

Hypertension Control in the University of Chicago Primary Care Group

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■ **IN BRIEF** “Quality Improvement Success Stories” are published by the American Diabetes Association in collaboration with the American College of Physicians, Inc., and the National Diabetes Education Program. This series is intended to highlight best practices and strategies from programs and clinics that have successfully improved the quality of care for people with diabetes or related conditions. Each article in the series is reviewed and follows a standard format developed by the editors of *Clinical Diabetes*. The following article describes a successful project by faculty at the University of Chicago to improve blood pressure control among hypertensive patients at a general internal medicine clinic on the South Side of Chicago, Ill.

Describe your practice setting and location.

Our practice is an urban academic general internal medicine clinic on the South Side of Chicago, Ill. At the time of this project, our practice became the primary care site for a Medicare Advantage contract, whereby our institution accepted responsibility for the costs and quality of care for patients enrolled in the plan.

Describe the specific quality gap addressed through the initiative.

This project focused on patients with hypertension enrolled in our Medicare Advantage health plan and aimed to increase the percentage of patients with adequately controlled hypertension according to National Center for Quality Assurance standards within their Healthcare Effectiveness Data and Information Set (HEDIS) measures.

How did you identify this quality gap? In other words, where did you get your baseline data?

We used data initially provided by the health plan for patients who did not meet the HEDIS hypertension con-

trol measure (i.e., office-based blood pressure value >140/90 or >150/90 mmHg for patients >60 years of age without diabetes).

Summarize the initial data for your practice (before the improvement initiative).

Initially, only 36% (63 of 173) of patients had controlled hypertension. Among patients with diabetes, 40% (19 of 47) had controlled hypertension.

What was the timeframe from initiation of your quality improvement (QI) initiative to its completion?

We summarize our efforts from September 2015 through December 2016 for this ongoing project.

Describe your core QI team. Who served as project leader, and why was this person selected? Who else served on the team?

The project champion was the medical director for the Medicare Advantage program. The team included a registered nurse (RN) case manager, the clinic medical director, a

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TABLE 1. Summary of Hypertension QI Program Outcomes

	Health Plan Participants (n)	Patients With Hypertension* (n)	Patients With Controlled Hypertension (n [%])	Patients With Diabetes and Hypertension (n)	Patients With Diabetes and Controlled Hypertension (n [%])
September 2015	468	173	63 (36)	47	19 (40)
December 2015	557	186	89 (48)	52	34 (65)
December 2016	723	382	244 (64)	96	63 (66)

*Patients with an established diagnosis of hypertension are eligible for this measure if they are 18–85 years of age and have been enrolled in the health plan for at least 12 months.

licensed practical nurse (LPN) patient care coordinator, a program manager in the managed care office, and a research project manager.

Describe the structural changes you made to your practice through this initiative.

We reviewed best practices (Measure Up Pressure Down Toolkit [1] and case studies from sites with successful hypertension improvement [2]) for blood pressure measurement technique. Informed by these resources, we developed a training template and competency assessment for blood pressure measurement. We worked with a nursing professional practice educator at our institution, who revised nursing protocols and led training on proper blood pressure measurement technique to medical assistants (MAs), RNs, and LPNs. In addition, we developed and implemented standard work on accurate measurement of blood pressure and posted these instructions in all triage rooms. To further enhance accurate measurement, we verified calibration of manual blood pressure cuffs in all clinic exam rooms. Finally, we implemented protocols to notify providers when a repeat blood pressure measurement was elevated.

Describe the most important changes you made to your process of care delivery.

1. We identified best practices in blood pressure measurement, and we trained and assessed competency of all clinical nursing staff on use of proper technique.

2. Nursing staff re-measured all blood pressures >150/90 mmHg.
3. Staff documented all repeat blood pressure measurements in a discrete field in the electronic health record (EHR).
4. We flagged the chart for providers if repeat blood pressure was >150/90 mmHg.
5. MAs verbally communicated with providers if blood pressure was >180/100 mmHg.
6. Using our registry, we did pre-visit planning to identify patients with elevated blood pressure. We sent EHR prompts to primary care providers (PCPs) and specialists to encourage them to address elevated blood pressure during the next visit. Our message prompt described the HEDIS hypertension control definition and reminded providers to take the following steps if they observed elevated blood pressure values:
 - If a patient's triage blood pressure is elevated, recheck blood pressure later in the visit and document the patient's blood pressure in the EHR flowsheet. A manual blood pressure measure may be more accurate.
 - If the patient's blood pressure remains elevated on recheck, if clinically appropriate, consider adjusting the patient's treatment.
 - Contact the RN case manager, who may provide timely additional support to patients for blood pressure management.

7. Using our registry, we identified patients with persistently poorly controlled hypertension who needed additional care and developed strategies to reach patients between visits. We sent EHR messages to the RN case manager for targeted outreach to these patients (e.g., appointment reminders and phone calls to inquire about side effects, medication refills, transportation for visits, and other care needs).

Summarize your final outcome data (at the end of the improvement initiative) and how it compared to your baseline data.

After 15 months, we found that 64% of our patients had controlled hypertension in our overall sample of patients, compared with 36% at baseline. Among patients with diabetes, 66% had controlled hypertension, compared with 40% at baseline (Table 1).

What are your next steps?

In alignment with the University of Chicago's contracting strategy, we are expanding the interventions developed for this small population of Medicare Advantage beneficiaries to the broad population of patients receiving ambulatory care within the University of Chicago and our Care Network. In January 2017, we entered into Accountable Care Organization agreements with both Medicare (the Medicare Shared Savings Program) and our largest commercial payer. Given the rapid

growth of the populations affected by value-based contracts and operational advantages of having the same QI approach for all patients, we elected to focus on control of hypertension across all ambulatory patients as part of our institutional quality score card.

What lessons did you learn through your QI process that you would like to share with others?

Starting with a small, well-defined population, we learned how to focus on a defined group of patients, develop strategies and tools to understand the population, and standardize and implement processes (e.g., training, measurement, documentation, and staff and provider communication) to target improvements in hypertension care. We learned the feasibility of developing, monitoring, and improving workflows for hypertension care among our staff and providers. Now that we have changed care delivery processes to address hypertension control, we have knowledge and experience that can inform processes for other chronic conditions.

Our QI project helped us operationalize and standardize several aspects of hypertension care, which

ultimately supported wider dissemination of care delivery changes to improve hypertension care throughout our institution. It is now standard practice to train and administer competency assessments for blood pressure measurement for MAs working in all outpatient clinics in our institution. Routine processes for hypertension care now include repeat manual blood pressure measurements for any patient with an initial blood pressure >150/90 mmHg, followed by communication with the PCP if the second blood pressure measurement remains elevated.

Buy-in from physician leaders and administrators was crucial to our efforts. This Medicare Advantage contract was used as a pilot program to develop operational capabilities to support participation in value-based care contracting. The time for the nurse care manager, LPN patient coordinator, and physician leaders to work with the health plan was set aside during the regular work day and thus did not create an excessive burden of “volunteer” effort by the team.

Our institutions chief quality officer (CQO) has identified hypertension control as an institution-wide quality metric. The CQO established

an institution-wide QI team that includes a physician champion, our ACO medical director, a QI specialist, a quality analyst, and a nursing educator. Cardiology, endocrinology, geriatrics, nephrology, and internal medicine clinics currently participate in hypertension improvement efforts. Hypertension control data are analyzed and reported at the individual provider and clinic level. The institution-wide QI team is using the interventions and strategies developed in the hypertension pilot to implement a comprehensive improvement program across our primary care practice and other clinics.

Duality of Interest

No potential conflicts of interest relevant to this article were reported.

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