Hypertension Management
San Joaquin County Clinics
March 15, 2021

Team Members: Erin Dizon and Rohini Mehta
WHAT WERE WE TRYING TO ACCOMPLISH?

Problem Statement

- The most current data (PRIME/UDS 2019) identified an ongoing challenge regarding blood pressure control among the general population of patients diagnosed with hypertension at San Joaquin County Clinics (SJCC). Controlled blood pressure is reported among only 65% of SJCC patients compared to the 90th percentile of 73% (HEDIS2019). The data also shows a disparity in only 55% of African Americans having controlled blood pressure control compared to 65% of the general population.
- While SJCC saw a tremendous increase in blood pressure control rates around midyear 2019, this trend was not sustained. Among the factors that contributed to this were inconsistent application of established workflows, COVID pandemic, and staffing changes from organizational restructuring. Notable, however, is the success of physician champions and adherence to the PHASE protocol.

Aim Statement

Health Equity Aim Statement

Revised (04/20/2020): Due to the current ongoing COVID-19 pandemic, SJCC revised its aim statement as of Q1-Q2 period and may not be reflective of its true level of performance on these measures.

By **July 31, 2021**, SJCC will maintain the health of its hypertensive patients by reflecting data to pre-covid as evidenced by:
- Increasing % of patients with controlled hypertension from 61% to 65%
- Increasing % of African American patients with controlled hypertension from 47% to 55%

By **March 31, 2022**, SJCC will improve the health of its hypertensive patients as evidenced by:
- Increasing % of patients with controlled hypertension from 61% (current) to 71%
- Increasing % of African American patients with controlled hypertension from 47% (current) to 61%
Our Theories for Change: How We Learned About Our Process

Through various chart audits it was determined there was a lack of methodical technique in measuring, documenting, and initiating follow-up of hypertensive patients within SJCC. In the same effort we determined it was necessary to bridge the gap in care of our hypertensive African American patients.

WHAT CHANGES DID WE MAKE THAT RESULTED IN IMPROVEMENT?

Organizational Driver Diagram

**Aim Statement**
(REvised-04/15/2020): In light of the current ongoing COVID pandemic, SJCC is revising its aim statement as this time period may not be reflective of its true level of performance on these measures.

By March 31, 2021, SJCC will maintain the health of its hypertensive patients as evidenced by:
- % of Patients with controlled hypertension will be kept at 65%
- % of African American patients with controlled hypertension will be kept at 55%

**Primary Drivers**

- Clinic Focused
  - Accurate BP Measurement and documentation
  - Effective treatment management
  - Established follow-up scheduling workflow

- Patient Focused
  - Education on Self Measured Blood Pressure (SMBP) monitoring
  - Patient engagement/self-management support

- Population Health
  - Engage and collaborate efforts with health plans and community partners
  - Establish and maintain standardized data collection monitoring
  - Effective community outreach

**Secondary Drivers**

- Staff training and education on standardized treatment protocol for elevated BP including follow-up workflow. HITN playbook for MAs to supplement MAs training.
- Standardized treatment protocol for hypertensive patients following the PHASE on a Page guidelines.
- Leverage provider champions to promote and foster consistent use of PHASE protocol.
- Increase outreach efforts with kept appointments.

- Patient/family education on Self-Measured Blood Pressure (SMBP) monitoring.
- Use of motivational interviewing techniques.
- Leverage Patient Portal for shared goal-setting/decision making tool.

- Periodic patient health reports to PCP and other stakeholders.
- Consistent data monitoring and evaluation of interventions.
- Community outreach opportunities, (i.e., Health Fair Booth)
Process Observations

- Patient arrives and checks in with registration
- Patient roomed by MA and vitals completed in room
- 1st BP taken and out of range
- MA performs intake and leaves room
- MA documents in patient chart from computer in hallway
- After at least 10 min, 2nd BP taken and out of range
- MA leaves room and documents results in patient chart
- Clipboard is placed on patient door with VS and Dr. J. Tiger tested

- Patient leaves with reminder and returns to follow up
- MA returns to room to give discharge paperwork with follow up appointment reminder
- MA leaves room to schedule appointment
- MA collaborates with patient when available for follow up
- Provider tells MA how many weeks to schedule follow up
- Provider determines patient 2nd BP abnormal; needs follow up
- Provider sees patient

- Green shade represents value added necessary steps
- Orange shade represents non-value added necessary steps
- Red shade represents non-value added unnecessary steps

- Patient states acceptable and leaves with appointment, reminder and returns to follow up
- MA finds available date and makes appointment
- Patient states needs another date
- MA or collaborates, patient returns without collaboration
- Patient does not state anything, but does not show up for follow up
- No one reschedules necessary follow up appointments.
Elevated 1st BP Process Flow Map

MA takes 1st BP & Documents in PowerChart

Is BP <140/90?

Yes

Continue with rooming

No

Wait 2 minutes

MA schedules a follow-up w/in 4 weeks

MA takes 2nd BP & documents in PowerChart

Elevated BP Process Map

Patient arrives and checks in with registration

Provider sees patient

Clipboard is placed on patient door with VS and Dr. is Tigger tested

Is Blood Pressure >= 140/90?

Yes

MA performs patient intake writes on patient demographics

After at least 2 min 2nd BP taken

Is 2nd Blood Pressure >= 140/90?

No

MA notifies patient that this is only for BP and if Dr. thinks patient needs additional Tigger's for other issues they will be given with discharge paperwork

MA schedules patient follow up appt's and gives patient reminder

MA collaborates when patient is available for next 2-4 week follow up and provides Hypertension Checklist if needed and leaves room

Clipboard is placed on patient door with VS and Dr. is Tigger tested

Provider sees patient

Green shade represents value added necessary steps

Orange shade represents non-value added necessary steps
Process Flow Map for SMBP

**SMBP PROGRAM**

**First Patient Contact**
- Nurse contacts patient and interviews if willing and prepared to begin SMBP program.
- Nurse to verify patient has approved BP monitor.
- If patient does not have approved BP monitor will make arrangements to have one delivered to patient with necessary paperwork prior to next contact.

**Second Patient Contact**
- Patient scheduled for next call with nurse in two weeks to see compliance and progress.
- approx. 30 min call educating patient on the plan of care for SMBP.
- Two week after initial contact will verify patient has received BP monitor and paperwork received.

**Third Patient Contact**
- Follow up on compliance, questions, and plan of care adjustments if necessary. Schedule follow up in 2 weeks. Notify patient next visit will be longer and need BP results that have been documented.
- Appt. schedule with provider 6 weeks completion appt.

**Fourth Patient Contact**
- List of patients given to RN for initiating SMBP program.
- Consent Template prepared for verbal consent over telephone.
- Nurse to scrub chart prior to contacting patient.
- Nurse calls three patients per day.

**Fifth Patient Contact**
- Visit two weeks after fourth patient contact to receive BP results, questions, and plan of care adjustments if necessary.
- Visit two weeks after fifth patient contact gather data, questions, and plan of care.

**Fourth Patient Contact**
- Use algorithm for when next BP telemetry appt needs to be referred to provider.

**Second Patient Contact**
- approx. 30 min call with patient to document BP results, questions, and plan of care.

**First Patient Contact**
- 2. Fourth Patient Contact (three weeks after 3rd) drop the code.

**Third Patient Contact**
- 1. Second Patient Contact (Two week after first Contact) drop the code.
BP monitor assistance and Provider hypertension clinics

Running lists provided by analytics of hypertensive patients with upcoming televisit appts. One week prior

Patient called within two weeks after televisit to ensure BP monitor received and utilized

Patient asked to follow log twice per day and f/u appt. scheduled for three mos.

Insurance determined if qualified to receive BP monitor

Instructions and information sent to patient addresses of proper BP monitoring and management

Hypertensive patients called and verified if has properly working BP monitor

Order sent with verification of patient address. BP monitor delivered through DME company

Patient given instructions and education of necessary BP management

Appointment made in clinic and instructions, education, and log provided w/ monitor

Patient signs BP monitor out for reference purposes only and is seen by PCP

IF none....and If electronic BP monitor covered...Order sent to DME supply company

OR

IF none....and If electronic BP monitor not covered....Patient asked to participate in provider hypertension clinic to receive free BP monitor
WHAT CHANGES DID WE MAKE THAT RESULTED IN IMPROVEMENT?

Process for Selecting Test Ideas

How We Engaged the Patient
“Voice of the Customer”

We used patient surveys and chart audits to determine patient needs, experiences, considerations, priorities, and collaborative methods to achieve goals.

“We definitely needed some type of monitoring program within our community. This program reminds me to be accountable for my health.”

How We Engaged Leaders, Providers, and Staff

We made a conscious effort to provide a Hypertension Manual for MA reference, utilized Healthy registries adaptation, developed workflows, made informational letters for providers and staff, produced posters, and provided continued education to staff.

“Developing a consistent and uniformed process amongst staff is necessary moving forward.”
## WHAT CHANGES DID WE MAKE THAT RESULTED IN IMPROVEMENT?

### Changes We Tested

**Change Idea Tested** | **Summary of PDSAs** | **Adopted, Adapted, Abandon?**
--- | --- | ---
**PDSA #1**  
• Accurate BP readings  
• Developed current state process flow map  
• Observed staff  
• Identified issues regarding accurate BP; provided playbook/in-service for BP and 2nd BP’s  
• Collected data on 2nd BP  
• In addition to PDSA #1  
• Ensure F/U appts. were scheduled for patients with elevated 2nd BP readings prior to provider instruction  | Adapted  
• Interrupted by COVID  | Adapted  
• Interrupted by COVID

**PDSA #2**  
• SMBP Nurse televisit program  
• Developed workflow  
• Utilized gap in care lists  
• 12 week program with nurse televisits  
• Tested on 4 patients  
• Half of patients continued with program  
• Total of 10 patients enrolled in entire program  | Adapted  
• Iterations have been made to change workflow and retest
<table>
<thead>
<tr>
<th>Change Idea Tested</th>
<th>Summary of PDSAs</th>
<th>Adopted, Adapted, Abandon?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cont. PDSA #2</td>
<td>Retested</td>
<td></td>
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<tr>
<td></td>
<td>• Modified to 6 week program with prescheduled provider visit at completion</td>
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<td></td>
<td>• Patient population has been difficult to continue to engage</td>
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<td></td>
<td>• Many patients have not responded to calls or left messages</td>
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<tr>
<td>PDSA #3</td>
<td>• Developed workflow for educating on BP monitor use</td>
<td>Adopted</td>
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<tr>
<td></td>
<td>• Collaborated with BI team to produce list of patients with future telephone appt’s scheduled</td>
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<tr>
<td></td>
<td>• Contacted patients on a weekly basis</td>
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<tr>
<td></td>
<td>• Provided BP monitors or verified existence</td>
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<tr>
<td></td>
<td>• Reminded patients of upcoming provider televisits and necessary hypertension management</td>
<td></td>
</tr>
<tr>
<td>PDSA #4</td>
<td>• Provider champion established</td>
<td>Adapted</td>
</tr>
<tr>
<td></td>
<td>• Healthy registries utilized for lists of patients</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Face-to-face appt.’s scheduled</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• BP monitors provided in clinic if not covered by insurances</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Patients no show to appt.’s</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Patients do not participate or feel comfortable with face-to-face appts.’s w/o verbalizing concern</td>
<td></td>
</tr>
<tr>
<td>Change Idea Tested</td>
<td>Summary of PDSAs</td>
<td>Adopted, Adapted, Abandon?</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
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</tbody>
</table>
| PDSA #5                                                                            | • Care focused on established Hypertensive and Diabetic patients  
• Patients referred by providers  
• List obtained through utilization of Healthy Registries  
• List obtained through Gaps in care list provided by health plans  
• Patients contacted and appt. scheduled  
• Patients information scrubbed to capture other measures that can be done via drive thru (ex. A1C, depression screen, tobacco screen, SBIRT)  
• Patient comes to drive thru clinic and care provided  
• Patient asked whether has BP monitor at home regardless of BP values.  
• Depending on insurance coverage BP monitor to be ordered and delivered by DME supply company  
• If BP monitor not covered patient given free BP monitor along with educational materials, log, and instructions.  
• Patient referred to provider if BP on 2nd attempt >or=140/90.  
• Provider contacted on day of visit if BP>180/110 or symptomatic.  
• 16 out of 19 patients scheduled showed up to appt.  
• Able to capture all necessary measures and provide BP monitors on day of visit | Adapted  
• Due to management. Modifications in working progress |
### How Did We Know the Changes Were An Improvement?

#### What We Measured

<table>
<thead>
<tr>
<th>Measure Type/Name</th>
<th>Description/ Specifications</th>
<th>Baseline %</th>
<th>Target %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome (Directly related to the aim):</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Controlled hypertension w/in SJCC patients</td>
<td>% of SJCC patients w/ BP &lt;140/90</td>
<td>61%</td>
<td>71%</td>
</tr>
<tr>
<td>Controlled hypertension among African American SJCC patients</td>
<td>% of African American SJCC patients w/ BP &lt;140/90</td>
<td>47%</td>
<td>61%</td>
</tr>
<tr>
<td><strong>Process (Steps to achieve outcome):</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measure documentation of 2(^{nd}) BP values taken</td>
<td>Monthly reporting of MA’s that document 2(^{nd}) BP values</td>
<td>about 20%</td>
<td>75%</td>
</tr>
<tr>
<td>Measure f/u appt.’s made</td>
<td>Monthly reporting of uncontrolled hypertensive patients with kept f/u appt.’s</td>
<td>about 32%</td>
<td>75%</td>
</tr>
<tr>
<td>Measure of SMBP patients who successfully complete program</td>
<td>Measurement of SMBP patients who successfully keep last provider visit (6 wks later)</td>
<td>New process measure</td>
<td>50%</td>
</tr>
</tbody>
</table>
### What We Measured

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<th>Baseline %</th>
<th>Target %</th>
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<tr>
<td><strong>Process (Steps to achieve outcome):</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measure % of patients who have documented BP value on televisit appt.</td>
<td>Measures the amount of SJCC hypertensive patients w/ BP monitors at home</td>
<td>New process measure</td>
<td>71%</td>
</tr>
<tr>
<td>Measure % of patients who come to drive thru clinic, modified appt.’s, or hypertension appt.’s</td>
<td>Measures the amount of hypertensive patients who accomplish necessary hypertension management services</td>
<td>New process measure</td>
<td>75%</td>
</tr>
<tr>
<td>Measure % of hypertensive African American patients enrolled in management programs</td>
<td>Measures the amount of hypertensive African American patients who participate in BP management services compared to the rest of population</td>
<td>New process measure</td>
<td>61%</td>
</tr>
<tr>
<td><strong>Balancing (Unintended impact/consequence):</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased patient satisfaction</td>
<td>Patient verbalized appreciation and increased trust w/ healthcare personnel</td>
<td>50%</td>
<td>80%</td>
</tr>
<tr>
<td>Increased amount of BP monitors given to hypertensive patients</td>
<td>Ensuring all hypertensive patients receive the opportunity to manage their BP regularly</td>
<td>New process measure</td>
<td>75%</td>
</tr>
</tbody>
</table>
How Did We Know the Changes Were An Improvement?

Results: Run Charts

Controlled BP of SJCC patients

- **Measure**
- **Goal**
- **Median**
How Did We Know the Changes Were An Improvement?

Results: Run Charts

<table>
<thead>
<tr>
<th>Week of</th>
<th>Denominator</th>
<th>Numerator</th>
<th>Measure</th>
<th>Goal</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st week June</td>
<td>27</td>
<td>14</td>
<td>52%</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>2nd week June</td>
<td>70</td>
<td>33</td>
<td>47%</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>3rd week June</td>
<td>59</td>
<td>31</td>
<td>53%</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>4th week June</td>
<td>50</td>
<td>30</td>
<td>60%</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>1st week July</td>
<td>16</td>
<td>6</td>
<td>38%</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>2nd week July</td>
<td>6</td>
<td>4</td>
<td>67%</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>3rd week July</td>
<td>7</td>
<td>4</td>
<td>57%</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>4th week June</td>
<td>12</td>
<td>4</td>
<td>33%</td>
<td>75%</td>
<td></td>
</tr>
</tbody>
</table>
How Did We Know the Changes Were An Improvement?

Results: Run Charts

**BALANCING MEASURE:** Three month Patient Satisfaction Surveys (Scores 9 or 10/10)

<table>
<thead>
<tr>
<th>MONTH</th>
<th>Denominator</th>
<th>Numerator</th>
<th>Measure</th>
<th>Goal</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-March 2020</td>
<td>309</td>
<td>218</td>
<td>71%</td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>Apr-June 2020</td>
<td>313</td>
<td>231</td>
<td>74%</td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>July-Sept 2020</td>
<td>324</td>
<td>212</td>
<td>65%</td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>Oct-Dec 2020</td>
<td>267</td>
<td>175</td>
<td>65%</td>
<td>60%</td>
<td></td>
</tr>
</tbody>
</table>

**PROCESS MEASURE:** Hypertensive patients w/ verified BP monitors or ordered by QI

<table>
<thead>
<tr>
<th>Week of</th>
<th>Denominator</th>
<th>Numerator</th>
<th>Measure</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>09/28-11/1/20</td>
<td>312</td>
<td>196</td>
<td>63%</td>
<td>50%</td>
</tr>
<tr>
<td>11/16-11/20/20</td>
<td>55</td>
<td>34</td>
<td>62%</td>
<td>50%</td>
</tr>
<tr>
<td>11/23-11/29/20</td>
<td>34</td>
<td>15</td>
<td>44%</td>
<td>50%</td>
</tr>
<tr>
<td>11/30-12/4/20</td>
<td>37</td>
<td>19</td>
<td>51%</td>
<td>50%</td>
</tr>
<tr>
<td>12/7-12/11</td>
<td>34</td>
<td>22</td>
<td>65%</td>
<td>50%</td>
</tr>
</tbody>
</table>
How Did We Know the Changes Were An Improvement?

Here’s What We Learned

Bright Spots/Accomplishments

- Patient appreciations
- Patient health improvements
- Provider and Staff collaborative efforts for goal attainment
- Providers and Staff have had to learn to adapt to many changes

Patient Quote: “I appreciate all the work you do to help me. I feel like I am not alone in this process.”

Patient Quote: “I have been dealing with personal issues in my life. Thank you for reminding me to take care of myself.”

Patient Quote: “I didn’t realize I had been measuring my blood pressure wrong all this time. Thanks for the information.”

- Staff that shine the brightest
- Staff that learn their capabilities
- Staff that go above and beyond to help the patients
- The common purpose of all staff to help the patients
How Did We Know the Changes Were An Improvement?

Here’s What We Learned

The Challenge of the COVID-19 Pandemic

- Patient lack of resources
- Decrease in-person visits
- Lack of Staff due to staff relocation; sicknesses; layoffs; resignations

How We Overcame/Resolution

- Learned to accommodate for patients.
- Learned to utilize televisits and develop new workflows
- Learn to work with our means and the art of patience

Overall Challenges

Improving staff culture:
- Change doesn’t equal bad
- Our department is here to help
- Our goals are all the same

<table>
<thead>
<tr>
<th>Challenge</th>
<th>How We Overcame/Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staffing deficiencies</td>
<td>Assisted with developing workflows that are time efficient</td>
</tr>
<tr>
<td>Decrease in-person visits</td>
<td>Included televisits in capturing BP measurements</td>
</tr>
<tr>
<td>Staff culture</td>
<td>Engage staff in understanding of importance of work</td>
</tr>
<tr>
<td>Resources/Supplies</td>
<td>Seek resources for patients to obtain BP monitors for televisit use</td>
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</tbody>
</table>
What’s Next for PHASE/TC3?

Here’s How We Will Continue the Work

New Aim Statement and Focus Areas for Change

By **July 31, 2021**, our system will implement the 7 key changes of our new care model for all integrated primary care teams at 3 adult clinic sites in relation to hypertension management.

**The key changes:**

1. Enroll patients with diagnosed uncontrolled blood pressure in SMBP

2. Patient letter reminders for SMBP practices and upcoming televisit appt. reminders

3. Schedule patients in Hypertension clinic provider appt.’s

4. Establish regular outreach of patients with 2 recorded uncontrolled BP values within the past 12 months.

5. Leverage electronic healthcare system to allow ease of workflow in documenting and managing BP.

6. Provide consistent, effective, and routine education with weekly unencumbered time

7. Utilize healthy registries data to improve hypertension management compliance
By March 31, 2022, our system will spread the 7 key changes of our new care model for all Integrated primary care teams for our 3 adult clinics by ....

The key changes:

• Schedule a meeting in March with MA’s, Nurses, and providers
• Develop work teams in each location that test the change theories
• Create a scheduled bi-monthly meeting to go over challenges with theory tests
• Introduce the change theories to other clinics and use continued process
• Give each location team one month to complete the tests
• Present to managers/team leads the standardized and agreed upon changes

Our system will continue sustainability of the 7 key changes of our new care model for All integrated primary care teams for our adult clinics by....

The key changes:

• Establishing bi-monthly QI organizational info meetings for providers and staff
• Regular monthly monitoring and measuring of practices and change implementations
• Establishing in person auditing within the organization
• Creating an educational platform that is accessible for staff