During an intervention call a Social Need was identified, reported to NP, MD, or social worker, and a referral was made

*Cumulative, multiple patients counted more than once

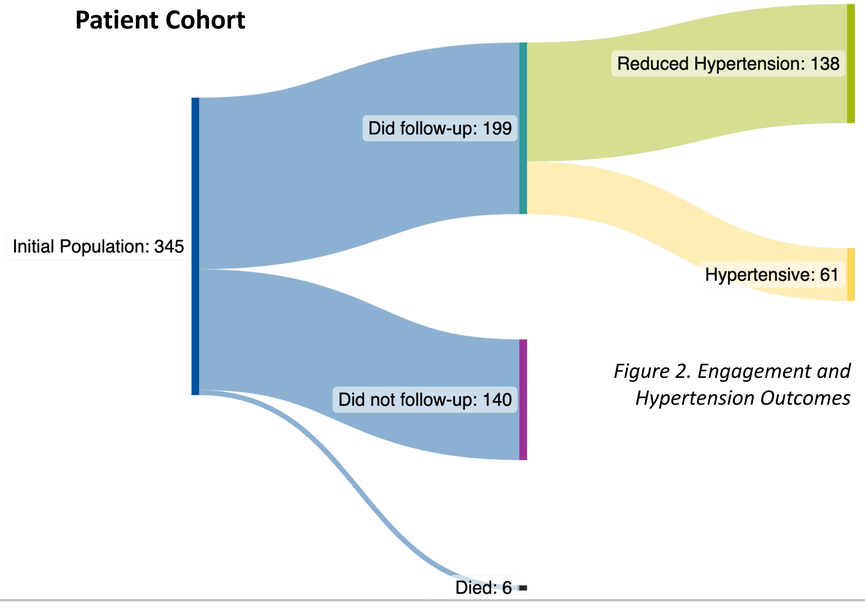

Figure 2. Engagement and Hypertension Outcomes

Frameworks and Perspectives

RE-AIM: A quality improvement framework that focuses on planning and evaluation through five areas

Social Determinants of Health

DISCUSSION

- As compared to previous cohorts of Closing the Gap initiative, beginning in 2017:
  - More patients showed improved BP at 6 months and no longer demonstrated severe hypertension.
  - More patients were able to be reached using the adapted process for conducting outreach calls.
  - More SDOH were identified and referred for follow-up resources.
- Approx. 40% of patients did not complete a script or pick up calls, suggesting the need for other outreach interventions to reach these patients.

FUTURE DIRECTIONS

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

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