

Closing the Gap on Health Disparity in Hypertension: A Quality Improvement Intervention on Self-Monitoring of Blood Pressure in Black Men

Student Team: Beles Abebe, Arianna Buchanan, Dakota Douglas, Ashwin Gadiraju, Emily Gitlin, Rohan Gupta, Irene Jonathan, Adam Lin, Alexis Mandell, Isaiah Mason, Lily Orta, George Romero, Neha Shrishail, Kamryn Stafford, Anthony Tarakji, Katie Xu; Graduate Student Leaders: Sandra Au, Evan Murray, Dan Tounsel RN, MPA, JD, Unique Whitehurst; Faculty Leads: Holly Biola, MD, MPH, Awanya Caesar, RN, Bradi Granger, RN, PhD

BACKGROUND

Background

- Hypertension is a leading preventable cause of death and disability in the United States.¹
- There is a disparate burden among minorities; prevalence among Black patients is much higher than non-Black groups.¹
- Self-monitoring of blood pressure (SMBP) has been proven to lead to better outcomes for hypertension.²
- A reduction of as little as 1 mm HG can reduce the risk of stroke by 5%.³

Study Objectives

- To address the barriers to improving SMBP in Black men in Durham.
- To test real world implementation of SMBP in a low-resource setting.
- To determine whether and how frequently patients will use provided blood pressure cuffs for self-management.
- To strategize with patients to design health goals to maintain health and well-being.

METHODS

Study Planning:

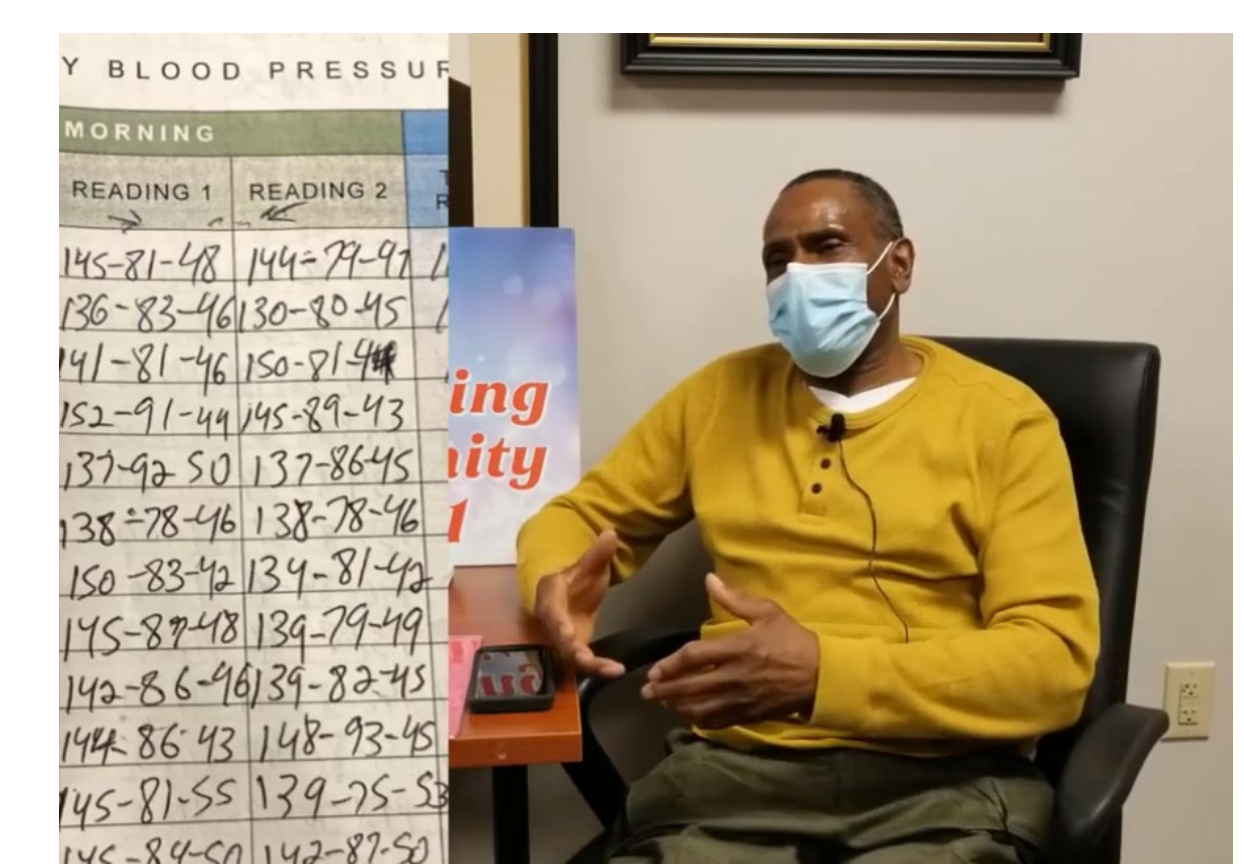
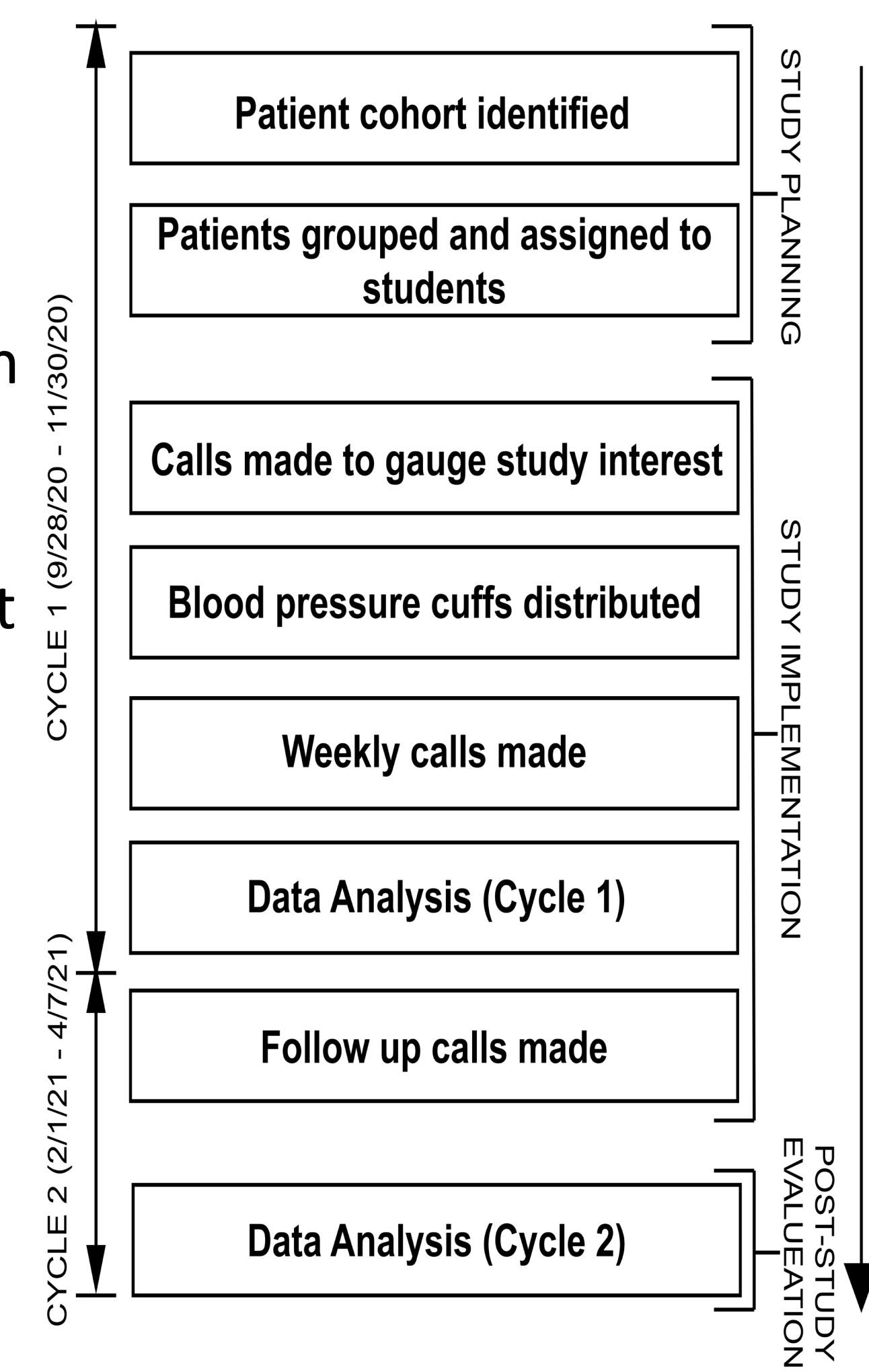
- Patient Cohort was identified as 258 black males (18+) with severe hypertension (SBP > 160mmHg and/or DBP > 100mmHg). Patients from Lincoln Community Health Center (LCHC)

Study Implementation:

- Initial calls were made to gauge interest for the study and offer a free blood pressure cuff for self-monitoring.
- Blood pressure cuffs and instructional materials were delivered to interested patients.
- Follow up calls consisted of weekly blood pressure check-ups, setting a SMART goal, hypertension education, and health referrals.
- Follow up calls made during the cycle 2 period to participants reached during cycle 1.

Post-study evaluation:

- Cycle 2 data was analyzed. SBP and DBP before and after the study was pulled from electronic medical records



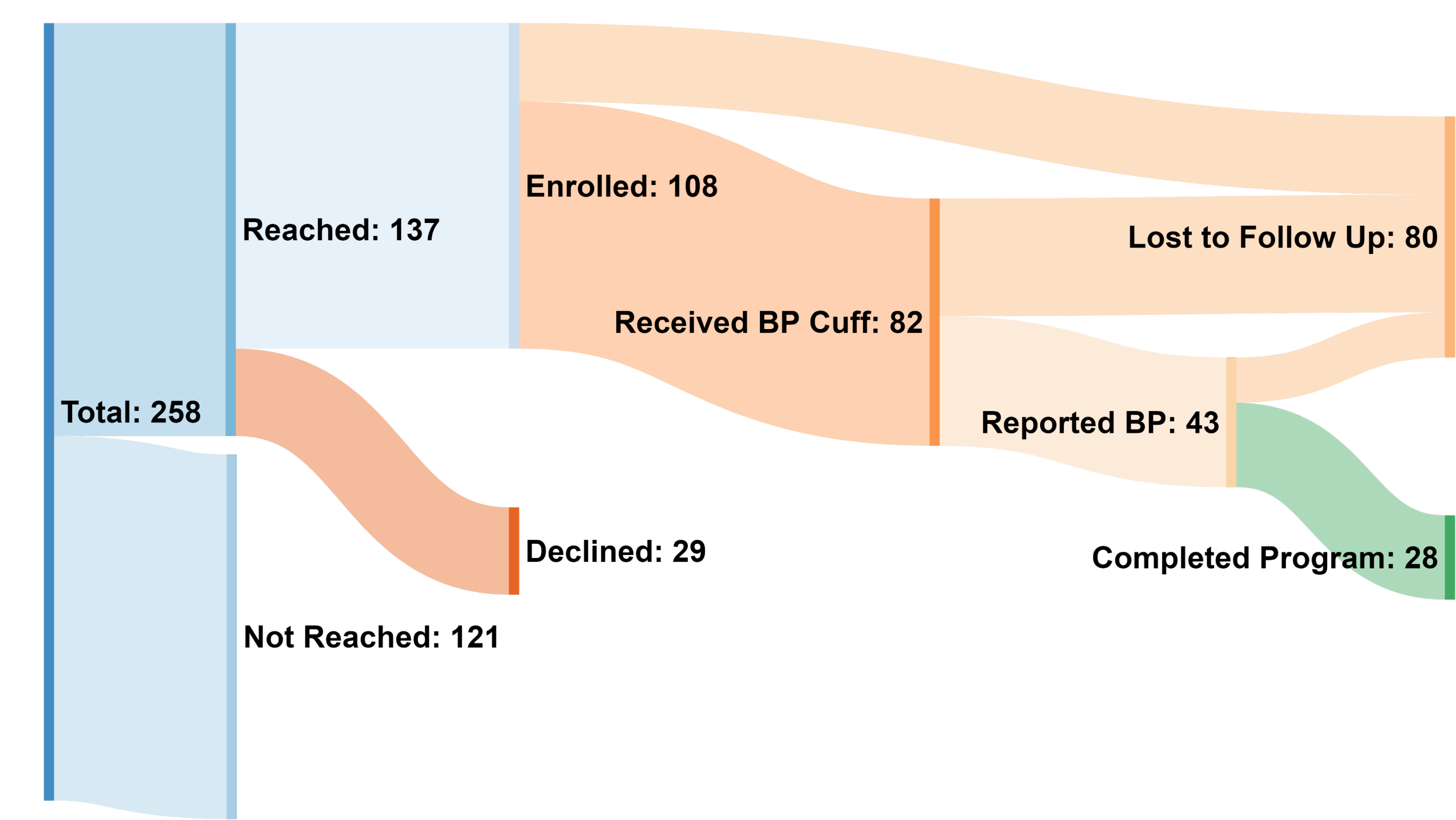
RESULTS

Baseline Demographics

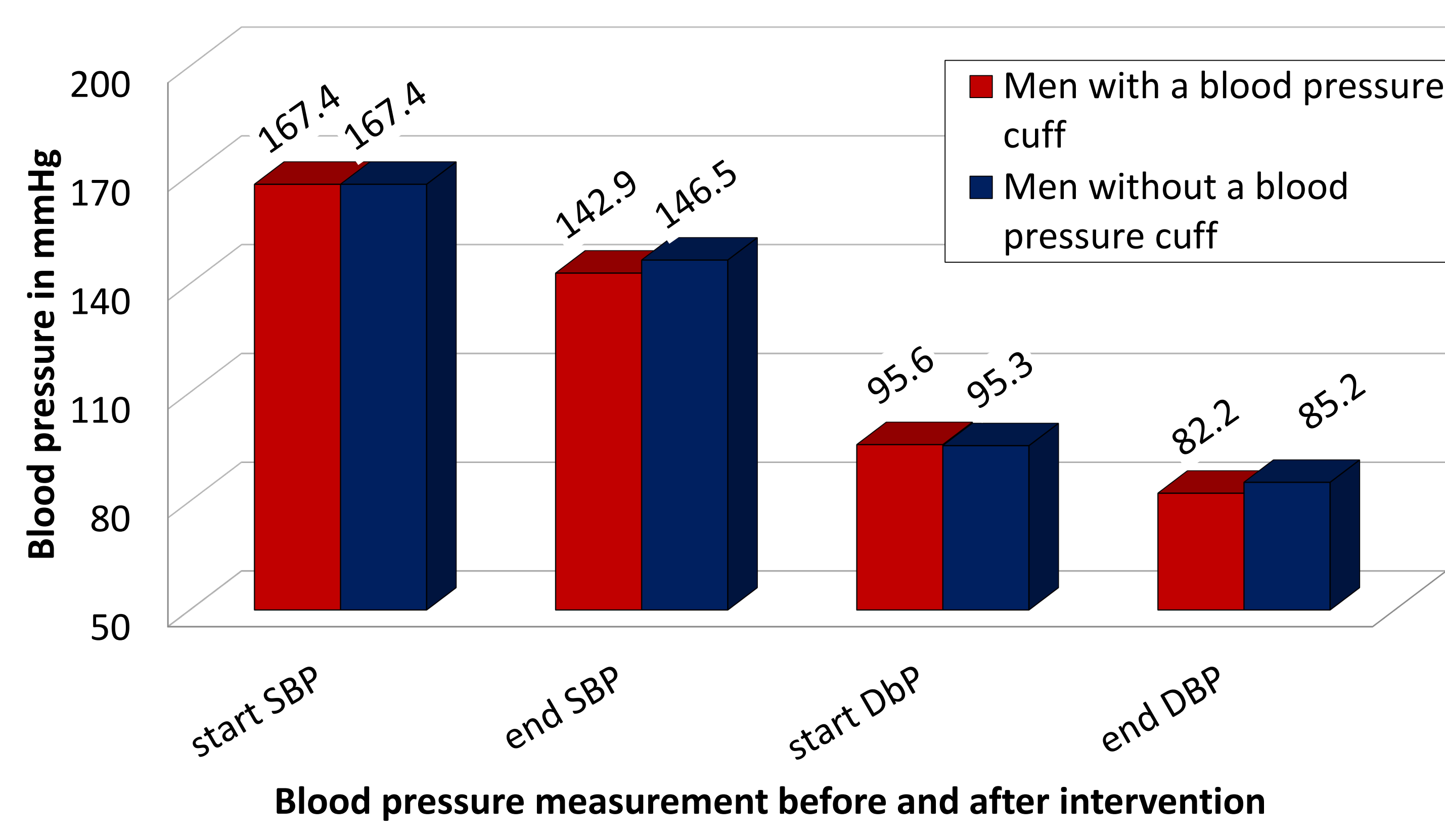
	Total (258)	Reached (137)	Not Reached (121)	p*
Age (mean)	54.6	54.7	54.5	0.891
Insurance – private %	12.8	15.3	9.9	0.225
Medicare %	28.3	32.1	24.0	0.219
Medicaid %	12.4	16.1	8.3	0.076
Uninsured %	46.5	36.5	57.9	0.012
Mychart active %	36.0	37.2	34.7	0.737
Tobacco Use: current %	42.2	38.7	46.3	0.349
BMI kg/m ² , mean	31.7	31.9 (n=132)*	30.7 (n=89)*	0.264
SBP (mmHg), mean	168.5	168.8	168.1	0.687
DBP (mmHg), mean	97.7	97.5	97.8	0.898

*Two tailed t-tests assuming unequal variance for continuous variables, X² for categorical variables
+Missing BMI data from several patients

Process Measures

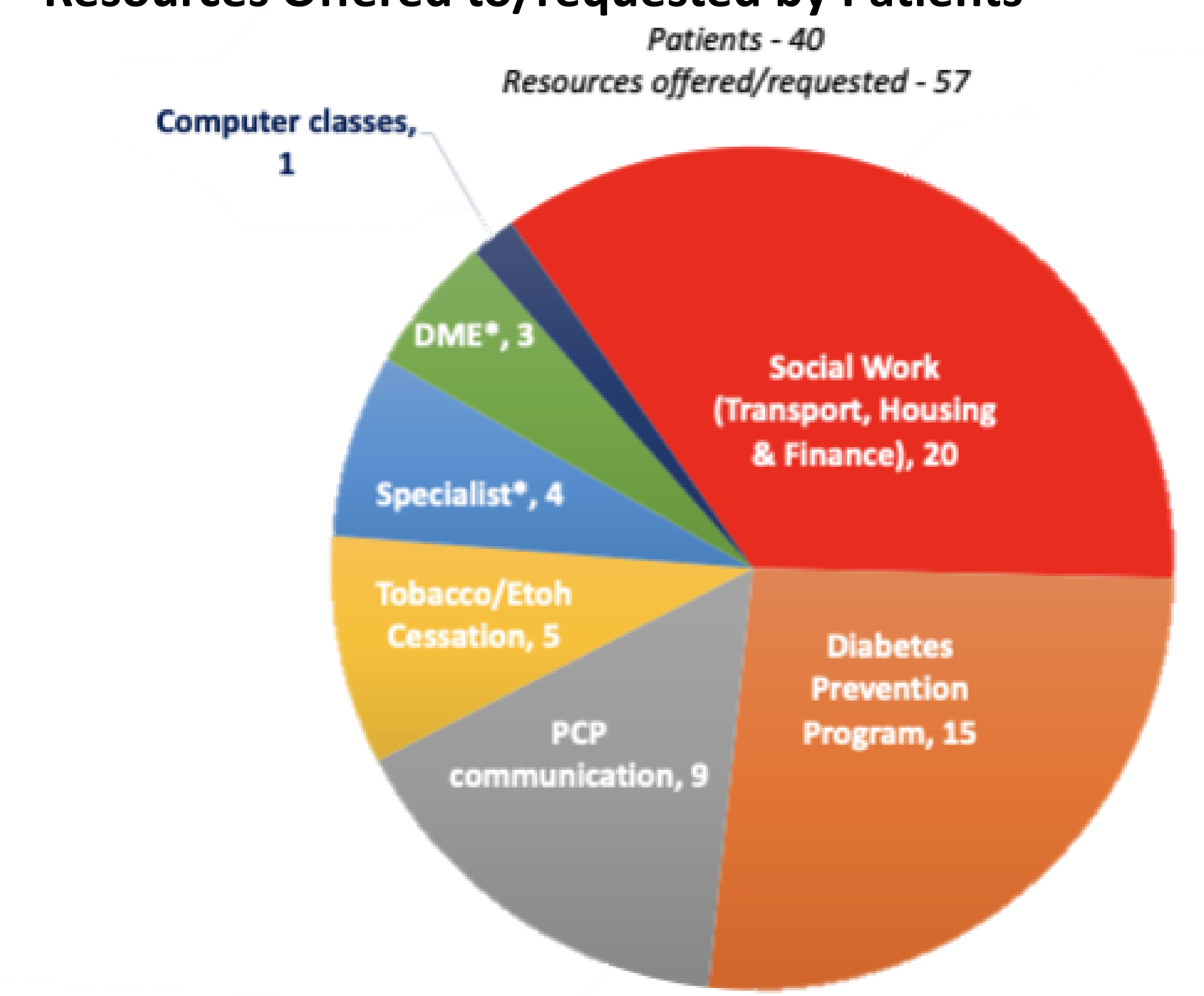


Comparison of Blood Pressure for men with and without a BP cuff



RESULTS CONT.

Resources Offered to/requested by Patients



*Specialist (Cardiology, Nutrition, Podiatry & Dental)
*DME (Durable Medical Equipment)

DISCUSSION

- There was a decrease in blood pressure for those who took part in this project, regardless of whether the patient received a cuff.
- Most patients were not able to complete the program
- 43 high risk men began monitoring their blood pressure because of this program.
- Response among participants was generally positive
- Students successfully referred patients to resources to address social determinants of health and promote health maintenance

FUTURE DIRECTIONS

- Developing a virtual course for Lincoln Community Health Center patients to improve their blood pressure
- Providing additional opportunities for patients to connect with care providers and community stakeholders
- Continue assisting patients in using and understanding the importance of MyChart to close the gap in access
- Expand to our intervention to include the Spanish speaking population and women

Acknowledgements:

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Citations:
1. Benjamin, E. J., Muntner, P., Alonso, A., Bittencourt, M. S., Callaway, C. W., Carson, A. P., Chamberlain, A. M., Chang, A. R., Cheng, S., Das, S. R., Delling, F. N., Djousse, L., Elkind, M. S. V., Ferguson, J. F., Fornage, M., Jordan, L. C., Khan, S. S., Kissela, B. M., Knutson, K. L., ... American Heart Association Council on Epidemiology and Prevention Statistics Committee and Stroke Statistics Subcommittee. (2019). Heart Disease and Stroke Statistics-2019 Update: A Report From the American Heart Association. *Circulation*, 139(10), e56–e58. <https://doi.org/10.1161/CIR.0000000000000659>
2. Vongpatanasin, W., C. Ayers, H. Lohi, S. R. Das, J.D Berry, A. Khera, R. G. Victor, F. C. Lin, A. J. Viera, Y. Yano and J. A. de Lemos (2018). "Diagnostic Thresholds for Blood Pressure Measured at Home in the Context of the 2017 Hypertension guideline." *Hypertension* 72(6):1312-1319
3. Grossman, E. (2011). Blood Pressure: The Lower, the Better: The con side. *Diabetes Care*, 34(Supplement 2), S308–S312. <https://doi.org/10.2337/dic11-s245>