Integrating Pay for Performance with Educational Strategies to Improve Diabetes Care

Thomas Foels, M.D. and Sharon Hewner, R.N., Ph.D.

Abstract

Improving quality at the point of care, the practice site, has become the focal point of many health quality initiatives. Practice sites vary greatly in their levels of knowledge, comfort, and willingness to embark upon quality improvement activities.

The objective of this study was to improve consistency of adherence to diabetes evidence-based guidelines; to engage physicians in critical review of their practice patterns around care of diabetic patients; and to change office systems to improve care. The survey used the Diabetes Chart Review Tool for 9 quality improvement cycles at 6-month intervals. The participants were adult primary care physicians with a minimum of 170 commercial members ($n = 170\text{--}331$ physicians, depending on cycle).

Participating physicians received a random sample of 15 patients with diabetes for whom they review their medical records to complete a diabetes questionnaire. The survey was scored and physician-specific detail and summary reports were generated. Reports were reviewed with physicians by health plan representatives. The survey was monetary incentive participation-based in early cycles, with performance-based incentives added after the third year. The main outcome measure was the rate of cases meeting specific diabetes process and outcome measures and composite adherence to guideline score.

The results were a participation rate above 84% for eligible physicians (32,069 chart reviews), and steady improvement in all process and outcome measures. Adherence to diabetes clinical guidelines shows statistically significant improvement (Student's t test, $P < 0.001$, mean difference -1.8 , confidence interval $1.9\text{--}1.7$) from baseline.

The program achieved significant improvement in comprehensive diabetes care at the physician practice site level. Success is attributed to engagement of physicians, actionable reports, office-based education, written action plans, and alignment with our internal disease management. (*Population Health Management* 2009;12:121–129).

Introduction

ATTEMPTS TO IMPROVE the quality of health care at the practice site level have taken many forms. Many educational strategies have been employed to promote acquisition and application of new medical knowledge. More recently, continuing medical education has promoted continuous professional development through the concept of self-directed learning. The Alliance for Continuing Medical Education has recommended practice-based learning based on self-assessment of clinical performance and the American Board of Medical Specialties now includes self-assessment exercises as necessary criteria for physician recertification within their specialty discipline. Diabetes Practice Excellence, a physician incentive program at Independent Health, engages physicians in critical review of their own practice pat-

terns and provides continuing medical education (CME) credit for participation in the exercise, attending workshops, and developing action plans to improve performance.

Pay-for-performance (P4P) programs supported by private and government payers of health care have attempted to foster quality improvement for physicians. Most rely on administrative data and include a report card to the provider that gives a final performance grade and monetary incentive based on reaching performance thresholds.¹ A recent RAND study² identified critical factors for success, which we have adopted in our program including: (1) alignment with evidence-based disease management guidelines and accepted quality metrics; (2) credible data, actionable reports, and substantial technical and analytic infrastructure; (3) incentives (monetary, CME, professionalism) sufficient to ensure significant engagement of eligible physicians; and (4)

physician-specific education about how to improve the care they provide by developing a systematic approach to high-risk populations.

Evaluation of P4P program efficacy is hampered by the lack of control populations, difficulty attributing care to a single provider, and the lack of systematic evaluation.^{3,4,5,6} In addition, there is marked variation in contextual factors that influence a program's success,⁷ including provider interest in participation, availability and quality of data, capability of information management to develop actionable reports, and relative leverage of health plans.⁸ Successful P4P programs attribute quality improvement to monetary incentives^{9,10,11} or contextual factors.^{12,13} Practicing physicians express concern about the poor quality of administrative data¹⁴ and questionable relevance of clinical practice guidelines to cases involving complex elderly patients.^{15,16} However, physician education and the additional knowledge and skill required to improve care for complex chronically ill patients are often overlooked aspects of these quality improvement programs.¹⁷

This article presents the outcomes of a community-wide primary-care-based quality improvement program (Diabetes Practice Excellence) that combined elements of P4P with CME. The goal of the program was to improve quality of care, promote early identification of clinical complications, and help physicians develop systematic approaches to care of patients with complex chronic illness. The program, designed for primary care providers, included important elements of physician self-assessment, and provided incentives to physicians for participation in the learning exercise - not exclusively for achieving preset performance goals. After reviewing baseline reports, a participating physician commented, "You know . . . the money wasn't very much. It got my attention. But once I saw my results . . . I wanted to do this for my patients." The focus is on showing physicians how they can systematically provide care that is consistent with evidence-based guidelines.

Methods

Diabetes Practice Excellence surveyed primary care physicians regarding adherence to evidence-based guidelines on a random sample of diabetes patients every 6 months since 2003 (9 cycles completed). A quality improvement cycle began with identification of the sample of diabetes patients from the physician's roster. The physician was asked to review the medical record of each person in the sample for the preceding 12-months. All of the responses were self-reported; however random checks on accuracy targeting physicians with significant improvement or decline were conducted. Physicians had 30 days to complete the survey. Survey responses with identifying information were entered into an electronic database and scored using SPSS statistical analysis software (SPSS Inc, Chicago, IL). Cases with missing information were not excluded as they affect the average score. Detail and summary reports were produced in a Microsoft Access database. The cycle ended with a review of results with the physician and distribution of the award.

Independent Health covers over 360,000 lives in the 8 counties of western New York State. Physicians contract with the health plan through an open-panel individual practice association and are reimbursed on a fee-for-service basis,

but are not directly employed by Independent Health. Fifty-three percent (53%) are in solo practices, 33% are in small group practices (2–5 physicians), and 14% are in larger groups. Independent Health typically constitutes 30% of a practice's patient panel. Physicians caring for adult patients were eligible to participate in the diabetes program if they were the primary care provider to at least 170 commercial patients. With each cycle (every 6 months), a stratified random sample of 15 adult patients (older than age 18) was selected from the physician's roster of patients with diabetes (defined as at least 2 physician visits within the past year with a diagnosis of diabetes). The prevalence of adult diabetes (older than age 18) is over 19,664 (prevalence rate 7.2%).

The diabetes initiative began in 2001 with a pilot program in 21 physician offices focusing on care of members with diabetes using self-reported data for process and outcome measures with a composite adherence score.¹⁸ These measures became the basis of our diabetes chart review questionnaire. The questions used to calculate the adherence score have not changed, although questions have been added. The tool asks the physician to verify that the selected patient has either Type 1 or Type 2 diabetes. Patients with metabolic syndrome, gestational diabetes, or impaired glucose tolerance are not included in scoring. The physician can exclude a case if there is a medical condition that prohibits inclusion in this exercise; however, they must provide the clinical rationale. All exclusions are reviewed internally for appropriateness.

Based on documentation in the medical record for the prior 12 months, the physician provided the most recent: 1) date and value of the glycated hemoglobin (A1C) test, and date and value of the previous A1C test, 2) date and value of the low-density lipoprotein (LDL) test, 3) date of the urine micro-albumin and value of the glomerular filtration rate (GFR), 4) date of the lower extremity exam, 5) date of the dilated retinal exam, 6) systolic/diastolic blood pressure values, and 7) date of the influenza vaccine. In later cycles, the physician reported if there was evidence of diabetic nephropathy, lower extremity ulcers, diabetic peripheral vascular disease with diminished pedal pulses or perfusion, diabetic neuropathy with diminished sensation by monofilament exam, diabetic retinopathy, or if the patient had chronic kidney disease. The tool was paper-based initially, but was converted to a Web-based survey in 2006.

Both process and intermediate outcome measures using evidence-based guidelines for diabetes¹⁹ were included in a 10-point scale of adherence to guideline. The outcome measures: most recent A1C at goal (<7mg/dL), LDL at goal (<100mg/dL), and blood pressure at goal (<130 mm systolic and <80 mm diastolic) were allocated 2-points each (6 points total). The process measures completed in the past year (2 A1C tests, LDL test, nephropathy screening, lower extremity exam, dilated retinal exam, and flu shot) were allocated a total of 4 points. The tool was modified in 2006 to include questions about comorbidities, which were used to calculate complexity. Diabetes case complexity was calculated using Medicare's risk adjustment methodology for hierarchical clinical conditions.²⁰ Cases with diabetes complications had a higher complexity score than uncomplicated diabetes.

Feedback from the survey was provided to physicians in detail and summary reports and in a scatter plot showing the

relationship of complexity to adherence. If a process measure was completed in the past 12-month period a “yes” was displayed in the column for that measure. If the item was not completed or if it was done outside the time frame the cell was left blank. Thus, opportunities for improvement were indicated by blank cells. For outcome measures, values provided were reported, but measures at goal were flagged with an asterisk. The computed complexity and adherence scores were reported for each patient. The summary report included rates for each metric and the mean adherence and complexity scores for individual physicians, as well as comparative scores for participating peer physicians and the top-10 performing practices. Finally, the relationship between complexity and adherence was shown graphically (scatter plot) and the individual physician was assigned to 1 of 4 performance quadrants. Each quadrant was assigned different recommended improvement strategies. Once reports were generated, internal practice management staff conducted site visits to review results, identify opportunities, and assist with the development of plans to improve performance.

Initially the incentive was based solely on participation. In cycle 6, a portion was reallocated to performance at a threshold score; the maximum allocation for performance was 50%. A maximum of 20 Category 1 CME credits were awarded for participation in the exercise, participation in workshops, and for development of an action plan. The average incentive award for diabetes ranged from \$.60 per commercial member per month (PMPM) in 2004 to \$0.70 PMPM in 2006 across the physician’s entire health plan membership, representing approximately 5% of total annual primary care physician income for commercial members.

Rates for each measure and overall adherence were tracked over multiple cycles using SPSS statistical analysis software. Single measures (nominal variables) were reported as the rate of non-excluded cases meeting the standard. Missing values were counted as not meeting standard. Adherence and complexity were interval-level measures and were reported for each member. Mean adherence and complexity scores were calculated for the individual physician and the population of participating physicians with each cycle. Trends in individual metric rates and mean adherence scores and complexity were tracked. Comparison of adherence scores over time and between specific physician populations was done using Student *t* test. The relationship between adherence and complexity was presented graphically using a scatter plot and statistical significance was calculated using Pearson product moment correlation coefficient.

Results

Table 1 shows the prevalence of diabetes in the overall adult (older than 18 years) population (7.2%), which is slightly lower than the national adult prevalence rates of 9.6%,²¹ with prevalence rates of 17.2% for Medicare, 8.9% for Medicaid, and 4.9% for commercial products. Patients from all products are included in the exercise, and in cycle 9 the majority of the sample was commercial patients (59.9%), followed by Medicare (36.7%), and Medicaid (3.7%). Table 2 shows the current prevalence of complications in our diabetic population. In Medicare, the rate of uncomplicated diabetes is 68% compared with 82% for Medicaid and 86% for commercial products. Twelve percent (12%) of the Medicare population has chronic kidney disease as a complication of diabetes.

The participation rate for the diabetes project has been consistently above 84% and reached 90.6% in cycle 9. On average, practice management staff met with the physicians and their office teams 3 times during each review cycle in order to assure initial engagement and completion of the exercise. The response rate is the number of completed surveys divided by the number of surveys sent out after removing excluded cases. In cycle 9, less than 0.1% ($n = 82$ cases) were excluded for death, dementia, terminal cancer, or other serious illnesses. Table 3 shows the surveys sent and usable responses with the response rate, and also reports the participation rate for eligible physicians. Response rates ranged from 79.8% in cycle 1 to a high of 92.1% in cycle 7. Cycle 9 response rate was 88.7%. Several large physician practices entered into separate incentive projects that removed them from cycles 8 and 9. In total, there were 32,069 usable surveys from cycles 1–9.

Trends in individual metrics and the adherence score for the entire population of physicians are tracked with each cycle. Plan-wide adherence to diabetes clinical guidelines has shown steady improvement from 4.3 at baseline to 6.2 in cycle 9. Figure 1 shows the change in the average 10-point adherence score (shown as a percentage) for the population surveyed and the outcome measures at goal with each cycle. Table 4 gives the number of cases with intermediate outcome measures at goal. Fewer patients have their blood pressure at goal than either LDL or A1C. Figure 2 shows how the distribution of adherence scores for individual cases has changed since baseline. The improvement in adherence score is statistically significant using Student’s *t* test for difference in group means ($P = 0.000$, mean difference -1.83 , confidence interval $1.94-1.72$). The percentage of cases with at least 8 of 10 points has increased from 6.6% at baseline (cycle 1) to

TABLE 1. INDEPENDENT HEALTH’S DEMOGRAPHIC CHARACTERISTICS OF ADULT DIABETES POPULATION BY PRODUCT

	All products	Medicare Advantage	Medicaid HMO	Commercial Products
Population, age 18+	271,958	47,951	10,220	213,787
Diabetes population, age 18+	19,664	8,236	908	10,520
Prevalence rate	7.2%	17.2%	8.9%	4.9%
Mean age of diabetics	62 years	73 years	48 years	54 years
Proportion of sample, cycle 9	2,324	857 (36.9%)	85 (3.7%)	1,211 (59.5%)
Percent of diabetes population	11.8%	10.4%	9.4%	11.5%
Average adherence by product, Cycle 9	6.2	6.6	5.2	5.9

TABLE 2. INDEPENDENT HEALTH'S ADULT DIABETES POPULATION BY COMORBID CHRONIC DISEASE AND PRODUCT

	<i>All products</i>	<i>Medicare Advantage</i>	<i>Medicaid HMO</i>	<i>Commercial Products</i>
Uncomplicated diabetes (DM)	15,341 (78%)	5,575 (68%)	756 (83%)	9,010 (86%)
DM & heart disease*	2,796 (14%)	2,614 (32%)	99 (11%)	1,020 (10%)
DM & chronic kidney disease	1,527 (8%)	984 (12%)	53 (6%)	490 (5%)
DM with COPD†	1,731 (9%)	1,026 (12%)	123 (14%)	532 (5%)
DM with depression†	1,405 (7%)	497 (6%)	132 (15%)	776 (7%)

*Heart disease includes coronary artery disease and heart failure.

†These categories overlap with other disease categories (ie, patients are already counted in diabetes, heart disease, or chronic kidney disease).

COPD, chronic obstructive pulmonary disease.

27.5% in cycle 9. Table 5 lists the number and rate of cases meeting the standard for process measures. Each process and outcome measure has improved from baseline and the greatest improvement has occurred in getting a second A1C test done 6 months before the most recent A1C and in reporting of GFR.

The complexity score for a case is calculated based on reported complications of diabetes. Although individual cases can have complexity scores up to 7, the average complexity index values range from 1.2 for practices with only uncomplicated diabetes to 3.5 for practices with multiple complex cases. The relationship of adherence to complexity is based on the average score aggregated to the physician practice rather than individual cases (see Fig. 3). In cycle 9, as in previous cycles, no relationship between complexity and adherence was demonstrated (Pearson correlation coefficient $r = 0.056$, $n = 167$ participating physicians, $R^2 = 0.003$, $P = 0.474$).

Our disease management return on investment (ROI) is based on hierarchical non-overlapping disease classifications, which are used to examine trends in annual total medical expense by disease category, and calculates return using methodology similar to that reported in the Rochester Diabetes physician incentive program²² (that demonstrated an ROI between 1.6:1 and 2.6:1). The total savings vs. trend in 2006 was \$17.6M (1.6% of total annual expense) with total costs of \$5M (\$1.5M estimated indirect costs with direct costs including staff in disease, information, and practice management and disease-specific incentives) resulting in a net return of \$2.46 for every \$1.00 invested.

Figure 4 shows the change in Healthcare Effectiveness Data and Information Set (HEDIS) comprehensive diabetes metrics over time. The Diabetes Practice Excellence program began in 2003, which is when the HEDIS rates began to

improve. In 2004, the health plan scores for A1C control and A1C test completed were at the 50th percentile nationally; however, in 2006 the percentile improved to at or above the 90th percentile. The metric for A1C control (Comp Diabetes HbA1c Level) is an inverse measure that shows improvement when the percentage of cases with poor A1C control (A1C >9) goes down. The health plan score for the comprehensive diabetes A1C control in 2006 was 17.3%, well below the national average of 30.1% and below the 90th percentile score of 18.9%. In addition, for lipid test done, the HEDIS score went from the 75th percentile (in 2004) to above the 90th percentile currently.

Discussion

Practice Excellence combines physician monetary incentives with CME to engage physicians in a diabetes quality improvement program. Our overall goal was to improve adherence to evidence-based guidelines and physician engagement was critical to success. Among eligible primary care providers, participation rates and survey response rates were high (above 79.8%) and did not diminish over the 4½ years of the program. Office visits by practice management staff included engagement at the beginning and throughout the exercise. They ensured that physicians reviewed their reports, provided opportunities for mutually constructive dialogue, and reinforced systems-based improvement. Our sampling strategy was effective at improving care for randomly selected cases, and we believe that it caused changes in the way practices managed any patient with diabetes. Although improvements have been reported in some measures of diabetes care nationally,²³ the rate of improvement of the health plan's HEDIS comprehensive diabetes scores

TABLE 3. DIABETES PRACTICE EXCELLENCE, SURVEY RESPONSE, AND PHYSICIAN PARTICIPATION RATES (N = 32,069 SURVEYS)

	<i>Quality Improvement Cycle (Year)</i>								
	<i>1</i> (2003)	<i>2</i> (2003)	<i>3</i> (2004)	<i>4</i> (2004)	<i>5</i> (2005)	<i>6</i> (2005)	<i>7</i> (2006)	<i>8*</i> (2006)	<i>9*</i> (2007)
Surveys sent	4,686	4,589	4,424	4,847	4,467	4,618	4,007	3,019	2,324
Usable responses	3,742	3,945	3,636	4,190	3,983	4,241	3,691	2,579	2,062
Response rate	79.8%	85.9%	82.2%	86.4%	89.2%	91.8%	92.1%	85.4%	88.7%
Eligible physicians	314	304	280	295	329	331	294	205	170
Participating physicians	263	283	245	269	306	310	277	182	154
Participation rates	83.8%	93.1%	87.5%	91.2%	93.0%	93.7%	94.2%	88.8%	90.6%

*Several large physician groups had practice-specific incentives that removed them from cycles 8 and 9.

FIG. 1. Trends in individual outcome measures and overall adherence, Diabetes Practice Excellence, cycles 1—9.

for A1C control and completion (increasing from the 50th to the 90th percentile nationally) suggests an accelerated performance trajectory. We attribute the rate of improvement to the program, since there were no other significant changes to the health plan's disease or case management programs, or to its insurance benefit programs referable to diabetes during the years of this study. Furthermore, this program allowed the health plan to cost-effectively obtain important clinical information that would not otherwise be available from claims-based administrative sources (eg, blood pressure values, renal function status, presence of complications) in a provider community in which implementation of electronic medical records and clinical data transfer remains modest. The program met our goals for both quality improvement and cost savings.

Educational interventions conducted by the health plan were critical success factors. There was educational value in the self chart review and in feedback through the reports.

Physicians could see gaps in performance and compare themselves to peers and top performers. Physicians often attributed poorer results than their peers to more difficult patients. Although complexity of diabetic populations varied widely among practice sites, there was no significant relationship between complexity and adherence to best practice guidelines. This finding proved an important educational tool that demonstrated and reinforced the continued opportunity for quality improvement at practice sites. The use of written action plans as a component of CME helped to secure physician commitment to improvement efforts and aided in monitoring the impact of office interventions on subsequent performance.

There are several limitations to this study. There was no control group and physicians were not randomly assigned to incentive or non-incentive cases. The sample size of 15 patients per practice per cycle was chosen to ensure that the sample of medical records would be large enough to show

TABLE 4. DIABETES PRACTICE EXCELLENCE, OUTCOME MEASURES, AND ADHERENCE SCORE
DESCRIPTIVE STATISTICS (N=32,069 SURVEYS)

	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5	Cycle 6	Cycle 7	Cycle 8	Cycle 9
Measure responses	3,742	3,945	3,636	4,190	3,983	4,241	3,691	2,579	2,062
BP < 130/80	985 (26.3)	1,214 (30.8)	1,285 (35.3)	1,390 (33.2)	1,573 (39.5)	1,625 (38.3)	1,497 (40.6)	1,055 (40.9)	833 (40.4)
LDL < 100	1,427 (38.1)	1,611 (40.8)	1,443 (39.7)	1,963 (46.8)	2,101 (52.7)	2,303 (54.3)	2,042 (55.3)	1,411 (54.7)	1,164 (56.5)
A1C < 7*	1,460 (39.0)	1,571 (39.8)	1,654 (45.5)	1,673 (39.9)	1,772 (44.5)	2,092 (44.5)	1,814 (49.1)	1,290 (50.0)	1,103 (53.5)
Adherence†	4.3	4.6	4.7	5.0	5.4	5.8	5.9	6.0	6.2

*A1C is the most recent A1C value.

†Adherence score calculation based on completed surveys only.

BP, blood pressure; LDL, low-density lipoprotein; A1C, glycated hemoglobin.

FIG. 2. Diabetes Practice Excellence comparison of adherence to clinical guidelines score, baseline (cycle 1), Cycle 9.

practice patterns, but not so large that physicians would be reluctant to participate. Practice site eligibility was dependent on health plan membership and physician practices served primarily urban and suburban populations, resulting in underrepresentation of small and rural practices. Because the program's sampling methodology selected only those diabetes patients who had a diabetes-related office visit within the previous 12 months, the status of patients not actively managed cannot be determined. Self-reported data improved the credibility of the reports while creating the potential for data inaccuracies, both unintentional and intentional. Routine random checks on accuracy did not reveal evidence of intentional "gaming" or other inaccuracies that significantly altered a physician's or the program's aggregate

scoring. Even with these limitations, we have demonstrated that physicians can apply what they learn from a critical review of a small sample of cases to their entire roster of patients with chronic disease.

It remains unclear which components of the Practice Excellence program had the greatest impact on the improvements seen. We suspect that an important synergistic relationship exists between all elements of the program. Once providers are aware of gaps in their performance, they often are extremely interested in strategies that will help close those gaps. While performance data and incentives are powerful health plan tools to stimulate quality improvement at the practice level, plan efforts to support providers are even stronger when paired with intensive on-site

TABLE 5. DIABETES PRACTICE EXCELLENCE PROCESS MEASURES COMPLETED IN PAST 12-MONTH DESCRIPTIVE STATISTICS (N= 32,069 SURVEYS)

	Cycle 1 # (%)	Cycle 2 # (%)	Cycle 3 # (%)	Cycle 4 # (%)	Cycle 5 # (%)	Cycle 6 # (%)	Cycle 7 # (%)	Cycle 8 # (%)	Cycle 9 # (%)
Measure responses*	3,742	3,945	3,636	4,190	3,983	4,241	3,691	2,579	2,062
1st A1C	3,106 (83.0)	3,030 (76.8)	2,675 (73.6)	3,513 (83.8)	3,706 (93.0)	4,001 (94.3)	3,512 (95.2)	2,447 (94.9)	1,997 (96.8)
2 nd A1C	1,386 (37.0)	2,123 (53.8)	1,819 (50.0)	2,243 (53.5)	2,245 (56.4)	2,599 (61.3)	2,218 (60.1)	1,618 (62.7)	1,361 (66.0)
LDL	3,249 (86.8)	3,424 (86.8)	2,965 (81.5)	3,714 (88.6)	3,523 (88.5)	3,815 (90.0)	3,351 (90.8)	2,349 (91.1)	1,876 (91.0)
Foot exam	2,134 (57.0)	2,468 (62.6)	2,206 (60.7)	3,264 (77.9)	3,114 (78.2)	3,319 (78.3)	3,332 (90.3)	2,371 (91.9)	1,895 (91.9)
Nephropathy	2,181(58.3)	2,437 (61.8)	2,330 (64.1)	3,019 (72.1)	2,966 (74.5)	3,273 (77.2)	2,997 (81.2)	2,003 (77.7)	1,531 (74.2)
GFR	NA	NA	280 (7.7)	1,650 (39.4)	2,536 (63.7)	3,542 (83.5)	3,295 (89.3)	2,400 (93.1)	1,927 (93.5)
DRE	1,453 (38.8)	1,527 (38.7)	1,294 (35.6)	1,942 (46.3)	1,940 (48.7)	2,228 (52.5)	2,049 (55.5)	1,416 (54.9)	1,159 (56.2)
Flu shot	1,691 (45.2)	1,933 (49.0)	1,766 (48.6)	1,614 (38.5)	1,504 (37.8)	1,969 (46.4)	1,580 (42.8)	1,316 (51.0)	956 (46.4)

*Process measure rates are based on surveys sent to the physician (ie, the rate for each measure is lowered for practices with incomplete data).

A1C, glycated hemoglobin; LDL, low-density lipoprotein; GFR, glomerular filtration rate; DRE, dilated retinal exam.

FIG. 3. Relationship of mean complexity to mean adherence by physician practice, Diabetes Practice Excellence, cycle 9 (*n* = 167 physicians).

FIG. 4. Independent health comprehensive diabetes HEDIS scores, 2001–2006.

educational assistance.¹⁴ Contextual factors also played a significant role in the outcomes of the program in our community. The large penetration of health plan members within eligible practices made the monetary value of the program more substantial, and the involvement of highly visible physician advisory committees in the program's design and monitoring were vital.

Successful and sustainable quality improvement at the practice level will require creative solutions. Many of the current criticisms directed at P4P are addressed when the emphasis is changed from rewarding (or punishing) physicians for performance to one that seeks to teach physicians how to provide better care.

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Address reprint requests to:
 Thomas Foels, M.D.
 511 Farber Lakes Drive
 Buffalo NY, 14221

E-mail: drfoels@independenthealth.com