

Office-Based Nursing Staff Management of Hypertension in Primary Care

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ABSTRACT

A family medicine practice in a large multi-specialty clinic undertook a quality improvement initiative focusing on blood pressure control. Current rooming procedures were reviewed, including obtaining accurate and reliable blood pressures. All rooming staff were instructed how to take an accurate blood pressure and were observed at random over a 3-month period to ensure continued accuracy. Rooming staff (medical assistants and licensed practical nurses) were engaged to give patient education and to arrange a standard 2-week follow-up with a rooming staff team member (nurse visit) if the patient's blood pressure was elevated. Clinicians were educated briefly about the importance of managing hypertension regardless of reason for visit. Blood pressure control (<140/90) in patients age 18-85 without diabetes improved from 68.4% to 75.8% in 3 months.

BACKGROUND

Dean Health Systems is a multi-specialty health care delivery system based in Madison, Wisconsin. The Sun Prairie, Wisconsin, clinic is predominantly a primary care clinic, with 11 family medicine providers. The system has provided primary care physicians with dashboard reports on Wisconsin Collaborative for Healthcare Quality (WCHQ) measurements. These reports were unblinded, so physicians and clinics were able to see areas for improvement when compared to their colleagues. Because of the need to improve hypertension control, the Sun Prairie clinic's Family Medicine department developed a hypertension improvement project using Lean methodology.

METHODS

Administrators, clinicians, roomers, and triage staff all provided insight into the workflow of a patient presenting to our primary care clinic. We mapped out our perception of the process a patient goes through when presenting to the clinic, and then observed the actual process through multiple patient interac-

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tions. This process allowed us to find the discrepancies between what ought to be done and what was actually happening in the clinic. With the input of the same group of people, we developed a more efficient work flow. To ensure accurate blood pressures, all nursing staff were educated on the appropriate technique for obtaining blood pressures and were observed randomly over 3 months to ensure maintenance of the appropriate technique.

Clinician inertia was often related to the number of problems to be addressed at any given visit. An elevated blood pressure (BP) often was pushed to the bottom of a list of concerns and sometimes was overlooked.¹ A process of alerts in the electronic medical record were built to alert roomers to the elevated blood pressure, prompt them to obtain a repeat blood pressure measurement after 5 minutes (the recommended timing of sitting at rest from the American Heart Association), hand out patient education material, and schedule a 2-week follow-up nurse visit for BP recheck. A 2-week follow-up was chosen because most antihypertensive medications have reached their full effect by 2 weeks.

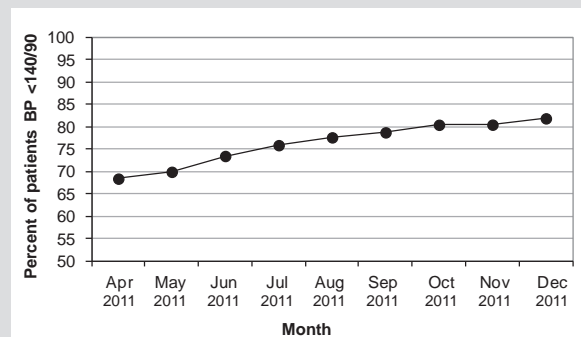
An alert for the clinician also was designed, with interactive tools of most recent BPs and a reminder to update the patient's problem list. The problem list was enhanced so that all BP-related labs and medications would display in 1 place in the problem list to make medication adjustments easier. Since patients were aware that their BP was elevated and would be addressed at their appointment, more clinicians were taking the extra few minutes to change medication in addition to addressing the other concerns that patients had that day. When patients returned at 2 weeks for BP checks with nursing staff (medical assistants), patients were told their BP. If it was elevated they were told the clinician would be in contact with them to adjust their medication. A telephone encounter in the electronic medical record (EMR) then was generated and sent to the clinician with the patient's most recent blood pressures

Table 1. Uncomplicated Essential HTN Blood Pressure Control, Dean Clinic—Sun Prairie, Wisconsin, Family Medicine

Month Ending	# of Patients		% BP <140/90
	BP <140/90	HTN Population	
April 2011	974	1425	68.4%
May 2011	1016	1454	69.9%
June 2011	1063	1448	73.4%
July 2011	1095	1444	75.8%
August 2011	1124	1449	77.6%
September 2011	1152	1464	78.7%
October 2011	1176	1463	80.4%
November 2011	1182	1470	80.4%
December 2011	1197	1463	81.8%

Abbreviations: BP, blood pressure; HTN, hypertensive

Figure 2. Uncomplicated HTN Blood Pressure Control



Dean Clinic - Deerfield and Dean Clinic - Sun Prairie Family Medicine

so that medication changes could be made. Again, a standard 2-week follow-up for a blood pressure check with nursing staff was implemented until the patient's blood pressure was under 140/90.

A "float room" that was previously used for walk-in patient triage was used to take blood pressures for these blood pressure-only visits. This process utilized the clinic's current space and did not require addition of any extra personnel.

RESULTS

At the start of this quality improvement project, BP control (BP <140/90 in nondiabetic patients age 18-75) was only 68.4%. By 3 months it had improved to 75.8% (Table 1, Figure 1). We continue to track progress.

Engagement of nursing staff was important in the improvement process, and hypertension control numbers were displayed each month in each nursing station along with the previous dashboard reports.

DISCUSSION

While the original focus on numbers was with the clinic's non-diabetic population, we are utilizing this same process for diabetic patients with a goal BP of <130/80. We have seen improvement in these numbers as well, but with a slower change—as would be expected given the lower goal. We currently are extrapolating the lessons learned at our clinic and implementing them across other system sites. As a multi-specialty health system, we now are focusing on ways to incorporate what we have learned in a primary care setting and trying to implement changes in specialty departments in which the clinicians do not treat hypertension. The need for ease of follow-up for patients is key. Given rising health care costs and increases in patients' deductibles and co-pays, providing an easy-to-use nursing system that requires no payment from the patient increases patient willingness to return to the clinic at frequent intervals, which in turn results in quicker blood pressure improvement. Use of nursing intervention to help with blood pressure control is not a new model of care, but it is a new model of care for our clinic. We have utilized nursing staff to manage diabetes through diabetes nurse educators for many years, but this had not been expanded to blood pressure management before now.

CONCLUSION

A 2010 Cochrane review showed that family medicine and community-based clinics need an organized system to follow up and review their patients with hypertension.² How best to do this is yet to be determined, but a model of care allowing each person on the health care team to function to the highest level of their degree will provide quality, efficient, and low-cost health care. We have found that using nursing staff to provide this service allows for ease of patient use, improved follow-up, and in the end, lower blood pressures. Future plans include implementing protocols to allow rooming staff to increase blood pressure medications.

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