Hypertension Best Practices Symposium

Hypertension Best Practices

PriMed Physicians
Dayton, OH

PriMed Physicians
Treating You Well.

ORGANIZATION PROFILE

Founded in 1995, PriMed Physicians is a multispecialty, physician-owned, for-profit medical group with 18 sites in the greater Dayton, Ohio area. The group has 56 physicians in primary and specialty practice, including internal medicine, family practice, pediatrics, general and interventional cardiology, neurology and endocrinology, who provide care to approximately 120,000 patients.

All PriMed contracts are paid on a fee-for-service basis, and the group is not affiliated with any hospital.

In 2010 and 2011 the group implemented the Allscripts Enterprise electronic health record, and also uses electronic scheduling, demographic collection, and billing.

PROJECT SUMMARY

PriMed Physicians sought to improve blood pressure control in HTN patients by using a defined quality improvement process including impedance cardiography (ICG) to guide antihypertensive therapy.

GOALS AND OBJECTIVES

The goal of the HTN project was to achieve BP control according to JNC 7 guidelines for 90% of patients:

Patients with no co-morbid conditions: BP ≤139/89

Patients with renal disease and/or diabetes: BP ≤129/79

HTN POPULATION

Patients with any diagnosis of HTN at any time: 30,000

Demographics: Patients were enrolled in the process irrespective of age.

IMPROVEMENT MODEL

PriMed Physicians undertook a proactive quality improvement effort to create, measure, analyze, and improve a process that could achieve increasing success in hypertension control, as defined by JNC 7. Throughout the project the group collected large quantities of data, which were analyzed by internal and external experts using standard Six Sigma statistical measures.

At the time that PriMed set its HTN goal a number of team members were extensively trained in Six Sigma and Lean quality methodologies. Based on this expertise, and the fact that only about 40% of its HTN patients were at goal for BP, PriMed decided to extensively revise its approach to the diagnosis and management of hypertension. In addition, the group decided to incorporate Six Sigma quality methodologies and processes and to measure results. PriMed believed that success in medical quality might increase its success in the healthcare marketplace.

In the fall of 2004 a team of physicians and quality experts worked to develop a Hypertension Process. The process required the treating primary care or cardiology physician to address hypertension every time the patient presented for care, no matter the chief complaint raised by the patient.

The HTN Process was documented on a single page that physicians were asked to fill out after every HTN patient visit, without exception.

THE HTN PROCESS

The HTN Process sheet was designed to prompt physicians about process steps. There were educational reminders built in and it served as the source of data for analysis.

After much discussion and based in part on anecdotal evidence, it was decided to include impedance cardiography as a step in the HTN Process. This non-invasive study measures several factors including the volume load of fluid in the patient, the degree of peripheral vascular resistance, cardiac output and other factors. Initially, physicians were asked to administer ICG for every visit, but quickly this mandate was changed to using ICG for every visit when the patient was not at his/her BP goal.

With the addition of ICG, the HTN Process became:

- Recording each patient's BP status and therapy changes
- Using ICG to guide therapy using a proven algorithm

The HTN Process requires that patients who are not at goal be scheduled for a follow-up appointment in 30 days.

DATA ANALYSIS

Each month PriMed HTN Task Force collected and analyzed 50 randomized patient charts from each primary care and cardiologist physician each month. Charts were selected based upon the patient's having an office visit during the month and having a hypertension ICD-9 diagnosis at any time in the past or present. In other words, patients were included whether or not they sought care for HTN but just because they had HTN on their problem list and had an office visit. The analysis quantified the percentage of patients achieving BP at goal (≤139/89 mm Hg or ≤129/79 mm Hg if the patient had diabetes or renal disease).

On three occasions PriMed performed a Design of Experiment (DOE) analysis, a Six Sigma technique, to measure the statistical significance of using each of the two process requirements to achieve BP at goal.

PHYSICIAN EDUCATION

Significant education was provided to the physicians about HTN management, particularly biomechanics and pharmacology related to hypertension. This education linked the data provided from ICG to selection of pharmacological agents. Physicians were also encouraged to educate their patients and, specifically, to show them the ICG results as a visual representation of their underlying physiological state —for example, high systemic vascular resistance.

Initially, some physicians questioned the use of ICG. Again, PriMed relied on Six Sigma DOE, which is useful for demonstrating whether a specific process step (or other variable) is important in the achievement of the desired goal. The DOE findings indicated the value of using ICG in the HTN Process for almost all patients whose BP is not at goal.

In addition, at the commencement of the project, the board asked every physician to attend eight hours of training about the use of Six Sigma quality methods in clinical practice. These sessions were held in small groups in September and October of 2005 and every physician attended one.

Early Evaluation of the Higher-performing vs. Lower-performing Physicians

Although BP results were not tied to compensation, PriMed wanted to determine which clinical behaviors and practices were contributing to HTN control to support cultural change within the group. The HTN Task Force compared high-performing physicians (defined as those who averaged 75% of patients at BP goal) and lower-performing physicians (with <50% of patients at BP goal) on HTN outcomes.

1. The higher-performing physicians were more likely (29.7% vs. 14.1%) to use ICG when the patient was not at goal.
2. The higher-performing physicians were more likely to make a change in meds when the patient was not at goal (60.3% vs. 42.8%).
3. The higher-performing doctors were more likely to use a vasodilator-class drug (12.5% vs. 2.1%) than the lower performers.
4. The lower-performing doctors were more likely to increase beta blockers (26.9% vs. 5.7%) when the patient was not at goal.

COMMUNICATIONS

PriMed holds a 90-minute, mandatory meeting for all physicians each month. Each meeting's agenda included reports from the HTN Task Force. Every physician's data is presented and conversations are held about issues and problems related to the Task Force's processes.

LEADERSHIP SUPPORT

Due to the fact that the HTN initiative is directly related to the organization's strategy, the leadership, the Board of Directors, the Medical Quality Committee, and management are all very involved in supporting the HTN Task Force and in implementing this process successfully. The HTN Process implementation has been made highly visible throughout the group by the leadership team.

PHYSICIAN COMPENSATION

By January 2007, PriMed had achieved results clearly showing that physicians who rigorously followed the HTN Process achieved a much higher level of success than those who did not.

After much discussion it was decided by the physicians themselves that process compliance would be linked to their compensation. This link was not based upon the number of patients achieving the JNC 7 BP goal, but rather, on whether the physician rigorously followed the HTN Process. This decision was based in part on the logic that some physicians practiced in sections of town with a predominantly African-American and lower socio-economic population, a group with historically lower HTN success, and in part on statistical analysis that showed a very close correlation between following the HTN Process and improved patient outcomes.

Based upon this intervention, the group wide average quickly climbed to a remarkable 94% of patients at the JNC 7 blood pressure goal in a population that included diabetics at the lower 129/79 BP goal.

CHANGING THE CULTURE

One of the key challenges in the HTN Process was overcoming the traditional view among physicians that places individual training and expertise ahead of standardized processes. The Task Force needed to show that a good process consistently outperforms individual ability, even if the physician is smart and well-trained. The tendency is to treat each patient as a separate case; instead, doctors needed to follow the process the same way each time.

Specifically, the standard HTN Process combats sources of clinician error such as:

- Physician and medical staff "forgetting" that the patient has hypertension
- Physician "fudging" by saying BP that is only a few points off is acceptable
- Physician confusion about which of the many available drugs would work best for a given patient

Acceptance of this approach required ongoing discussion, including meetings by site, section, and the group as a whole, plus meetings of the board of directors and the HTN Task Force.

Ultimately, a few physicians chose to leave the group due to their issues with this culture shift.

OUTCOMES

Success in HTN control was measured in a "black and white" fashion—if either the systolic or diastolic pressure was even a single digit higher than JNC 7, BP was not at goal.

Over the period from early 2005 until mid-2008, BP control among PriMed HTN patients rose from 41% to 94%.

OVERCOMING BARRIERS

There were several barriers that needed to be overcome, among them:

1. PriMed had to make special arrangements with certain carriers about covering the impedance cardiography. In some instances the codes could not be added but the group's rates were improved as a counter to group costs. In the final analysis, every carrier participated in one way or another.
2. While the majority of physicians were thrilled with the clinical outcomes that they were achieving, some physicians remained fixated on their perceptions that processes decreased physician autonomy.
3. Staff was initially challenged with the extra work involved in prepping patients, especially with regard to the impedance cardiography. Rethinking team duties allowed the office support teams to fully participate and many developed pride in their accomplishments to help a very high percentage of patients achieve goal.
4. Helping a medical group become involved in the use of statistical methods used for quality improvement—methods that are slightly different from the traditional medical research models—can take some time and discussion.

LESSONS LEARNED

- The first major effort that involves physicians in quality methodologies cannot have too much communication. PriMed's leaders and management discussed these changes with members in group-wide meetings, section meetings, and one-on-one meetings. Managers and staff also discussed this effort at great length.
- The number and variety of physician reactions to changes in what they perceive as their "personal space" is large. If the leadership has not thought through its plans well, resistance will overcome the effort.
- Publishing the results to everyone in the group by name is very effective to help create a culture of change but not sufficient.
- In contrast to prevailing wisdom about quality improvement methods in medical groups, which states that physicians do better with many, small steps of progress, PriMed found that a well-thought-out, fairly comprehensive program which was only amended once or twice was highly effective.

AMGA
American Medical Group Association®

Daiichi-Sankyo

Provided as an educational service by AMGA. Daiichi Sankyo, Inc. provided financial support for development of the materials but did not provide input into the content or the design of the materials.

One Prince Street, Alexandria, Virginia 22314-3318
Tel: (703) 838-0033 Fax: (703) 548-1890 www.amga.org