# Controlling Hypertension with Comprehensive Care Management & Remote Patient Monitoring

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AMERICA'S ESSENTIAL HOSPITALS

# CONFLICT OF INTEREST

Erie County Medical Center (ECMC) received funding from the following organizations:

- The Buffalo Center for Health Equity in partnership with Highmark Healthcare
- Univera Healthcare
- Independent Health Association

# LEARNING OBJECTIVES

1. What is remote patient monitoring (RPM) and why is it a valuable tool for treating hypertension in a disparate population

2. How RPM helped ECMC to better control hypertension

3. How to manufacture and utilize data to identify a population

4. How to design a RPM program that increases patient engagement, and improves adherence and self-management behaviors

# Introduction:

Background
Problem
ECMC's Story

# BACKGROUND & PROBLEM

- Cardiovascular disease (CVD) is the leading cause of death in the U.S
  - ❖ Hypertension - the most prevalent risk factor for CVD, has become one of the most commonplace chronic conditions
  - ❖ Social Determinants of Health (SDOH) & Health Disparities - The combination of SDOH and disparities that contribute to the worsening of a condition, have kept hypertension management in a steady state of evolution. Transportation barriers, a common SDOH in economically challenged groups, can have a tremendous impact on treatment adherence and achieving positive health outcomes in hypertension patients. 50% of U.S. adults are diagnosed with hypertension, and 50% of those adults are uncontrolled. A staggering 80% of hypertensive black adults are uncontrolled – a clear disparity in comparison to the population as whole.
  - ❖ ECMC & Buffalo, New York - In the City of Buffalo, disparities in healthcare related to socioeconomic status and race/ethnicity continue to drive poor health outcomes for hypertensive patients. At ECMC, 56% of patients diagnosed with hypertension were categorized as uncontrolled. 58.2% of ECMC's patients are black, 65% of ECMC's HTN patients are black, and 28.6% of residents live below the poverty line.
  - ❖ Healthcare professionals are challenged with the need to consider disparities and barriers to care and to seek out non-traditional care delivery and patient engagement methods, like RPM, to effect substantial change

# PROBLEM

- **Problem Statement:** Disparities in health care related to socioeconomic status and race/ethnicity continue to contribute to poor health outcomes for hypertensive patients despite the U.S.'s efforts to provide equitable resources and access

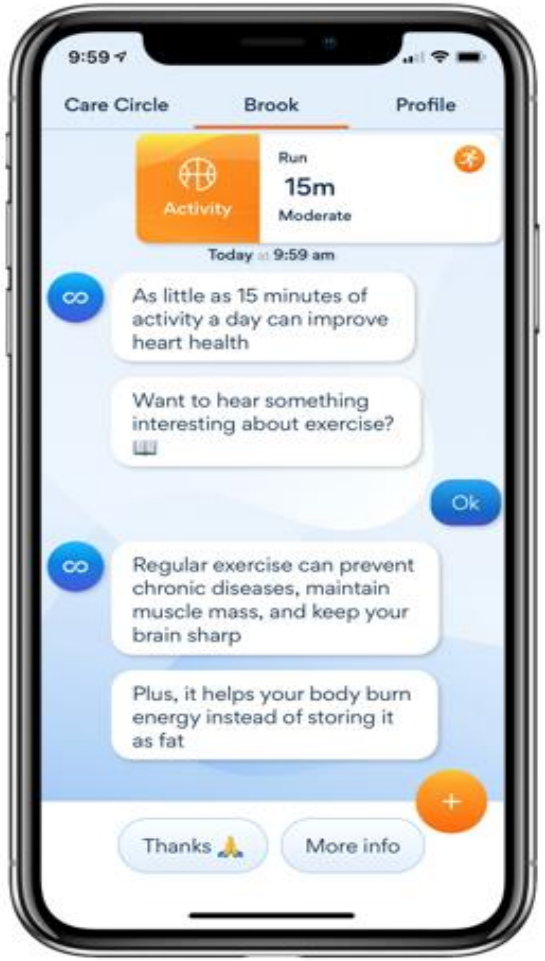
- Transportation barriers to health care remain disproportionately problematic for economically disadvantaged populations

# REMOTE PATIENT MONITORING

- *What is Remote Patient Monitoring?*

- How can this technology be used?
  - ❖ Improved provider efficiencies & communication
  - ❖ Improved patient satisfaction, engagement, & compliance
  - ❖ Improved health outcomes

# REMOTE PATIENT MONITORING

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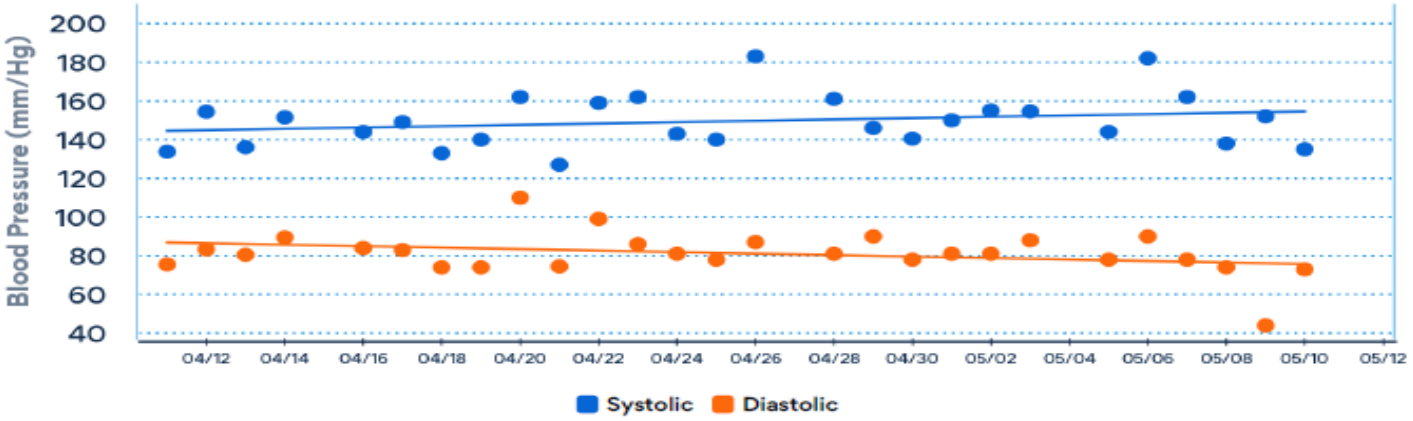
## PATIENT'S REPORT

### PERSONAL INFO

Period: 11 Apr, 2023 - 11 May, 2023 (31 days)

| | | | |
|---|---|---|---|
| Name | John Hamilton | Weight | 272.9 lbs (05/10/2023) |
| Date of Birth | 05/05/1990 | BMI | |
| Height | | Latest blood pressure | 141/75 (05/10/2023) |

### BLOOD PRESSURE PROFILE




| Date Range | SYS | DIA | SYS | DIA | SYS | DIA | Average Pulse | Average Pulse Pressure | Average Mean Arterial Pressure | Number of readings |
|---|---|---|---|---|---|---|---|---|---|---|
| 04/11/23 - 05/11/23 | 146 | 81 | 110 | 44 | 183 | 110 | 82 | 66 | 102 | 40 |
| | AVERAGE | | MIN | | MAX | | | | | |

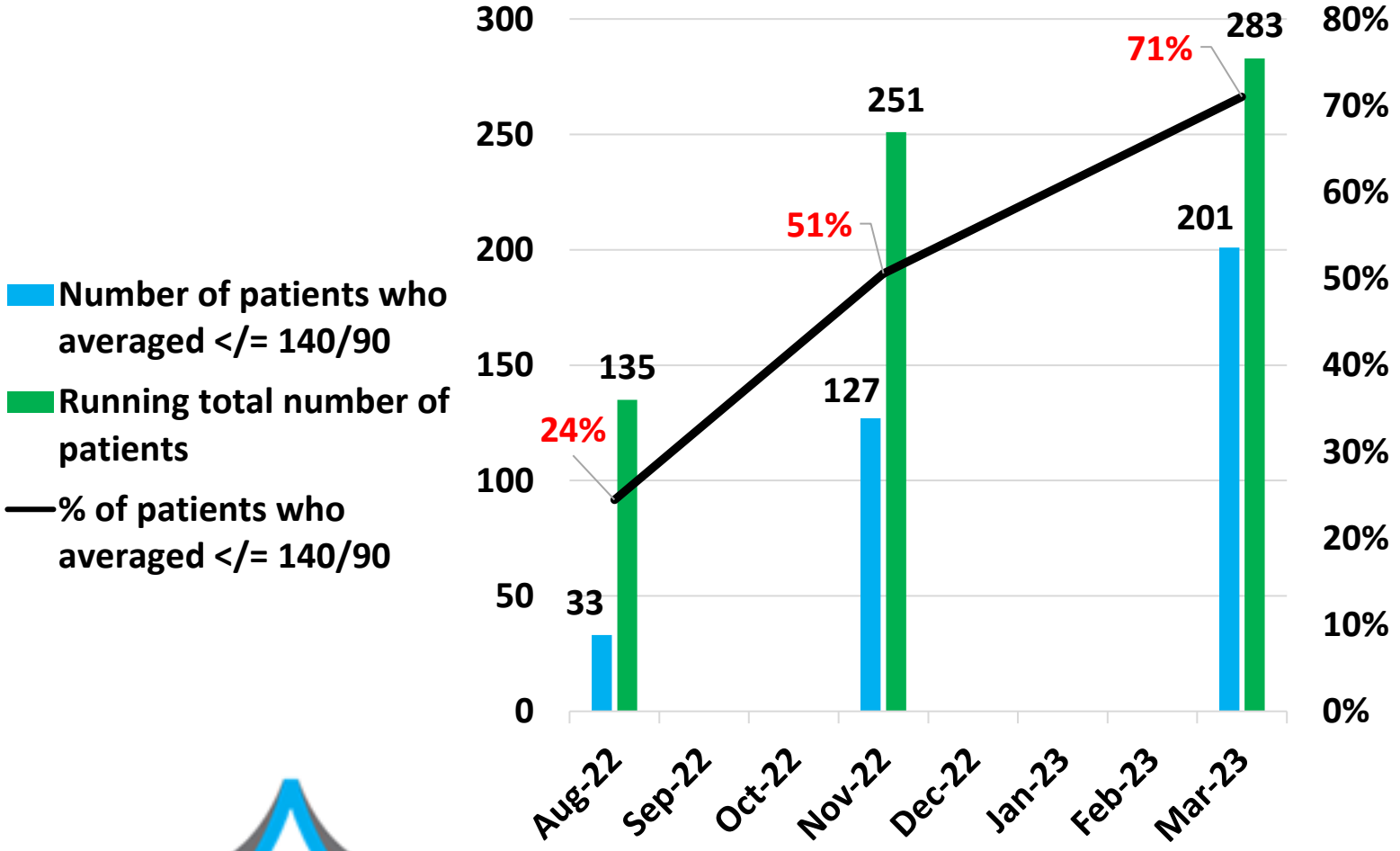
# ECMC'S STORY

**Program Aim:** To develop a comprehensive RPM program utilizing self-measured blood pressure techniques, intensive case management, and telehealth for uncontrolled, disadvantaged hypertension patients

**Implementation:** June 1, 2022

**Details:** Eliminates transportation barriers, increases patient engagement, & improves clinical outcomes

# ECMC'S STORY



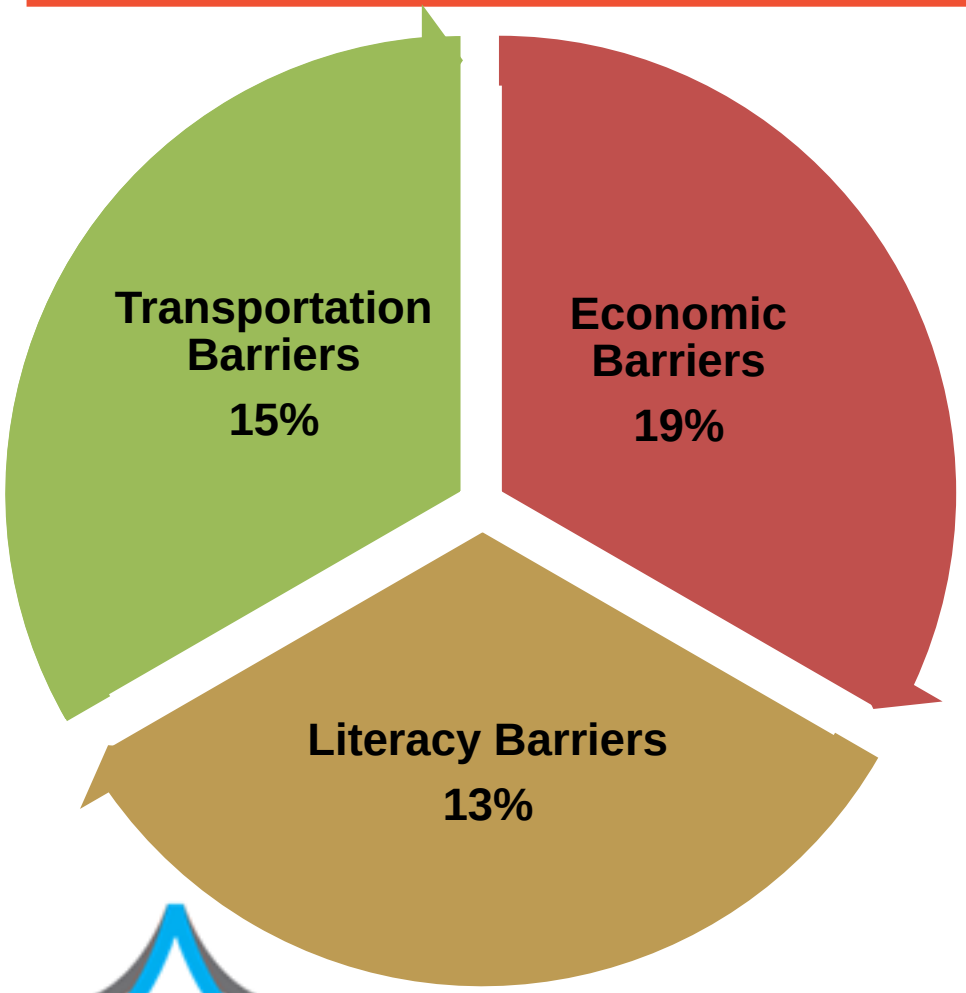

## Results:

47% increase in controlled blood pressures

# Design & Implementation:

Data Analytics & Critical Infrastructure

# IDENTIFYING THE POPULATION: SDOH




- SDOH screening for all primary care patients
- Cross-tabulated data on race/ethnicity, SDOH, and health outcomes to identify areas for intervention

# UNDERSTANDING THE POPULATION: BEHAVIORAL INTENTION

**Attitude:** *Checking my blood pressure every day during the program will make me feel:*

- Less healthy 1 2 3 4 5 6 7 More healthy

**Subjective norm:** *Most people who are important to me approve of me checking my blood pressure every day during the program:*

- Disagree 1 2 3 4 5 6 7 Agree

**Perceived behavioral control:** *Checking my blood pressure every day during the program is easily done:*

- Disagree 1 2 3 4 5 6 7 Agree

*I am confident that I can check my blood pressure every day during the program:*

- False 1 2 3 4 5 6 7 True

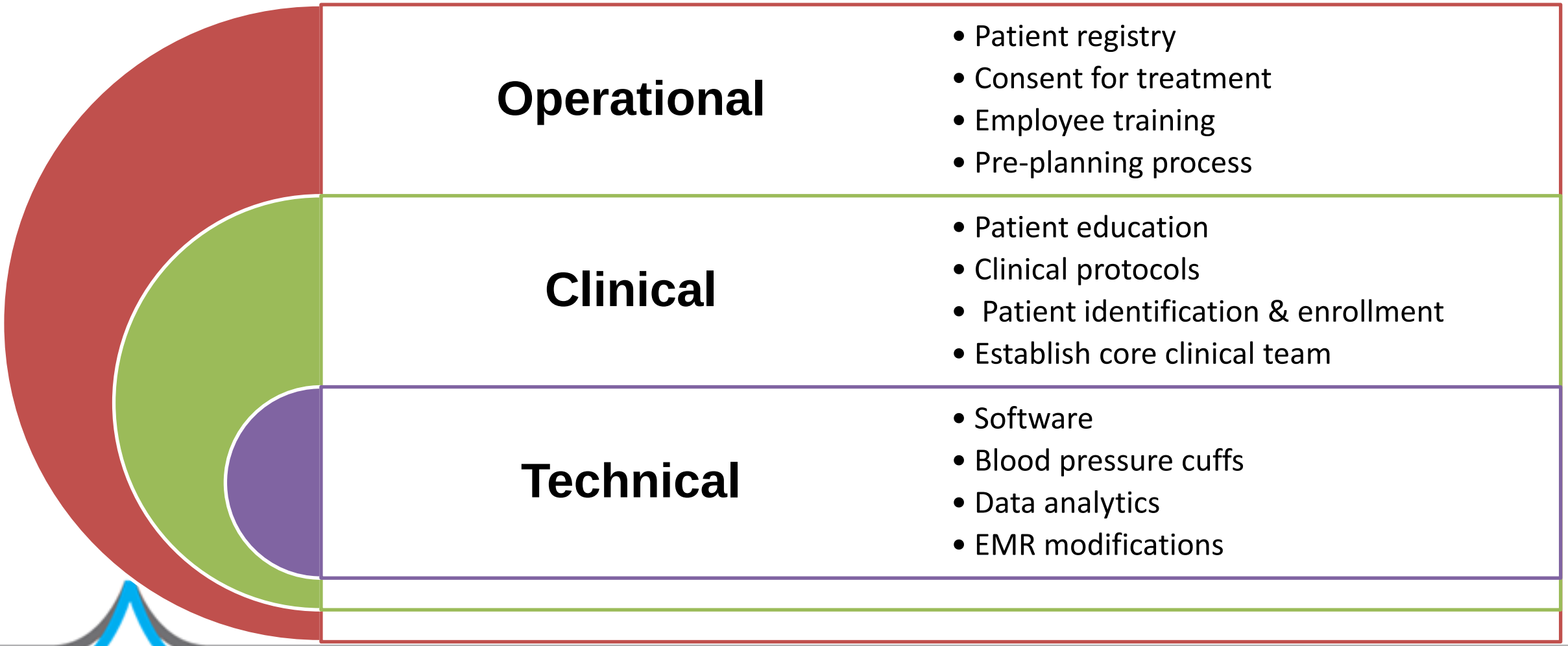
**Intention:** *I intend to check my blood pressure every day during the program:*

- Unlikely 1 2 3 4 5 6 7 Likely

**Past behavior:** *In the last calendar year, I have checked my blood pressure on a regular basis:*

- False 1 2 3 4 5 6 7 True

# DESIGNING AN EFFECTIVE RPM PROGRAM



| | |
|---|---|
| **Operational** | • Patient registry<br>• Consent for treatment<br>• Employee training<br>• Pre-planning process |
| **Clinical** | • Patient education<br>• Clinical protocols<br>• Patient identification & enrollment<br>• Establish core clinical team |
| **Technical** | • Software<br>• Blood pressure cuffs<br>• Data analytics<br>• EMR modifications |

# IMPLEMENTING RPM

- **Staffing matrix**
  - ❖ Nurse Case Manager
  - ❖ Nurse Enrollment Champion
  - ❖ Provider
  - ❖ Pharmacist
  - ❖ Social Worker

- **Enrollment process**

- **Clinical protocols**

# CONCLUSION & DISCUSSION

- Clinical outcomes strengthen the need for future exploration on utilizing a RPM approach to reduce disparities and better manage chronic disease

# Thank you!