



Clinician Access to Clinical Patient Data in Quality Improvement Program Dramatically Improves Outcomes of Diabetic Patients

A Case Study

Background

Wellmark® Blue Cross and Blue Shield (Wellmark) implemented a performance improvement program developed to assist primary care clinicians and their care teams in an effort to improve the health care status of their members. Wellmark is a health plan serving over 2 million members in Iowa and South Dakota and offers a variety of group and individual coverage products. This program, titled the Collaboration on Quality® program, is a collaboration between Wellmark and network clinicians aimed at promoting and improving the quality of and efficiency of health care. Wellmark selected MDdatacor as an independent third-party vendor to provide a clinical data collection tool that provides information on patient care opportunities, current patient summary, and current performance of clinicians. Initially the program in 2006 focused on diabetes.

The impetus for the launch of Wellmark's Collaboration on Quality program resulted from several factors which include but are not limited to: The Institute of Medicine – *Crossing the Quality Chasm* quality initiative ⁽¹⁾, Dartmouth studies on practice pattern variation ⁽²⁾, and the increasing diabetic population in the United States. Wellmark recognized that diabetic patients require special services to improve their quality of life and avoid the devastating complications of their disease, such as heart attacks, stroke, blindness, kidney failure, and life-threatening infections.

Wellmark realized that clinicians and their care teams may not have patient-level diabetes clinical information readily available. To add to the complexity, network clinicians used a variety of information technology systems and platforms, with many using paper records containing dictated progress notes and laboratory reports. Given these data challenges, Wellmark collaborated with MDdatacor in 2006 to provide an automated system to collect, analyze and report on clinical data that met the needs of network clinicians.

The patented and interoperable CareInformatix™ technology platform from MDdatacor provides comprehensive patient information through collecting, analyzing and reporting on clinical data from all available sources in a physician practice, including electronic medical records, lab, registry and practice management systems, and dictated transcriptions. The technology can also collect and analyze claims data. Only data from clinical records was used for performance calculation in the Wellmark Collaboration on Quality program.

As part of the MDdatacor system, clinicians or members of their care teams access the Web-based Care Center to view individual reports on each of their patients, as well as lists of patients requiring individual interventions based on pre-set clinical guidelines.

For example, information available to participating clinicians and their care teams during the Collaboration on Quality program included lists of patients who did not receive needed tests over the past year (such as blood pressure, HbA1C, LDL, microalbumin and retinal eye exams) and patients whose blood pressures, HgA1C levels, and LDL levels were higher than normal. The system alerted clinicians and their care teams to these "care opportunities" and provided an actionable list of patients requiring necessary intervention.

Study Design

Wellmark's Collaboration on Quality program is a voluntary program for primary care clinicians of varying practice sizes, and initially focused on diabetes. Training and implementation assistance for network clinician groups and their care teams was implemented between September 2006 and June 2007. A total of 9,012 patients 18 years of age or older with diabetes were initially identified via diagnostic codes using claims data (ICD-9 250). Each clinician was responsible for reconciling their diabetic patient list and for maintaining an accurate patient list. After the MDdatacor CareInformatix™ technology system was implemented, MDdatacor received electronic data from each clinician and/or their care team on a regular basis for all patients. Each clinician and care team member was encouraged to utilize the MDdatacor Care Center Web portal as a tool to engage their patients in care management. The clinicians managed their patients in alignment with nationally accepted clinical guidelines consistent with the National Quality Forum (NQF).

Each of the following process measures represent services that every diabetic should receive at least annually, per the NQF evidence-based guidelines:

- HgA1C
- LDL
- Microalbumin
- Dilated retinal examination

Each of the following outcomes measures are recommended targets for each diabetic patient, per the NQF evidence-based guidelines:

- Blood pressure less than 140 systolic and less than 80 diastolic each visit
- HgA1C <=8% or a 1% unit decrease from previous measure
- LDL <130 mg/dl

Additional interventions applied for some patients may have included health coaching, outreach to engage members and educating members about recommended care.

To analyze the results, two time periods were identified as follows:

- *January 1, 2006 – February 28, 2007*: Pre-program period; the time prior to the application of the COQ program and use of the MDdatacor system
- *January 1, 2007 – February 28, 2008*: Program end; the time period over which practices participated in the COQ program and utilized the MDdatacor system

Results

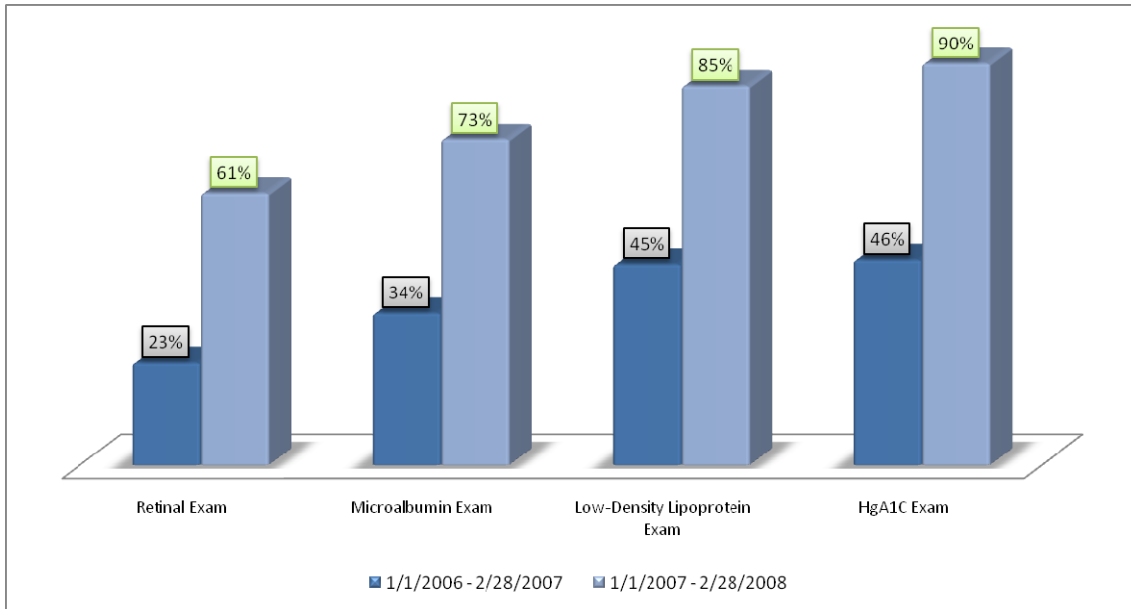
The number of patients receiving each process measure (HgA1C, LDL, microalbumin, and retinal exams) increased as the Collaboration on Quality program progressed in the evaluation of the time period and clinicians and their care teams accessed the Care Center Web portal reports. Performance level goals established were set at less than 100%, understanding that some patients may be more challenging to engage in their care treatment. For example, the number of patients receiving HgA1C tests increased from 4,146 in the pre-study period, to 8,089 at the program end. This represents almost double the number of 46% of diabetic patients receiving the test initially, to 90% of diabetic patients receiving the test by the program end.

The table and graph below provide specific results for HgA1C and other process measures.

Table 1. Process measure results.

Measure	Pre-Program	Program End
Retinal Exam	2,102 (23%)	5,482 (61%)
Microalbumin Exam	3,029 (34%)	6,557 (73%)
Low-Density Lipoprotein Exam	4,012 (45%)	7,665 (85%)
HgA1c Exam	4,146 (46%)	8,089 (90%)

Graph 1. Process measure results.

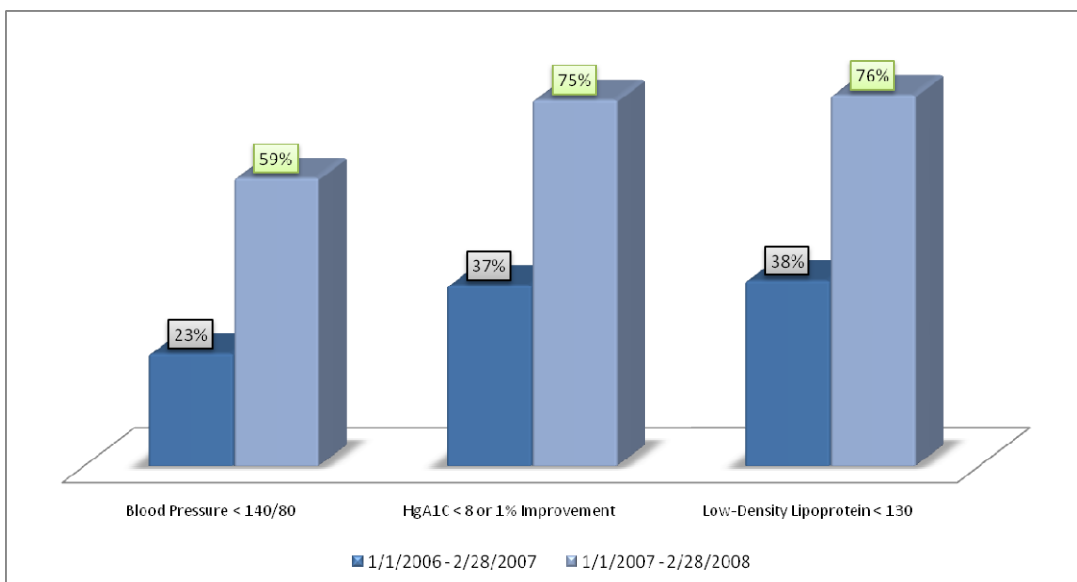


The number of patients in compliance with outcome measure guidelines also increased dramatically during the study period. The number of patients with blood pressure readings less than 140/80 increased from 2,052 in the pre-program period, to 5,332 at the program end. This represents a more than double increase of 23% of diabetic patients in compliance initially to 59% of diabetic patients in compliance by the end of the program.

Table 2. Outcome measure results.

Measure	Pre-Program	Program End
Blood Pressure <140/80	2,052 (23%)	5,332 (59%)
HgA1c <=8%	3,360 (37%)	6,786 (75%)
LDL <130 mg/dl	3,463 (38%)	6,805 (76%)

Graph 2. Outcome measure results.



Conclusions

The study results demonstrate dramatic improvement for patients with diabetes for both process and outcome measures. The use of MDdatacor's CareInformatix™ system combined effectively with clinician and care team engagement to proactively and efficiently identify care needed for their diabetic patient population. This carefully designed program invites feedback from clinicians that are participating and consists of measurement, intervention, the opportunity for positive financial incentives and support for process improvement, resulting in improved care and outcomes.

The improved patient outcomes can be attributed to combining the key program elements: the MDdatacor technology that provided clinicians with access to clinical data, valid clinical measures and positive financial incentives for clinicians.

References:

1. Institute of Medicine. Committee for Quality in Health Care in America. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, DC: National Academy Press; 2001.
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