REMOTE PATIENT MONITORING:
Leveraging technology to improve hypertension in underserved communities

OCTOBER 29th, 2021
CHN serves medically underserved populations — disproportionately impacted by chronic diseases including hypertension (HTN)

- 28% Adults in NYC
- 40% Adults in CHN communities

>7700 CHN adult patients diagnosed with HTN
  - 50% =controlled Hypertension
  - Percentage declined since the onset of the COVID pandemic

US Dept of HHS, through HRSA, awarded CHN $250K grant to improve HTN among racial and ethnic minorities
  - National Hypertension Control Initiative
INITIATIVE OVERVIEW

BACKGROUND

With the increased use of telehealth in our current healthcare landscape, advancement of remote patient monitoring (RPM) in chronic disease management such as hypertension has become a priority for Community Healthcare Network (CHN).

This initiative, the first remote care program at CHN, was funded through a HRSA grant to improve blood pressure control within its servicing communities and to address racial disparities in healthcare.

CORE GROUP

Jean Better Cazeau, DNP, RN
Rebecca Lee, MD
Sara Fernandez, PhD
RPM INITIATIVE COLLABORATION

SPONSOR: CHIEF MEDICAL OFFICER/VP OF NURSING

CLINICAL
• CLINICAL PARAMETERS
• NOTIFICATIONS
• PATIENT ELIGIBILITY CRITERIA
• TRAINING FOR SMBP MONITORING

PREVY
• PROVISIONING OF PATIENTS AND CLINICAL TEAM
• IMPLEMENTATION OF NOTIFICATIONS ACCORDING TO CLINICAL RULES
• DESIGN AND IMPLEMENTATION OF PATIENT CONSENT TOOL
• CONTINUOUSLY IMPROVE THE PLATFORM ACCORDING TO CHN INPUT

DATA
• POPULATION HEALTH QUERY
• CLINICIAN MASTER LIST
• SEARCH ENGINE FOR DATA PROVISIONING PROCESS

MARKETING & TRAINING
• OUTREACH TO ELIGIBLE PATIENTS
• DATA REPORTING
• GRANT WRITING
• PREVY GUIDE FOR STAFF AND PATIENT CONSENT
• TRANSLATION SERVICES

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FUTURE OF NURSING 2020-2030: Charting a Path to Achieve Health Equity

RECOMMENDATIONS
Nurses should be full partners, with physicians and other health care professionals, in redesigning health care in the United States

PROJECT OUTCOME

PROMOTING PATIENT’S ENGAGEMENT IN THEIR CARE

ACHIEVING BP CONTROL (<140/90) FOR ENROLLED PATIENT OVER THE COURSE OF AT LEAST 1 MONTH

IMPROVEMENT IN BLOOD PRESSURE CONTROL IN INCREMENTS OF 10% OF ENROLLED PATIENTS EACH YEAR, RESULTING IN IMPROVEMENTS AMONG 30% OF THE ENROLLED PATIENTS AT THE CONCLUSION OF THE PROJECT
M.A.P FRAMEWORK

- MEASURE ACCURATELY
- ACT RAPIDLY
- PARTNER WITH PATIENTS
**MEASURE ACCURATELY**

1. **RETURN DEMONSTRATION**
2. **DATA VALIDITY**
3. **PLATFORM REMINDERS**
## Rules for Patients

<table>
<thead>
<tr>
<th>Risk</th>
<th>Rule</th>
<th>Issue / Notification Text</th>
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<tbody>
<tr>
<td>R1a</td>
<td>Low</td>
<td>Acknowledgement when at least 1 BP logged for 72 hrs</td>
</tr>
<tr>
<td>R1b</td>
<td>Low</td>
<td>Prompt if the patient has not logged BP for 3 consecutive days.</td>
</tr>
<tr>
<td>R2</td>
<td>Low</td>
<td>Acknowledgement of well controlled BP if weekly BP average &lt; 140/90</td>
</tr>
<tr>
<td>R1A</td>
<td>Low</td>
<td>Biweekly reminder to make appointment with nurse once a month and PCP once every 8 weeks when BP &gt; 140/90 and &lt; 160/100</td>
</tr>
<tr>
<td>R1B</td>
<td>Low</td>
<td>Biweekly reminder to make appointment with nurse once a month and PCP once every 8 weeks when BP &gt; 140/90 and &lt; 160/100</td>
</tr>
<tr>
<td>R2</td>
<td>Low</td>
<td>Reminder to return PREVVY to PCP when BP well controlled for 1 month (&lt;140/90)</td>
</tr>
<tr>
<td>R5</td>
<td>Med</td>
<td>Prompt to repeat BP if logged BP is +/- 20mmHg different from previous week’s average BP</td>
</tr>
<tr>
<td>R6</td>
<td>Med</td>
<td>Prompt to contact HH if available or Nurse within 1 week if BP average over 1 week is &gt;160/100 and &lt;180/120 or &lt;100/60 to discuss medication adherence, BP measuring methods, lifestyle interventions, and symptoms.</td>
</tr>
<tr>
<td>R7</td>
<td>High</td>
<td>Prompt if BP reading &gt;180/120 or &lt;100/60 to wait five minutes and test again.</td>
</tr>
<tr>
<td>R8</td>
<td>High</td>
<td>Prompt patient to call 911 if 2 consecutive bp readings &gt;180/120 or &lt;90/60</td>
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1. **PLATFORM SENDS NOTIFICATION TO PATIENTS**
2. **STAFF CHECK PLATFORM ROUTINELY**

ACT RAPIDLY

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PARTNER WITH PATIENTS

1. PREVY: REMINDER FOR PATIENT FROM ONLINE PLATFORM
2. MONTHLY CLINICAL EVALUATION OF PATIENTS
3. IN-PERSON & TELEPHONIC VISIT FOLLOW UP VISIT FOR NEWLY ENROLLED PATIENT

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PREVVY FOR PATIENTS

Knowing More About Hypertension
10-18-2021

ABC
Generic Hypertension program
Morning
More Info

What is Hypertension

Hypertension (also known as high blood pressure) is when the blood pressure, the force of blood flowing through your vessels, is too high.

High blood pressure can be silent, which means you may not have any symptoms or warning signs. Many people may not know that they have high blood pressure.

Getting your blood pressure checked is the only way to know if you have high blood pressure.

- Your doctor will check your blood pressure at your visits and make

Vital Signs

Systolic 126 mm[Hg]
Diastolic 90 mm[Hg]
Heart rate 91 bpm

Fitness/Routine

There aren't any observations to show.
PREVVY FOR CLINICAL TEAM
ENROLLMENT WORKFLOW

Outreach to patients (Marketing)

Patient interested?

Yes

Clinical team confirms eligibility (inclusion criteria)

PREVVY is notified. In-person visit is scheduled

In-person visit with clinician. Patient signs consent

Staff facilitates patient training and device pairing. Patient received BP device

CM conducts home visit w/in 7 days of enrollment

No

Patient decline is documented

Inclusion criteria:
- Last two office BP >140 mm Hg (sys) or >90 mmHg (Dia)
- Diagnosis of hypertension in the preceding year
- Has a smartphone

Note: HH case manager will facilitate patient enrollment for HH patients
PILOT PATIENT ENROLLMENT

- Provider introduces program to appropriate patient.
- CHN Staff assists patient:
  - Downloading PREVYVY App on patient smartphone
  - Signing into the PREVYVY
  - Signing consent form
  - Pairing app with BP device
  - Reviewing how to take BP and navigate PREVYVY
PILOT LAUNCH & FINDINGS

OVERVIEW

PILOT LAUNCH
- Launch: 08/16/2021
- 4 patients enrolled (Tremont)
  - 100% receiving medical care from CHN
  - 50% are participants of HH program

LEARNING FROM PILOT

- LANGUAGE ELEMENT
- DEVICE CONNECTIVITY
- ADDITIONAL SUPPLIES
- CUSTOMER SUPPORT
**PILOT LAUNCH & FINDINGS:**

*Meaningful survey*

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<td>EASE OF USE OF BP MONITOR</td>
<td>+</td>
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**THEME** | **FEEDBACK (3)**
--- | ---
FREQUENCY OF ALARMS | +
*Alarm encouraged me to exhibit the right behavior (taking BP, monitor sodium level)*
TIME OF BP CHECK | +
*As long as reminder is there, patient would still exhibit the right behavior.*

**EASE OF USE OF BP DEVICE AND NAVIGATION OF PLATFORM** | +

**ACCESSING SUPPORT** | +
*Patient can benefit from more guidance. A check in once a week would be helpful for the first two months, ideally with a phone call since it is more personable.*
PILOT LAUNCH & FINDINGS: Data implication

OVERVIEW

PATIENT DATA ENTRY

▪ PERCENTAGE OF PATIENTS ENTERING DATA
  ▪ September 2021
    ▪ 100%

▪ DATA ENTRY DAYS
  ▪ Total (47 days) (September 2021)
  ▪ Mean (11.75 days)

COMPLIANCE

▪ DEFINITION
  *** %= NUMBER OF DAYS DATA TRACK / CURRENT DAY OF THE MONTH (DENOMINATOR)

▪ 75% (HH)
  ▪ FACTOR(s)
    ▪ IN-PERSON FOLLOW UP WITHIN 7 DAYS OF ENROLLMENT

▪ 25% (Non-HH)
  ▪ FACTOR(s)
    ▪ INTRODUCTION OF NEW ROUTINE***
    ▪ DEVICE (CELL PHONE) PHYSICAL DAMAGE***
    ▪ TELEPHONIC FOLLOW UP

TRACKED DAYS/MONTH (SEPTEMBER)
PILOT SUCCESS CASE

46 year old Female with history of hypertension, obstructive sleep apnea, obesity, dyslipidemia

HTN has been uncontrolled since 2017.
- 09/01/2017: 152/103
- 06/05/2018: 123/94
- 07/08/2019: 151/93
- 07/10/2020: 144/102
- 07/26/2021: 146/110
- 08/16/2021: 128/100 (PILOT enrollment)
- 10/15/2021: 116/81

Current HTN medications: Amlodipine 10mg daily, Atenolol 50mg daily, lisinopril 40 mg daily.

Patient reports improved adherence to lifestyle changes due to daily reminders.
PHASE 1: HEALTH HOME PATIENTS OUTREACH
MARKETING TO BEGIN OUTREACH with 200+ PATIENTS
COMPLIANCE WITH SOLICITED BEHAVIOR
• 75% (HH); 25% (NON-HH)
• HOME VISIT SIGNIFICANT CONTRIBUTING
  • w/in 7 days of program enrollment

PHASE 2: NON-HEALTH HOME PATIENTS OUTREACH
3100+ PATIENT RECEIVING MEDICAL CARE AT CHN

RPM PROGRAM EXPANSION
QUESTIONS
THANK YOU!

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