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Effects of Pharmacist Intervention on Blood Pressure In Black versus White Patients

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Background

- Racial disparities in hypertension outcomes have been recognized with Black patients having greater risks than their white counterparts^{1,2}
- Providence Medical Group (PMG) has placed a focus on attaining quality metric goals for blood pressure control in eligible Black patients
- PMG Oregon has Collaborative Practice Agreements (CPAs) based on pharmacist management in the primary care setting, and patients can be referred by primary care providers for hypertension management
- Numerous studies have demonstrated the impact of clinical pharmacist management on hypertension control³
- This study focuses on the impact of pharmacist intervention on hypertension goal attainment in Black patients versus White patients

Objectives

Primary objective: Proportion of Black patients with a diagnosis of hypertension with blood pressure of <140/90 after clinical pharmacy services versus proportion of White patients with a diagnosis of hypertension with blood pressure of <140/90 after clinical pharmacy services

Select secondary objectives:

- Effect of total number of completed visits on blood pressure and goal blood pressure attainment upon completion of clinical pharmacy services in Black patients compared to white patients
- Effect of total number of scheduled visits on blood pressure and goal blood pressure attainment upon completion of clinical pharmacy services in Black patients compared to white patients
- Effect of number of patients lost to follow up on blood pressure and goal blood pressure attainment upon completion of clinical pharmacy services in Black patients compared to white patients
- Effect of total number of antihypertensive classes prescribed during duration of clinical pharmacy services on blood pressure and goal blood pressure attainment upon completion of clinical pharmacy services in Black patients compared to white patients

Inclusion criteria:

- Age ≥18 years
- Established care with primary care provider one of 13 clinics
- Patients who self-identify as “Black or African American” with diagnosis of hypertension
- Patients who self-identify as “White or Caucasian” and “Not Hispanic or Latino” with diagnosis of hypertension
- At least one intervention with clinical pharmacy services from January 2019 to December 2019

Exclusion criteria:

- History of kidney transplant
- Hospice/end of life care
- Pregnant individuals
- Those who are incarcerated

Methods

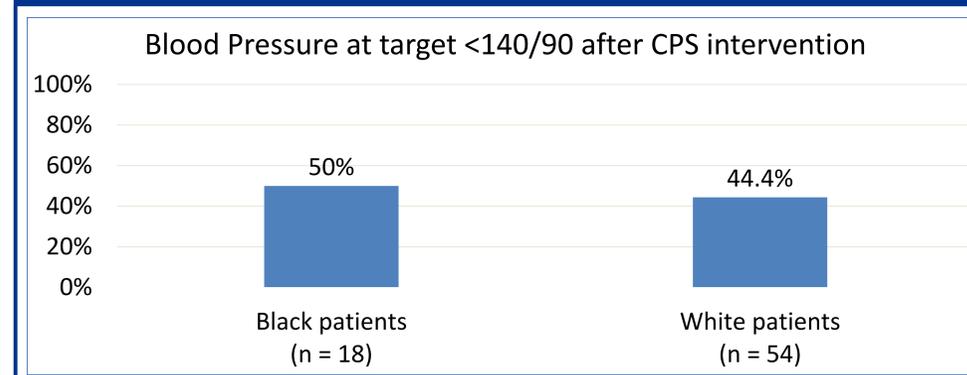
- Study design:** Retrospective observational repeated measure
- Patients enrolled in 3:1 fashion (3 White patients for every 1 Black patient)
- Statistical tests**
 - Primary objective: Proportion test
 - Secondary objectives: Generalized linear model

Preliminary Results

Patient Demographics (n = 72)

	Black patients (n = 18)	White patients (n = 54)
Average age (yrs)	59 (36-77)	65 (38-87)
Female sex (%)	10 (55.5%)	27 (50%)
Insurance coverage		
Commercial	11 (61.1%)	20 (37%)
Medicaid	0	5 (9.3%)
Medicare	7 (38.9%)	26 (48.1%)
None	0	3 (5.6%)

Primary Objective (n = 72)



Secondary Objectives

	Black patients (n = 18)	White patients (n = 54)
Mean # of completed visits	5.8 (1-37)	4.7 (1-62)
Mean # of scheduled visits	9.9 (1-59)	5.7 (1-78)
# lost to follow up	4 (22.2%)	9 (16.7%)
# hospitalizations/ER visits/urgent care visits for CV events	4 (22.2%)	0
# clinic visits for hypertensive urgency/emergency	0	0

Preliminary Results (cont.)

Secondary Objectives (cont.)

	Black patients	White patients
Mean change in SBP	-1.6 (30 – 34)	0.5 (59 – 61)
Mean change in DBP	3.4 (11 – 31)	-0.5 (30 – 38)
Mean change in # of antihypertensives	0.21 (1-5)	0.18 (0-5)

Discussion

Conclusion: Pending statistical analysis. Estimated completion of statistical analysis is 5/2022

Limitations

- Reports used to identify patients may have been incomplete due to variances in charting for visit diagnoses and documentation by pharmacists
- Reports did not capture patients managed by pharmacists from excluded clinics
- Antihypertensive dose changes not captured
- Differences in practices between pharmacists to proactively reschedule patients who cancel or no show
- Study did not account for differences in individualized blood pressure goals
- Small study population
- The study extended into the COVID-19 pandemic and may have affected in-person follow up visits and overall blood pressure management
- Did not assess the rate of referral of Black vs White patients to clinical pharmacy services for hypertension management
- Patient compliance to antihypertensive not taken into consideration

Future Considerations

- Consider evaluating blood pressure goal attainment in clinical pharmacist managed versus primary care provider or specialist managed patients

References/Disclosures

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Investigators in this study have nothing to disclose