

2-2021

Improving the Implementation of Home Blood Pressure Monitoring

Joshua Mairose

Thomas Jefferson University, joshua.mairose@students.jefferson.edu

Geoffrey Mills, MD

Thomas Jefferson University, geoffrey.mills@jefferson.edu

Follow this and additional works at: https://jdc.jefferson.edu/si_hs_2023_phase1



Part of the [Public Health Commons](#)

[Let us know how access to this document benefits you](#)

Recommended Citation

Mairose, Joshua and Mills, MD, Geoffrey, "Improving the Implementation of Home Blood Pressure Monitoring" (2021). *Phase 1*. Paper 6.

https://jdc.jefferson.edu/si_hs_2023_phase1/6

This Article is brought to you for free and open access by the Jefferson Digital Commons. The Jefferson Digital Commons is a service of Thomas Jefferson University's [Center for Teaching and Learning \(CTL\)](#). The Commons is a showcase for Jefferson books and journals, peer-reviewed scholarly publications, unique historical collections from the University archives, and teaching tools. The Jefferson Digital Commons allows researchers and interested readers anywhere in the world to learn about and keep up to date with Jefferson scholarship. This article has been accepted for inclusion in Phase 1 by an authorized administrator of the Jefferson Digital Commons. For more information, please contact: JeffersonDigitalCommons@jefferson.edu.

Improving the Implementation of Home Blood Pressure Monitoring

Joshua Mairose, Geoffrey Mills MD*

(*) indicates primary project advisor

Disclosures & Acknowledgments

- No Disclosures

Introduction

- Hypertension as a risk factor¹
 - Cardiovascular Disease, Overall Disease Burden, and Mortality
- 2017 ACC/AHA Guidelines²
 - Promotes use of Home Blood Pressure Monitoring (HMBP)
 - Stronger association with CVD³
 - White Coat Hypertension & Masked Hypertension³
- Primary Aim
 - Increase the percentage of JFMA patients with hypertension who are insured by Keystone First or Keystone VIP that have access to an automated home BP cuff for future telemedicine visits
- Project Impact
 - Enhance telemedicine diagnostic capabilities
 - Improve the ability of providers to accurately track BP
 - Improve the management and prevention of stage 2 hypertension



American
Heart
Association®

Methods

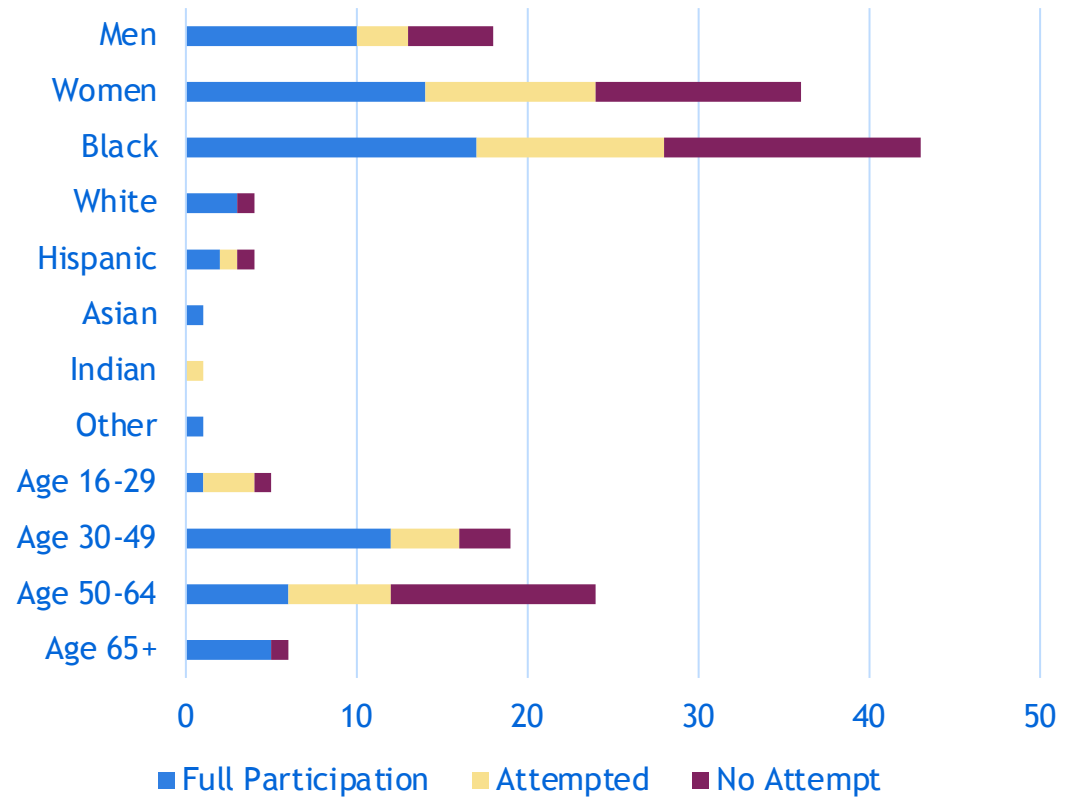
- Target Population
 - JFMA patients, ages 16-85, that have an active hypertension diagnosis and are insured by Keystone First or Keystone VIP
- Patient Outreach
 - Process Map, List Hierarchy
 - Phone Interviews and follow-up MyChart messages
 - Automated BP Cuff delivery via eRx
 - Home readings recorded on Epic
- Data Collection
 - Chart Review → BP Cuff Recipients
 - Number of Readings
 - ≥ 10 readings defined as Full Participation
 - Age, Gender, Race/Ethnicity
 - Readings from first 5 days and most recent 5 days
 - Only the first reading for each day was collected



Results

| Measure | Value |
|---------------------------------|-------|
| Patients Contacted | 253 |
| BP Cuff Recipients | 54 |
| Full Participants (≥ 10) | 24 |
| Attempted (< 10) | 13 |
| No Attempt | 17 |
| Avg SBP Difference | -6.51 |
| Avg DBP Difference | -1.53 |

Participation by Gender, Ethnicity, and Age



Conclusions

- Rate of Full Participation varied based on age and gender
 - Highest = Age 65+ and Men
 - Lowest = Age 16-29 and Women
- Observed decrease in average SBP and DBP
- Limited by small, non-representative sample
 - Keystone First or Keystone VIP
- Future PDSA cycles will focus on improving follow-up with low rate groups

References

1. Xu W, Goldberg SI, Shubina M, Turchin A. Optimal systolic blood pressure target, time to intensification, and time to follow-up in treatment of hypertension: population based retrospective cohort study. *BMJ*. 2015;350:h158.
2. Whelton PK, Carey RM, Aronow WS, et al. 2017 acc/aha/aapa/abc/acpm/ags/apha/ash/aspc/nma/pcna guideline for the prevention, detection, evaluation, and management of high blood pressure in adults: A report of the american college of cardiology/american heart association task force on clinical practice guidelines. *Hypertension*. 2018;71(6):e13-e115.
3. Muntner P, Shimbo D, Carey RM, et al. Measurement of blood pressure in humans: A scientific statement from the american heart association. *Hypertension*. 2019;73(5):e35-e66.



Jefferson

**Philadelphia University +
Thomas Jefferson University**

HOME OF SIDNEY KIMMEL MEDICAL COLLEGE