Self Blood Pressure Monitoring (SMBP)

Alameda Health System

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WHAT WERE WE TRYING TO ACCOMPLISH?

**Problem Statement**

In the wake of COVID-19, primary care clinics across the country have rapidly undertaken dramatic changes to care delivery systems by switching the majority of care to telehealth visits. There are concerns that this change will leave the same chronic medical conditions that make these patients vulnerable to COVID-19 unaddressed for prolonged periods of time. We are trying to better understand whether or not specific telehealth-oriented interventions can improve hypertension and diabetes control for our diverse patient population.

**Aim Statement**

AHS will promote the health of our patients with diabetes by maintaining the percentage of those with controlled blood pressure to at least 69.41%.

**Health Equity Aim Statement**

AHS will maintain the health of our Black/African American patients with diabetes by keeping the percentage of those with uncontrolled HbA1c (>9%) at or below 36.22%
WHAT CHANGES DID WE MAKE THAT RESULTED IN IMPROVEMENT?

Our Theories for Change: How We Learned About Our Process

Organizational Driver Diagram: HTN Care

*Bolded items in Driver Diagram were prioritized*
Aim Statement

AHS will promote the health of its patients with Diabetes by maintaining the percentage of those with controlled hypertension to at least 69.2%

Primary Drivers
(Systems Elements)

Blood Pressure Measurement Competency

Secondary Drivers
(Areas for Change/Intervention)

- Staff training/education on standardized intake protocol (including process for home BP monitoring and reporting)
- Audits to observe in-person BP measurement and demonstrated competency of staff
- Audits of repeat BP process measure report
- Use of automated office blood pressure (AOBP) device with patient education for appropriate BP goals

- Use of a RN standardized procedure
- Leverage RN, PharmD, LVN providers for hypertension management
- Provider training/education regarding AHS HTN protocol for common medication side effects
- Use of intensified treatment or monitoring when patient engagement/self-management is suboptimal

- Staff/Provider delivery of education regarding home BP process, readings, and next steps
- Use of motivational interviewing techniques/Health coaching
- Use of shared goal-setting/decision-making tool
- Access to Chronic Care staff or other nursing staff to support patient concerns (e.g., medication, nutrition, equipment use)

Standardized and Evidence-based Treatment

Patient Engagement/ Self-management Support
WHAT CHANGES DID WE MAKE THAT RESULTED IN IMPROVEMENT?

Our Theories for Change: How We Learned About Our Process

Process Flow Map: SMBP Highland Pilot
Epic workbench report identified patients active with Chronic Care (DM + Last BP >140/90)

Medical Assistant outreach (3 phone attempts)

Depending on payer – BP cuff ordering process initiated OR BP cuff provided

Telehealth or In-person visit scheduled (Visit #1) for BP cuff pick-up, teaching by LVN or RN
Visit #2 - BP review and Med Titration via telehealth in 1-2 weeks with RN or PharmD*

Visit #3 - BP review and Med Titration via telehealth in 1-2 weeks with RN or PharmD*

Visit #4 – Scheduled in-person with RN, PharmD, or PCP for BP validation and labs (as needed)

* If BP >180/100 mmHg then in-person visit scheduled
**WHAT CHANGES DID WE MAKE THAT RESULTED IN IMPROVEMENT?**

### Process for Selecting Test Ideas

#### How We Engaged the Patient

**“Voice of the Customer”**

SMBP Highland Pilot – First iteration, no patient engagement prior to pilot was obtained. After first round at Highland, a random subset of patients were asked either during visits or after the pilot was completed the top factors that prevented them from attending visits 1-4 or performing SMBP.

Disparity Reduction Metric (Black/AA DM control) – we had existing robust multi-disciplinary care for DM management, focus for improvement was shifted to 20 patient focus group implementation. Zoom sessions began 1/13/21, completed 4 focus group sessions.

#### How We Engaged Leaders, Providers, and Staff

For our SMBP pilot, we included our Chronic Care team at Highland (PharmD, RN, and MA) in the design process. An attempt was made to include patient selection criteria for SMBP that overlapped with their current patient panel. Furthermore, a majority of the protocols and processes needed to be successful were already built into their current work. By creating synergy with the teams current goals, the ask to take on more SMBP was intended not to seem as “just another addition to workload,” but something that supplemented the excellent HTN work being done.
How Did We Know the Changes Were An Improvement?

Results: Run Charts

Outcome Measure
Hypertension control - DM Care

Outcome

Measure
Goal
Median
Blood Pressure Control Over Time Pilot (81 patients)

Percent of Pts with BP at Goal

Visit 1: 0%
Visit 2: 60%
Visit 3: 55%
Visit 4: 75%
How Did We Know the Changes Were An Improvement?

Results: Run Charts

Outcome

Outcome Measure
REAL Disparity Reduction: DM Control (A1c >9%)

Mar-20 | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20

Measure | Goal | Median

- Measure line shows a gradual increase over time.
- Goal line remains constant.
- Median line is consistently lower than the measure line.

The improvement is evident from the increase in the measure line compared to the goal line.
Engagement Over Time With race/ethnicity Data

Visit Guide
Visit #1 = Obtain cuff + education
Visit #2 = Telehealth BP readings + med titration
Visit #3 = Telehealth BP readings + med titration
Visit #4 = In-person BP recheck
• Patients who have a home blood pressure monitoring device:
  • 81 out of 93 patients contacted were provided cuff (87.1%)

• Patients who use their home blood pressure monitoring device (as evidenced by number of at home values obtained)
  • 61 out of 81 patients with a cuff report data (74.1%)
How Did We Know the Changes Were An Improvement?

Results: Run Charts

Balancing

DM Care: Eye Exam Completed

Measure vs. Goal

- Mar-20: Goal: 55%, Measure: 56%
- Apr-20: Goal: 55%, Measure: 55%
- May-20: Goal: 55%, Measure: 53%
- Jun-20: Goal: 55%, Measure: 52%
- Jul-20: Goal: 55%, Measure: 50%
- Aug-20: Goal: 55%, Measure: 50%
- Sep-20: Goal: 55%, Measure: 50%
- Oct-20: Goal: 55%, Measure: 50%
- Nov-20: Goal: 55%, Measure: 50%

Measure vs. Goal
How Did We Know the Changes Were An Improvement?

Here’s What We Learned

**Bright Spots/Accomplishments**

• Achieved a higher rate of BP control than expected  
  • Providing training and a cuff led to 60% control at Visit #2 
  • This improvement based on monitoring and adherence, no med titration  

• Patients grateful for devices, general experience is this type of work improves trust  

• All members of the care team (MA, RN, PharmD, LVN) were responsible and successful in engaging the patient  

• Re-emphasized the importance of BP review along with DM data by our chronic care staff  

• Reinforced RN autonomy with BP medication titration
How Did We Know the Changes Were An Improvement?

Here’s What We Learned

The Challenge of the COVID-19 Pandemic

- Long delays getting blood pressure cuffs via insurance plans
- Patients often didn’t want to come in for an in-person appointment
- Chronic Care team overwhelmed with volume of telehealth for DM/HTN

Overall Challenges

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<tr>
<th>Challenge</th>
<th>How We Overcame/Resolution</th>
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<tr>
<td>Differential effect on engagement and BP control by race/ethnicity</td>
<td>Focus Group pending for DM control Will continue to stratify HTN data by race for future PDSA cycles (primarily to see if reduction in in-person visit requirement improves racial disparity).</td>
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<td>Documentation of SMBP not standardized</td>
<td>Tip Sheet created, planning to provide additional site-based training for providers in 2021</td>
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<td>Improving access to SMBP</td>
<td>Next phase of SMBP work at Highland will include providing BP cuffs to patients while in clinic for HTN visit. No future visits will be directed as in-person unless requested by patient or provider for specific clinical reasons.</td>
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What’s Next for PHASE/TC3?

Here’s How We Will Continue the Work

SPREAD

Based on SMBP success at Highland a similar process was initiated for our Eastmont Wellness Center. 39 patients selected and in-process for visit 1-4. Adjustment for this PDSA cycle was the requirement for Visit #4 to be in-person based on feedback we received from patients at Highland.

Share education/training info on SMBP with RNs at all sites performing hypertension visits

SUSTAINABILITY

Provide SMBP data to payers to reduce barriers to access
Engage clinic and nursing leadership further

THE DESIRED FUTURE

• Every primary care patient with a diagnosis of hypertension has equal access and training for home blood pressure monitoring

• AHS will promote the health of our patients with diabetes by maintaining the percentage of those with controlled blood pressure.
  • Pre-COVID (3/2020) baseline = 69.2%
  • Current (1/2021) maintenance target = 56.2%

• Home BP monitoring dramatically improves blood pressure control
  • With basic teaching, ¾ of patients can report BP values through telehealth
  • Reinforces patient-centered team-based care

• Without SMBP adoptions - Dependence on in-person visits for BP management will continue
  • An unknown portion of our patients will prefer telehealth after the pandemic: Without SMBP option available, patients may choose to have their care elsewhere