

Huron Clinic's Self-Measured Blood Pressure Monitoring Program Proves an Effective Model for Hypertension Diagnosis and Control

Challenge

Cardiovascular disease is the leading cause of death in South Dakota with hypertension being a primary risk factor. The growing elderly and sedentary population as well as unique challenges facing SD's rural and frontier communities have created a need for new prevention and management methods directed toward cardiovascular health. In February 2019, Huron Clinic partnered with South Dakota Department of Health's Heart Disease and Stroke Prevention Program (HDSPP) to develop and implement a self-measured blood pressure (SMBP) monitoring program. The clinic established several goals at the start of the process. First, they wanted to achieve and maintain a baseline NQF 18 rate of 80%. At the time of program development, Huron Clinic's rate was 67%, meaning of the patients in their facility diagnosed with hypertension, 67% were considered to have their blood pressure under control, or measuring below 140/90 mmHg. One of the first steps to hitting their 80% goal was thoroughly reviewing their performance measure data and ensuring they were starting with accurate and reliable information. It was discovered that several issues within the electronic medical record (EMR) were skewing their data. For example, when an individual had an initial elevated blood pressure check during their office visit but a reading that was within normal limits upon re-check, the EMR would pull the out-of-range reading into the performance measure instead of using the controlled reading as it should. This caused their NQF 18 rate to appear worse than it actually was. As this was a known EMR issue, the EMR vendor had to develop a program update to correct the problem. In the meantime, Huron Clinic manually reviewed and updated measurement readings so their NQF 18 would accurately reflect their true blood pressure control rate. In addition to meeting their performance measure goals, Huron Clinic planned to assess "white coat hypertension" within their patient population, a term used to describe when one has an elevated blood pressure in the clinic setting but an otherwise normal reading. Ruling out white coat hypertension before prescribing medication therapy changes would reduce the risk of over-prescribing to individuals not needing treatment which could then be dangerous and detrimental to their health. Additionally, SMBP would provide an excellent opportunity to closely monitor patients with hypertension and adjust medication dosing to find the best and most appropriate treatment plan. This also gave providers a better understanding of their patient's day-to-day blood pressure levels and allowed them to closely work together to set realistic blood pressure goals.

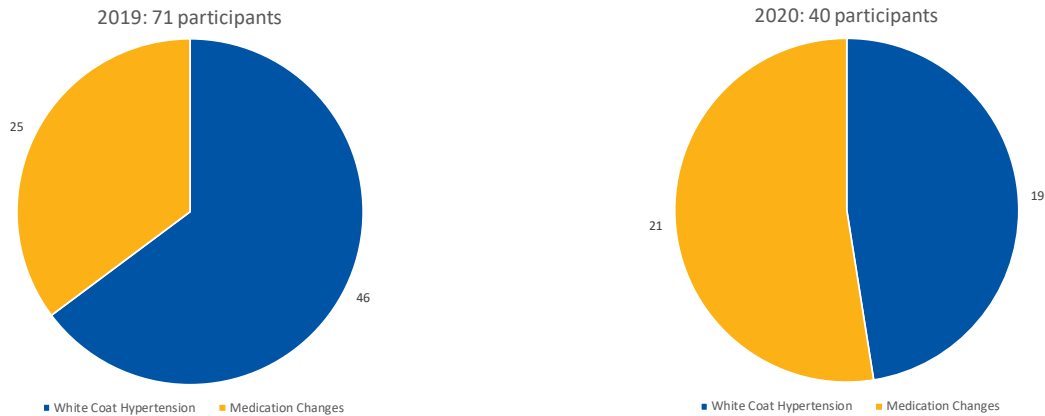
**members of the SMBP team included representatives from Huron Clinic, HDSPP, Dakota State University - Centers for Advancement of Health IT, and Great Plains Quality Innovation Network*

Solution

Using American Medical Association and Johns Hopkins SMBP resources as a guide, the clinic staff worked closely to determine participant eligibility criteria, process, training needs for both staff and participants, and follow up. It was decided that patients with an office visit reading over 140/90 mmHg, the threshold for blood pressure control, would be enrolled in the SMBP program upon the patient's agreement. The patient would then utilize a loaner automated blood pressure cuff to check their blood pressure at least twice a day over the course of two weeks. The patient was in close communication with the clinic over that period to review their medication needs and response to dosage changes and overall blood pressure levels. Individuals with blood pressures still not under control at the end of the two week period would continue home measurements until they and their provider felt they had successfully managed their hypertension and found the most appropriate treatment.

Results

From February 2019 through June 2020, 111 patients participated in Huron Clinic's SMBP program. Of the 111, 65 individuals were considered to have white coat hypertension and required no further treatment. The remaining 46 participants required medication and treatment plan changes to obtain a controlled blood pressure level.



Summary

Through Huron Clinic's implementation of SMBP, they were able to improve from their February 2019 baseline NQF 18 rate of 67% to 82% by June 2019 and then to 92% by June 2020, a total increase of 25% since the start of the program.

Evidence-Based Interventions

Throughout this project, Huron Clinic implemented the following evidence-based interventions: support the engagement of non-physician team members in hypertension management in the clinical setting and facilitate use of SMBP with clinical support among adults with hypertension.

Future Directions

Huron Clinic plans to offer SMBP indefinitely and continues to enroll new patients to the program as they are identified.

Contact

For further information on implementing an SMBP program within your facility, contact Rachel Sehr at Rachel.Sehr@state.sd.us or 605-367-5356

