

PUBLISHED ABSTRACT

Improving Hypertension Control among an Underserved Urban Patient Population

Shruti Anand, Yeriko Santillan, Ameesh Isath, Tamara Goldberg and Dipal Patel

Department of Internal Medicine, Mount Sinai Morningside Mount Sinai West, NY, US

Corresponding author: Shruti Anand (shruti.anand@mountsinai.org)

Keywords: Quality Improvement; Hypertension; Underserved; Outpatient

Background

Hypertension is one of the most encountered problem in the primary care setting. It is also an important health care quality metric. Poorly controlled hypertension leads to adverse cardiovascular outcomes including myocardial infarction, heart failure, stroke and chronic kidney disease. Yet achieving adequate blood pressure control remains a challenge not only because of the complex pathophysiology of the disease but also because it is influenced by socioeconomic factors. Social complexities, economic disadvantage, cost related medication non-adherence and poor health literacy are some of the factors that act as barriers in controlling this condition.

In early 2019 we discovered that only 59% of the patients at our resident run primary care clinic had blood pressure less than 140/90. The aim of our resident driven QI project was to improve BP control to a network goal of 75% over a period of 6 months.

Methods

This project was implemented at the Ryan Adair center, a federally qualified health center located in the Central Harlem neighborhood in New York City. The clinic is also a primary care practice site for internal medicine residents. The population is predominantly African American and Hispanic with many patients enrolled in Medicaid and with limited English proficiency. Rent burden and multiple chronic comorbidities are also noteworthy among this population.

We used the Plan-Do-Study-Act method to carry out our clinic-based project. PGY1's at the site served as the QI project leaders with faculty oversight. A total of 5 cycles were implemented during the study period. Cycle 1 focused on nurse education regarding proper blood pressure measurement. Cycle 2 focused on home blood pressure monitoring including patient education on proper technique and the importance of maintaining a daily log. Cycle 3 focused on assessment of health literacy via a patient questionnaire. Cycle 4 focused on provider education by ensuring that our patients were prescribed an appropriate medication regimen based on ACC/AHA Guidelines. Cycle 5 focused on referring patients with continued poor control to community health coaches to identify barriers like nutrition, medication access, and health literacy.

Results

Using our clinic's online hypertensive registry (DRVS), we tracked on a monthly basis, the percentage of hypertensive patients who had controlled blood pressure (<140/90). Over a six-month period, percent of patients at goal went from 59% in February 2019 to 73% in July 2019. Continued trending indicated that BP goals remained above 66% for up to 10 months after initiation of this project.* **Figure 1.**

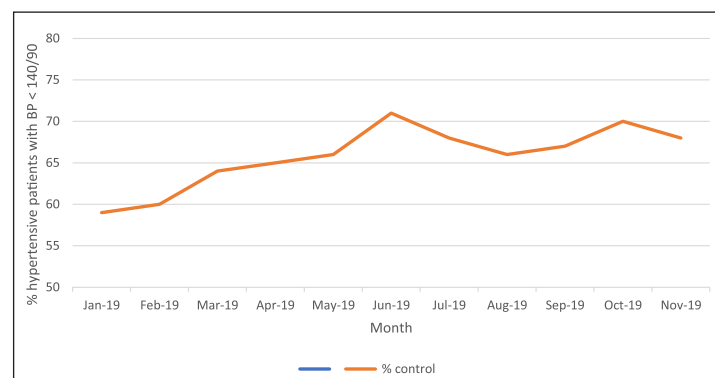


Figure 1: Monthly Hypertension Control.

Discussion

We demonstrated a sustained, meaningful improvement in hypertensive control among an economically-disadvantaged, racially diverse urban patient population. Accurate nurse measurements, engagement of patients in self-management, and resident education on evidence-based medication standards have all contributed to this success. Recent data suggests sustained control even after conclusion of the study period. One of the limitations is that monthly percentages include new patients rather than reflecting a single cohort over time. We suspect our level of control to be underestimated. Future directions will explore the impact of community health coaches and use of standard questionnaire to assess health literacy. We would also like to assess the sustainability of the project as new providers begin clinic practice.

How to cite this article: Anand S, Santillan Y, Isath A, Goldberg T, Patel D. Improving Hypertension Control among an Underserved Urban Patient Population. *Journal of Scientific Innovation in Medicine*. 2020; 3(3): 13. DOI: <https://doi.org/10.29024/jsim.67>

Submitted: 09 June 2020

Accepted: 09 June 2020

Published: 24 July 2020

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