Landscape Analysis of Current Self-Measured Blood Pressure Activities at Selected Federally Qualified Health Centers in Hawai'i

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October 2021

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Background

Self-measured blood pressure (SMBP) is the regular measurement of blood pressure (BP) by the patient outside of clinical settings. Monitoring of SMBP is a service that bridges out-of-office BP measurement with the overall care for patients. SMBP monitoring for the diagnosis and management of high BP has been recommended as part of several national and international hypertension guidelines.

The Hawai’i Department of Health (HDOH) has been an active supporter of Federally Qualified Health Center (FQHC) expansion into the SMBP program for many years with direct funds. Most recently is with the Centers for Disease Control and Prevention’s (CDC) Improving the Health of Americans through Prevention and Management of Diabetes, Heart Disease, and Stroke Grant CDC-RFA-DP18-1815 (1815). Prior to this, many FQHCs were supported directly with CDC’s State and Local Public Health Actions CDC-RFA-DP14-1422 (1422) grant. Some FQCHs in Hawai‘i have continued their SMBP programs after 1422 ended and some have started with the support of 1815. There is a desire to better understand how these programs are currently organized, adapted, managed, and sustained, relative to what was learned three years ago at the close of 1422. In particular, there’s a need to better understand the development of new BP monitor loaner programs at some FQHCs, and how they may have been a critical adaptation made in the time of COVID-19.

Research around SMBP indicates that when combined with additional clinical support, SMBP activities may effectively reduce hypertension, improve patient knowledge, improve the health system process, and enhance medication adherence. Successful continuation and sustainability of SBMP programs in Hawai‘i are important for the health and wellbeing for people in the state. Thus, they are useful in reducing the risk of death and disability associated with hypertension.

The overarching goal of this project was to provide an evaluation to explore barriers and facilitators for successful continuation and sustainability of SMBP programs in Hawai‘i, especially amidst the disruptions caused by the COVID-19 pandemic. In this report, we provide data and landscaping of current practices and methods that selected FQHCs in Hawai‘i are using to maintain these programs over time, building upon our previous published work.

Methods

This project had two parts. **First**, the HHIET conducted a brief literature review to understand current national SMBP standards and provide context for what may be occurring locally. **Second**, the HHIET conducted a qualitative study of six FQHC locations with SMBP services--four previously supported with 1422 funds and two currently supported with 1815 funds, using cross-case analysis, which is an analysis that compares across cases to identify common themes as well as differences. (One additional FQHC that was supported by HDOH funds could not be interviewed.) After receiving IRB approval, interviews were conducted remotely using Zoom during July and August 2021. In these interviews, we invited the FQHCS to share SMBP recruitment and educational materials with our team for context about their SMBP implementation; we received additional information from one FQHC and we also interviewed HPCA staff for their broader perspective about key barriers and facilitators impacting multiple FQHCs.

Interviews were transcribed and coded inductively to identify the broad emerging themes using Dedoose. Initial coding was then reviewed by another coder to ensure reliability. These were organized into practical sections and illustrative quotations were added. We then shared our draft with SMBP content experts at HDOH, HPCA, HHIET, and those we interviewed at the FQHCs, to see if we missed any key issues. The final report reflects these insights.

Results: Scoping Review

In June 2020, the American Heart Association and the American Medical Association[1] published a joint policy statement reviewing the effectiveness of SMBP programs and agreed that SMBP programs have high potential for managing hypertension and improving diagnosis. They recommended that SMBP programs should utilize clinically validated BP monitors for accurate BP readings outside of clinic settings. The guidance recommends 2 blood pressure measurements at least 1 minute apart twice a day (morning and evening) for a total of 4 readings per day, and a minimum of 3 consecutive days (12 total readings) or optimally 7 consecutive days in a week (28 total readings).

The literature review documented notable changes to hypertension management in primary care settings during the COVID-19 pandemic. The COVID-19 pandemic presented unique challenges that resulted in creative solutions for SMBP programs across the United States. While there was a lack of literature specifically about maintaining and sustaining SMBP programs during the pandemic, this literature review also considered the broader perspective of hypertension monitoring in outpatient care. Many hypertension management care and SMBP programs had to implement changes and adapt to the emergency situation and had shared challenges. These included:

- **Decrease in the total number of outpatient visits during the pandemic**
  - Shifting to telemedicine offset the decrease in office visits. However, the total number of visits was still significantly less in comparison to pre-pandemic.[2]
  - A 2020 report indicated that Hawai'i observed the largest decrease in total patient visits (-73.2%) in comparison to pre-pandemic times and nearly one-fourth (24.5%) of weekly visits were delivered via telemedicine.[2]
  - Decrease in blood pressure examinations as a result of shift in health delivery (in-person vs. telemedicine).[3]
- **Increase in telehealth use to slightly offset the decrease of in-person visits, with a concern that this may limit access by less tech savvy patients**
  - Pre-pandemic: most patients (73.5%) shared their BP readings with their healthcare professionals in-person, followed by shared via internet or email (6.9%) and by phone (5.4%).[4]
  - Commonly used virtual delivery formats during the pandemic were via phone and video.[5]
  - Concerns that telehealth access may be difficult for those who may not have the technology or those who are not tech savvy. [6,7]
  - Suggestions of using of mobile health apps for those with less access to health care.[8]
  - A Honolulu Civil Beat article reported that telehealth allows for shorter wait times and decreases in no-shows.[9]
    - Surveys conducted by Waianae Coast Comprehensive Health Center and West Hawai'i Community Health Center reported that most respondents would use telehealth again.[9]
    - As of May 2021, 37% of patient visits at Waianae Coast Comprehensive Health Center were conducted virtually, even amongst older patients.
    - However, concerns were brought up about internet issues.[9]
- **Concerns about exacerbating pre-existing health disparities**
  - Ethnic minorities show larger decreases in BP control during the pandemic compared to predominantly White communities.[7]
  - Patients in rural areas are less likely to receive telemedicine than urban areas.[10]
  - Additionally, patients with higher poverty levels were less likely to receive telemedicine compared to patients in lower poverty levels.[10]
- **Maintaining SMBP/hypertension management during COVID-19**
  - Can be challenging due to disruption of medical supply chain.[6]

- Diversion of funds and staff to COVID-19 related efforts leading to a lack of staffing resources to support SMBP program.[6]
- Limited access to healthcare and medications: geographic, financial, technological barriers.[6,9,10]
- Financial insecurity of patients which led to some patients rationing medications or missing medications altogether.[6]
- Lack of ability to confirm patient knowledge of BP measurement via teach-back demonstration.[5]

Taken together, the current literature suggests some advantages of increased telehealth delivery. These included the increased ability of others who might be part of someone's health support team, including caregivers and family members living far away, to be part of direct communication with the provider and being able to talk with a provider without the need to travel a significant distance. There are also concerns about the impact of telehealth, especially for the impact on vulnerable groups due to COVID-19 pandemic disruptions and challenges. Uncertainty remains regarding specific impacts across groups. Thus, our key informant interviews across sites in Hawai'i were helpful to understand patterns, needs, concerns, and areas for support with BP management in telehealth delivery that impact our communities.

Results: Key Informant Interviews

Overarching Themes

First, we considered the fundamental premise of the program. All interviewed health centers agreed that SMPB programs are valuable in controlling patients' BP. Common themes related to SMBP program patient care were noted across informants and locations include:

SMBP Builds Patient Autonomy and Engagement

- Patients are more involved in their health care.
- BP control amongst patient population can be sustained.
- Program supports healthy lifestyle choices.

SMBP Improves Medication Compliance and Health Literacy

- By following the SMBP programs, patients have a greater understanding of high BP and how it affects their health.
- Patients also gain a greater understanding of how activities, stress, and nutrition impact their health.

SMBP Fosters Family Empowerment and Engagement

- Programs provide new opportunities for family understanding and participation by watching the process.
- Family members can potentially participate in SMBP for their own BP using the same monitor (for devices with a "second person" option).

SMBP Considers Patient Population Needs

- Health centers emphasized the need to understand the patients and the community and tailor the program based on the community's needs (e.g., BP loaner program).

SMBP Provides Support During COVID-19

- Monitoring BP readings at home was helpful in keeping the patients safe while also keeping the providers informed about the patients' health.
- Follow-up visits were essential to keeping the health center connected with patients.

> ***"One patient, she'll be part of the program and then the next thing you know the husband wanted to be part of the program as well, and then they refer their friends to us for the SMBP program, so we see a lot of improvement with that one."***

> **"We kind of opened it up during COVID time because … most of our patients were virtual, so we had to be able to get their vitals from home. And we were having to give out a lot of our monitors … it's been a really big blessing… It was a great thing previous to COVID but during COVID, these monitors were a great lifesaver, I mean, we were able to get the vitals that we needed and to see how our patients are really doing from home."**

Program Facilitators

Health centers were asked to describe the key components that are necessary for managing their SMBP program. While health centers varied in terms of program delivery and workflow, the following themes represent common key SMBP components:

- **Stable and secure funding** to sustain the program (e.g., BP monitors, staffing, etc.). It was noted across all health centers that successful implementation of their SMBP program relied on securing financial investments. Creative funding solutions varied across health centers.

- **Provider and leadership satisfaction and support** to implement and maintain SMBP. It was mentioned across a few health centers that leadership and provider support helped with SMBP referrals, dedicating proper resources, and providing quality services. One health center mentioned that leadership should be mindful of meeting patient needs and that productivity should be focused on quality of care.

> ***"The major successes of our program has been that the providers are happy with the program because… they're able to receive a better picture of what's happening with the patient outside of their visit. So, if they really are hypertensive or do they really need the adjustments in the medicine, those kind of things."***

- **Sufficient staffing** to provide the necessary health care and meet the patients' needs. Engagement with the entire health clinic staff (across multiple areas) to understand the value of the program and referrals is key. One health center mentioned that having a designated staff member leading SMBP is a vital component to effectively implement the program.

> ***"Working with a well-rounded team: front desk, billing, anybody that is within your clinic, bring them all in, educate them on what you guys provide. Because who you work with, when they go out into the community and they know what you guys provide, they're the ones are going to be your walking billboards, they're the ones that are going to say "Hey, we have this program. Come! Come in!" So, you know, bring in the entire team, don't just bring in clinical."***

- **Proper training in SMBP delivery** to the providers and team members. One health center mentioned that having all staff in the health center understand the importance of SMBP opens multiple avenues for SMBP referrals. Another health center emphasized the importance of training staff about the proper approach and engagement with patients, which results in understanding the context of a patient's health situation and builds trust between the organization and the patient.

> ***"So, any clinical staff is able to work with the patient. So, it's not just the health coach, it could be a care coordinator or a nurse. Everybody is trained and knows about the program, so they can follow up with their provider's nurse, they can follow up with the health coach, but they can follow up with the care coordinator, whoever they really establish that comfort level with or that relationship with."***

- **A "warm handoff" and engagement with the team** (e.g., nutritionist, community health workers, etc.). Having a robust workflow and team-based care approach that involves different providers and team members, allows the team to address the patient's needs in a timely and efficient manner. The "warm handoff," of the patient from one team member directly to another, helps build trust, relationship, and continuity.

- **Integrating SMBP with other health programs** (e.g., diabetes prevention, tobacco control, ambulatory BP monitoring, etc.) to improve treatment of complex health issues beyond hypertension.

> ***"My DPP program is a major part of the SMBPM program. We have given all the DPP participant monitors as well, so that's one part of the link. The other one is if they're tobacco users or nicotine users, they go into our tobacco treatment, and we discuss it there on how it could help if they quit… So, we don't just give them the monitor and, you know, 'Good job, here you go. Read me your numbers later.' We want to make sure that they understand what's causing the hypertension."***

- **Follow-ups with patients** to evaluate their BP readings, increase patient engagement, and improve patient outcomes. The frequency of follow-ups is dependent on the provider's determination. The initial follow-up was commonly one week after referral with weekly or monthly consecutive visits thereafter. A community health worker may schedule an appointment with the patient prior to the follow-up visit to gather BP readings.

- **Community trust and close understanding of patients** to understand the nuances and contexts of their health issues. Multiple health centers noted that the SMBP program is a way to build strong community partnerships between the health center and the community to sustain, support, and expand the relationships and trust. It was noted that SMBP delivery should be done by team members (not limited to only clinical staff) who the patient is most comfortable with. One health center also shared that having community advocates is crucial to connecting with their communities.

> ***"So, there has to be trust, so it's very important, and also for the staff to feel comfortable to go with the conversation… if they have to be paying attention to details like what's happening-- like it could be just one word that they said, like 'Oh, it triggered something. Oh, okay, I gotta talk about this is a bit more.' Kind of thing."***

- **Culturally relevant education materials and support programs** such as hula classes, cooking and nutrition classes, leads to better patient and agency engagement towards their health. Some of these classes were impacted by the COVID-19 pandemic, but there is hope they can be restarted soon. One rural health center also plans to create recruitment and education materials in multiple languages to communicate effectively with their patient population. Translators and multilingual staff are also helpful for the health centers to connect with the communities.

> ***"We were following a prestigious school in California's curriculum, and it was definitely not received very well by the staff or the, or the patients… When we asked the people like okay well, you know, what were their feedback and what kind of changes they would suggest, and we actually found some other stuff where we could follow"***

- **Patient satisfaction** can lead to increased medication compliance and patient involvement in their health care. It can also lead to more referrals to the SMBP program and building relationships with the community.

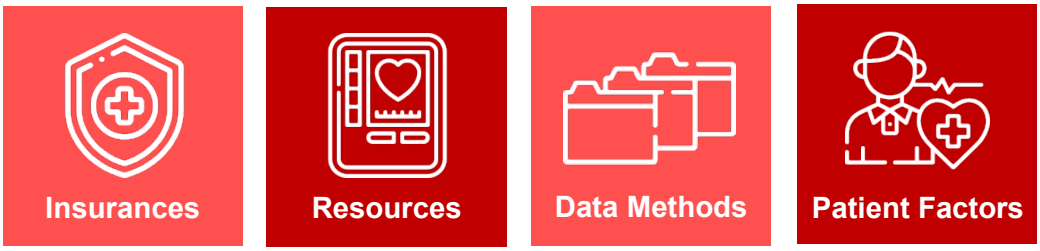
> ***"They can see the trends and the changes with their blood pressure depending on what they eat for that week and if they're not feeling well they're trying to check their blood pressure, 'Oh okay, this is probably the reason why, because my blood pressure is too low', so they can-- they have control on, on their own health from just seeing the blood pressure readings at home."***

- **Bluetooth-enabled BP monitors** can simplify the data collection process. Data is downloaded into the health center's iPad or electronically sent via email or mobile phone app to the health center. The use of Bluetooth-enabled BP monitors appeared to be more evident amongst the younger patient population.

- **Population health management tools** (e.g., Azara) were used to monitor BP control and potential SMBP participants. Health centers found this useful for pulling up reports for providers to monitor the patient population and set health center goals.

Program Barriers and Challenges

Health centers shared many SMBP challenges. Common themes surrounded funding and reimbursements, resources and staffing, maintaining multiple BP monitors, data collection and monitoring, and patient non-compliance. These were not counted in particular but were commonly reported across health centers.



- **Lack of reimbursements and funding** of BP monitors for SMBP participants to use and for hiring sufficient staff. Currently, certain SMBP services are not reimbursable by health insurance companies, which creates the need for continuous grant funding to sustain the program. Additionally, because some insurers do not cover the cost of BP monitors, it provides another barrier for the patient to access care.

> ***"It's an unreimbursed position essentially, right? Like because insurance doesn't pay necessarily for that extra service so, you know, if you're going to devote a whole person to this program like the funding for that person would be the other barrier, I suppose."***

> ***"If the insurance cover, that takes longer, because we have to call then we tell the patient 'You gotta go pick it up.' And then, you know, if they don't have transportation to go to the… place, it's going to take a while, and then, 'when you have it, you come back, we provide the training for you.' Okay, so that's not a good way to do this."***

- **Multiple BP monitors** can result in lack of standardized workflow for data collection, inventory issues, and older models may break or provide inaccurate BP readings. Health centers mentioned it takes additional time to train the staff on how to use and collect data from the different monitors. One organization noted they had five different monitors used in the field, demanding specific knowledge for not only data collection but also for trouble shooting if one breaks.

> ***"We've been doing this for so many years, we've had many different types of BP monitors. There's one monitor where we can print out the entire data from the monitor; we just plug it into my computer and download it, and we're able to print out other readings, so we can do that with one. Others is, we just have to go through that memory and the nurse will be able to go through it that way and show the provider their numbers that way."***

- **Patients may not return BP monitors**. This is a challenge for many health centers who offer a loaner program. One health center mentioned that it is important to take the community's values into account, where some patients see the BP monitors as "gifts of health" rather than a loan. To address this barrier, one of the sites we talked to have decided not make the BP monitors a loan, but instead give them to relevant patients.

> ***"We really appreciate our patients because they're very vocal. They'll tell us, you know, what they like and what they don't like, so we appreciate that. And so they tell us, 'you know, when you give us this thing, it's like a gift to us. It's a gift of health. Why are you taking it back?' and we're like, 'ooh, that's a good point.'"***

- **High staff turnover** hinders the development of a patient-provider relationship and therefore creates a lack of trust, and the provider does not understand the value of the SMBP program.

- **Difficulties providing BP monitors to obese patients** for accurate BP readings. A few health centers mentioned having difficulty finding the right cuff sizes for obese patients. An alternative solution was to use wrist BP cuffs; however, data is not as accurate.

- **Difficulties in data collection and patient compliance**. Health centers mentioned that patients may not follow the recommended lifestyle changes or SMBP regimen, which could skew the data and not provide an accurate representation of the patient's BP. Health centers also noted that patients may not follow the BP monitoring schedule regularly. Health centers found that patients will initially follow the BP monitoring schedule, yet it can be difficult for some patients to continuously maintain regular monitoring and maintain their follow-up visits (e.g., working adults, older adults, rural patients). This is seen in patients who are not as tech savvy or may not have access to needed technology.

> *"In some folks, even though you say that they'll take it a certain time, for one, they say they'll take it, but it's-- it's not taken appropriately. Meaning that they're taking it after within 30 minutes, where they're taking their medicine, they took cough medicine, they were smoking since then, because that was the only time, or they just got off work and so that's the time they could only take it, or they took it right after they were doing something that was exciting. So that spike-- so that skewed the readings there."*

> *"It's very difficult because our patients don't have smartphones. Or if they do, they don't have that much data. Or if they do, um, they're not familiar with technology, because these are patients are like you know in their 60s, so that, the comfort level of doing all those things, it's kind of hard…. Some patients who will write down on the logbook, and then we ask them to take a picture. And then, they send it to us, then the community health worker or care coordinator will call the patient to make sure to verify it's actually the correct numbers. See, that's very time consuming."*

- **High demand** for the monitors and success of the program means that there are not enough monitors.

> *"The nurses keep coming to me… "Do you have any stock hidden? Like, is there anything?" I'm like "I'm sorry, you know, we're working on it."*

COVID-19 Impact on SMBP

The COVID-19 pandemic affected all health center SMBP programs. Two health centers started their SMBP program during the pandemic, which itself brought unique challenges. Provided below are ways health center SMBP programs have been affected by the pandemic. These are not dissimilar to the findings noted in the broader literature above, but provide local context and specific information related to our programs in the state of Hawai'i.

- **Certain support programs had to be adapted to virtual settings** to allow for more patient reach and engagement (e.g., cooking classes).
- **Other ancillary and support programs (e.g., hula classes)** were limited by group size or stopped completely in COVID 19.

- **Telehealth use increased for patient safety.** Telehealth allowed for remote visits but provided some challenges for older adults and those who do not have the technology or are not familiar with using the technology.

> ***"It allowed providers and the staff to use the ability of telemedicine, which was probably something that wasn't as used often, but especially with the COVID-19 that it's becoming more common practice to… A lot of folks are used to seeing people physically like in person, and so this is very new to them, and so that opens an opportunity for folks to say 'Hey, you can stay home, I can stay safe, yet I can see a provider anytime I needed to for my needs.'"***

> ***"With the kupuna, they're not tech savvy, so it's kind of hard for them to work on the monitor and then upload it on their phone, or sometimes they don't even have a phone. So that's where our community health workers comes in, they either provide a picture of step-by-step of the procedure and how to do it, or they will upload it for them."***

- **Data collection in virtual settings can have advantages and disadvantages.** One rural health center mentioned that telehealth follow-ups were easier for patients to report their BP readings compared to in-person where they could easily forget to bring their monitors. Other health centers mentioned it was time-consuming to ensure that the patients are reporting accurate BP readings in a virtual setting. Some health centers adopted a hybrid model (telehealth and in-person visits) to accommodate for patients.

> ***"Now with COVID when we're doing virtual, it was hard because you'd have to rely on a patient to read off those [blood pressure] numbers to us… Another challenge is that just making sure that they bring [the monitor] back so that we can get the data… but I noticed with COVID, because we're doing more virtual, it was easy. They didn't forget, it's right there."***

- **Warm handoffs were impacted** by the fact that face-to-face visits were more challenging. This was noted by a few health centers. Some health centers shared that it was easier for a warm handoff in-person. Other health centers found that telehealth only minimally affected the warm handoff and they were able to create connections through virtual connections. One health center requires separate links for patients to see different providers, which creates a minor inconvenience for the patient.

Lessons Learned

The health centers found a variety of creative solutions to address their challenges when implementing their SMBP programs. The following outlines a few examples of the lessons learned:

- **Designate staff to oversee SMBP program**. A couple of health centers emphasized that having a designated team member to maintain the program is a key component to efficient workflows.

  > ***"We tried to make sure that we have the right support staff in each clinic that is able to be that SMBPM champion. Right now, our medical director… is a great champion and has educated the providers and the clinical staff on the program and really pushes for the, you know, the youth and the referrals and all of that. But it's because of her that it's implemented so well and the workflow works great."***

- **Ensure that the team is aware of and understands SMBP** and what it can provide for the patient. Team training and regular updates may be useful. Strong teamwork and a robust workflow are vital to referring patients to SMBP, especially when building clinical team and community trust.

- **Gather patient and staff feedback** on how to improve the SMBP program. Implementing an SMBP program is dependent on the needs of the community as well as the capabilities of the health center, so it is imperative to gather input.

- **Provide different options for patients to obtain a BP monitor**. A one size approach does not work for all FQHCs. Not all centers will be able to afford offering the monitors for free, so other options should be considered and offered to improve BP monitor access. One rural health center provides different options of which patients can obtain a BP monitor: loan a BP monitor to accurately diagnose and determine if the patient needs to be enrolled in SMBP; provide a BP monitor to the patient for free if enrolled in SMBP; or purchase the BP monitor if not enrolled. A larger health center suggested implementing a rent-to-own option as well.
  - **Find a balance for rental fee** if implementing a loaner program.
  - **Direct funding for SMBP is essential** for health centers to purchase appropriate BP monitors that they know will work with their patient population rather than receiving BP monitors from insurers, others.

- **Educate patients about hypertension and the importance of adhering to the program**. Many health centers mentioned that patients do not know much

about hypertension, therefore proper health education about the adverse effects of hypertension is crucial to SMBP.

> ***"I mean, hypertension is a silent killer and most people don't know about it, most people confuse the signs and symptoms with just stress or 'I'm tired, I've been working so hard, maybe I just need a break or sleep.' But usually the symptoms are confusing, it's not obvious and so always the first question I'll ask is, 'Do you know that hypertension, I mean, high blood pressure is a silent killer?' They don't know."***

- **Understand these programs can be long-term relationships** and build sustainable systems for prevention and management over time beyond the scope of specific funding opportunities.

> ***"If we give them a BP monitor, we expect that we can get BP readings from them, where we need it….When 1422 first started, it was all about the white coat syndrome or pre-hypertension… But it's hard for us, because we do it in a wide range of different types of ways, so when we talk about our program, I know a lot of the time they want the data of, or the info of pre-hypertension, but it's actually more of a long-term thing for us, because we want to be able to take care of the patient and give them quality health care, no matter if they have hypertension, or they are pre [hypertension]."***

Recommendations for Additional Support

This process presented an opportunity to identify ideas for additional support. As this report was completed on behalf of HDOH, we specifically considered areas where HDOH may be able to support these programs from their unique position.

- **Secure sustainable funding for health centers, especially insurance payments** to properly reimburse for BP monitors and staffing (e.g., community health workers). While many health centers have secured grant funding for BP monitors and staffing, a few health centers mentioned that the funding is not sustainable because the service is not reimbursable.

- **Provide BP monitors and cuffs** to patients, especially newer models that are clinically validated. Ensure that cuffs are available in the right sizes to meet patient needs.

- **Improve data collection and management methods**. Some rural health centers lack the staff to manage patient data, and therefore request for solutions to simplifying and visualizing the data. Other health centers have also requested

solutions for uploading the data easily into EHR (e.g., patient portal). As previously mentioned, health centers mentioned that many patients are not tech savvy.

- **Develop education materials** adapted for local relevance to provide to patients. One rural health center mentioned the importance of having local educational material.

- **Provide continuing medical education and training for providers** to increase competency in SMBP (e.g., optimal approaches to providing SMBP services to patient).

- **Fund research projects to demonstrate the outcomes and value of SMBP.** There was interested in documenting the outcomes of these activities with some specificity to help justify them for future funding. **Some topics mentioned that would provide useful economic evaluation, including:**
    - Scale of people who did not go on medications because of engaging in SMBP compared to a similar cohort.
    - How monitoring through SMBP helped in keeping individuals out of the emergency room or other costly health services.

- **Reconvene all health centers** to further discuss shared challenges, solutions, and lessons learned from SMBP. This would include a presentation of summary results in this report as well as time for discussion of the health centers with each other.

Limitations

We were not able to talk to one FQHC, but hopefully they will participate in a convening of health centers to discuss this report. Data garnered to describe selected FQHC's SMBP activities rely mainly on responses from key informants. The disadvantage to this method is self-reporting biases and limitations. Self-reported data may benefit from additional validation. The scope of this landscape analysis did not capture every facet of selected FQHC's SMBP activities. This evaluation does not provide any opinions on the quality of the activities, or whether the programs were implemented as intended. Information on current and future funding sources to support SMBP activities were not the focus of this interview, although this information may be helpful to health centers. The target interviewees, SMBP service personnel, may not be in the position to have sufficient knowledge about institutional objectives and operational concerns to identify current and future resources (monetary and/or in-kind) that are committed or earmarked for SMBP activities. During the pandemic, more is being asked of patients in remote care and engagement in SMBP is even more critical. With the disruption of

COVID-19, there may have been adjustments to program implementation that may not be durable beyond the current context. The described program may only represent the current context.

Conclusions

We conducted a brief literature review about SMBP programs and standards generally, and a key informant interview analysis of SMBP programs. We explored cross-cutting themes, barriers, and facilitators to maintaining and/or sustaining these programs (staffing, funding, community resources). This provides a timely, synthesized look at what is happening and how FQHCs are pivoting under COVID-19 conditions. We hope this will build opportunities for cross sharing of FQCHs so they can see how other sites are sustaining and expanding and allow them to learn from each other. Possible topics include funding models, wider expansions, inclusions/exclusions criteria, modifications, lessons learned, and secrets to success. We also hope this information will add additional justification to support these important and affordable programs.

These findings should be of interest to HPCA, FQHCs, American Heart Association (funder of BP cuffs), and the CDC (funder of 1815 grant). While SMBP will continue from a clinical perspective, the HDOH will want to decide how they want to support this and where to target funds to be most useful. This evaluation offers an overview on selected community health centers' current SMBP monitoring program that may inform future program decisions, based on goals, environment, and community partners/assets.

We close with a huge MAHALO to all those who gave their time and wisdom to support of this project, including the key informants and all those who work in these programs to support of patient and communities.

Appendices

Key Survey Questions/Informant Interview Questions:

General:

- Please tell us a little about the scope of your SMBP activities…
- How is the blood pressure cuff program going?
- How and why did you decide to keep these programs after 1422?
- How are these programs being supported?
- What additional supports might be welcome?

Staffing, Program Support & Other General Info

- What is your role and how long have you been in this position?
    - How long have you been in your position?
    - Is there anyone else involved in administering this program and can you describe their role/position?
    - Is the staffing level sufficient?
        - [*If not*] Why and what additional support do you think is needed?
    - Is there an SMBP clinical champion?
        - [*If yes*] How has she/he helped the program?
- How are program staff and overhead costs being supported?
    - Is the program supported by 1815 funds and in what form?
    - [*If funded by public funds/grants*] Is there an alternate fund source to support the program once the grants end?
- How did this program start and when?
    - Who was involved in starting the program?
    - Were there implementation timelines and milestones established?
    - Were these implementation targets reached in the anticipated timeline?
        - How and why were these met or not met?
    - How long did it take to be fully operationalized?
    - Has the emergence of COVID-19 affected the program activities/operations?
        - [*If yes*] Please elaborate.
    - In what ways were activities adapted to COVID-19's operational context?
    - [*If not fully operationalized*] What is holding up the program?
        - Can this be addressed and how long will it take?
    - Is telemedicine and/or telehealth part of your SMBP monitoring program? This may include video appointments and/or other

remote patient monitoring systems, such as digital electrocardiograph systems.
    - [*If yes*] How is it featured in the program and how does it affect the patient–provider interaction?

Scope

- Can you describe the populations that benefited from your SMBP program?
    - Are your SMBP activities designed to focus on any populations?
    - How was this determined? [*achieved the most impact using SMBP?*]
- Home BP monitors:
    - Are BP monitors being given, provided as a loan, or required to be purchased by participants?
    - Did the BP monitor loan program start around the same time as the SMBP program?
        - [*If not*] What happened? Why was there a implementation gap between the start of the SMBP program and patients having access to BP monitors?
        - What effect did not having BP monitors for patients [to take readings outside of the clinic] have on the overall program and/or patients‘ success?
    - What is the funding source for the monitors that are being loaned?
        - How much does a BP monitor cost?
        - Is a participant expected to contribute to the cost and how much?
        - [*If funding source is grant/public funds*] How will the program cover the costs once the grant/public support end?
    - How many monitors are currently on loan? And in storage?
        - Do you need more and how many?
    - How are monitors managed and inventoried?
        - Where are they kept physically?
    - What controls are in place if patients do not return the monitors?

Patient Identification / Support

- Do you have policies and processes to identify and engage candidates for SMBPM?
- How are patients identified?
    - How do you know if appropriate patients are being identified and offered SMBP?
- Who on the care team recommends SMBP?

  - Who provides outreach support for SMBP patients?
- Who trains the patient on SMBP?
  - How does the patient connect with the SMBP trainer?
- Can you describe what the participants can expect from your SMBP program?
  - What is the course curriculum:
    - Activities?
    - Learning materials?
    - Support from SMBP staff?
  - Are there any successes or challenges would you like to highlight?
- What does the program expect from the participants?
  - Such as BP readings or other data, and at what frequency?
  - Are there any successes or challenges that you would like to highlight?
- Is your SMBP program tailored to race/ethnicity, language skills, Social Economic Status, health status/comorbidities, and age (children, adults, older adults)?
  - [*If yes*] Please describe the notable components designed to reach this population.
    - How were these tailored components received by the participants?

SMBP Data Management

- Are there policies and processes to support SMBPM data collection, management and analysis?
- How is SMBP data being recorded, transmitted, and managed?
  - How are patients recording/sharing data back to the care team?
  - Do providers want SMBP averages or individual BP readings as well?
  - Who is responsible for preparing and managing SMBP data?
  - Where is staff documenting SMBP data? [*EHR? Population health management system? Spreadsheet?*]
  - Has this data been helpful? How so?
  - Have there been data challenges? Please describe.

Community Linkages (This can be asked during the HPCA webinar re. payor reimbursements or sent directly to selected FQHCs)

- What roles have community partners play to support or optimize the efficiency/capacity of your SMBP effort? When were these partnerships formed?
  - Supply funds to purchase BP monitors?
  - Provide SMBP trainers
  - Conduct outreach calls?

- Supply SMBP support program?
- Supply Lifestyle management educators/ program?
- Coordinate or supply transportation resources?
- Coordinate or supply food security resources?

Other Questions

- Can you share any documentation of SMBP policies and processes?
- What forms of additional support would help the program with future implementation effort?
- Do you have other experience or observations around program challenges and/or successes that you would like to share?
- What are your next steps?

Sites that previously received 1422 funds/support
1. Waianae Coast Comprehensive Health Center
2. Waimanalo Health Center
3. West Hawai‘i Community Health Center
4. Hamakua-Kohala Health Centers
5. Lānai Community Health Center

Sites currently receiving 1815 funds/support
1. Wahiawā Center for Community Health
2. Ko'olauloa Health Center

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