

Using Precision Performance Measurement to Conduct Focused Quality Improvement

Principal Investigator:	Baker, David, M.D.
Organization:	Northwestern University
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Summary: Measures that utilize data collected for administrative use, such as billing data, may have inaccuracies at the individual patient level. A quality measure may be recorded as not having been met because a patient was incorrectly considered to be eligible or refused the intervention, or because the appropriate data were not captured. As a result of these limitations, clinicians may reach their quality benchmark targets but still be reported as having fallen short. A health care system that delivers near 100 percent high-quality care for chronic disease care and prevention must rely upon precise measurement methods. Quality measurement needs to be embedded within electronic health record (EHR) systems and become dynamic, accurate, and detailed to support the highest level of care possible for all patients.

This project created systems that allowed clinicians to capture reasons for not providing care as part of point-of-care clinical decision support reminder systems to improve data quality and seamlessly link data to practice-level quality improvement programs and point-of-care interventions. The project used previously-developed quality measurement programs that examine EHR data to measure quality of care for coronary artery disease, heart failure, diabetes, hypertension, and preventive services. This study began at a large academic internal medicine practice and was then implemented in four community practices that use a common EHR.

Exception codes for 18 national quality measures were introduced into the EHR. These measures have been developed by organizations such as the Physicians' Consortium for Performance Improvement at the American Medical Association, or adapted from measures of the National Committee for Quality Assurance. The statistical significance of changes was assessed with time-series analysis. In addition, physicians were repeatedly surveyed on their attitudes toward the interventions. Outcomes of the quality improvement activities were monitored along with the costs of the intervention.

The project consisted of two phases. Phase 1 interventions included point-of-care reminders, linked order sets, point-of-care tools within reminders for documenting exceptions (i.e., patient refusals, inability to afford medications, and contraindications or adverse reactions to recommended interventions), quarterly performance reports, and monthly lists for each physician of their patients who were not prescribed "essential" medications. In addition, there was a patient-focused intervention: if a patient refused a recommended procedure and the physician documented this, the patient was sent information about the benefits of the intervention (e.g., medication or preventive service) and contacted to see if s/he wanted to change his/her decision and receive the intervention. In addition to the interventions described above,

Phase 2 included printing a list of unsatisfied quality measures for physicians to review before entering the examination room.

Specific Aims:

- Integrate simple, standard ways for clinicians to document patient reasons or medical reasons for why quality measures are not met and assess the use of these exception codes, the impact of exception reporting on measured levels of quality, and the impact of using these codes on physician satisfaction and self-reported efficiency. **(Achieved)**
- Use the exception codes (patient reasons and medical reasons) that clinicians enter to target three forms of quality improvement, including: 1) peer review of all medical reasons for not adhering to guidelines followed by academic detailing if a clinician enters an unjustified reason for not following guidelines; 2) counseling for patients whose physician enters an exclusion code stating that the patient cannot afford a needed medication, to determine ways of overcoming barriers; and 3) educational outreach to all patients who refuse recommended interventions, including mailing of plain-language health education materials or DVDs. **(Achieved)**
- Provide clinicians with highly accurate information on patients' quality deficits immediately prior to their visit as part of routine workflow, and assess whether this intervention increases provision of recommended therapies and tests and documentation of exclusion codes. **(Achieved)**

2011 Activities: The research team finished collecting and analyzing data by the end of the 1-year no-cost extension. As last self-reported in the AHRQ Research Reporting System, project progress and activities were completely on track and the project budget was somewhat underspent, approximately 5 to 20 percent. The project was completed in August 2011.

Impact and Findings: For Phase 1, during the year before the start of the intervention, performance improved significantly for eight measures, did not change for six, and declined for one. Temporal trends could not be calculated for cervical cancer screening because undated exceptions were recorded during the pre-intervention period. During the year after the start of the intervention, performance improved significantly for 14 measures, improved non-significantly for another (hemoglobin A1c control), and declined for one. During the intervention year, the rate of improvement in performance was significantly greater for nine measures and of borderline significance for another. Another four measures improved during the post-intervention period, but the rates of improvement were similar to the pre-intervention period. The rate of improvement in performance for osteoporosis screening was lower during the intervention year than the pre-intervention year. The absolute rate of screening mammography declined, which was attributed to a shortage of trained radiologists and prolonged waiting times at the institution. The improvements in performance during the intervention year were due to a combination of more patients satisfying the measures and documentation of exceptions.

For Phase 2, the addition of paper reminders to the interventions in Phase 1 did not have a marginal benefit overall, and it did not improve performance for the physicians with the worst performance at the end of Phase 1. Performance improved significantly for eight of the 16 measures during Phase 2. Performance had improved significantly during Phase 1 for all of these eight measures. Performance of screening mammography declined significantly during Phase 2; this was already declining in Phase 1, as described above. Performance decreased for two other measures during Phase 2: 1) prescription of anticoagulants for patients with atrial fibrillation and heart failure; and 2) nephropathy screening or management for

patients with diabetes. Both of these had previously shown an improvement in performance during Phase 1. Performance did not change during Phase 2 for prescribing antiplatelet drugs for patients with coronary artery disease; performance had increased during Phase 1 and remained stable at a very high level (approximately 95 percent). Glycemic control (hemoglobin A1c < 8 mg/dl) did not change throughout the study.

Target Population: Adults, Chronic Care*, Diabetes, Heart Disease, Hypertension

Strategic Goal: Develop and disseminate health IT evidence and evidence-based tools to improve health care decisionmaking through the use of integrated data and knowledge management..

Business Goal: Implementation and Use

** This target population is one of AHRQ's priority populations.*