Pay for Performance: Its Influence on the Use of IT in Physician Organizations

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The introduction of information technology (IT) in physician organizations and practices is a source of great interest to physician leaders and policy makers. In this article, the authors describe what may be the nation's largest pay-for-performance program, its performance metrics, and incentives for the implementation and use of IT in medical groups and independent physician associations (IPAs). Results include the increased use of electronic clinical data, point-of-care technology, and the generation of more actionable reports for quality improvement. Noteworthy are the efforts by physician organizations to enhance data collection to demonstrate improved clinical performance and earn financial incentives.

Key words: Data aggregation; pay-for-performance; performance measurement; physician organizations; point-of-care technology.

Can pay for performance inspire the enhanced use of information technology (IT) in medical practice to improve the quality of care and the efficiency of care delivery? This question is receiving considerable attention from physician leaders and policy makers, including the recently appointed Bush administration electronic medical records czar David Brailer, M.D., Ph.D., and Centers for Medicare and Medicaid Services (CMS) administrator Mark McClellan, M.D., Ph.D.[1] "Pay-for-performance initiatives . . . will help reduce barriers to the adoption of electronic health records . . . and in turn, help physicians improve quality and patient safety," says Brailer.

Their interest is not surprising, given that some pay-for-performance programs directly link incentives with the adoption and use of IT in both physician groups and individual practice settings. Yet, how much do we really know about the effectiveness of these incentives in stimulating investments in IT?

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The growing popularity and prevalence of pay-for-performance programs in the United States is indisputable. Only a handful of these programs existed a decade ago, but this number has rapidly grown in recent years to between 80 and 100 programs today.[2] Some of the more prominent programs, including those sponsored by Bridges to Excellence and the Integrated Healthcare Association (IHA), offer incentives to physicians who demonstrate the use of specific IT capabilities, such as point-of-care electronic prescribing or an electronic medical record (EMR).[3,4] To date, however, information about the influence of pay for performance on the use of IT by physicians has been limited.

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The influence of the IHA pay-for-performance program on the expanding adoption of IT provides a snapshot of the program's impact to date. The results demonstrate that incentives have captured the attention of

physician group leaders and that the adoption of specifically targeted technologies has increased. Even more striking may be the consequence of limiting the measurement of clinical scores to electronic administrative data only, and the concerted effort by physician organizations to improve electronic data collection to demonstrate performance on the delivery of clinical measures.

THE CALIFORNIA PAY-FOR-PERFORMANCE COLLABORATION

In the late 1990s, California health plans began to migrate from incentives for physician organizations based solely on utilization management to incentives that promote quality improvement. This direction was generally well received by physician group leaders, but they expressed concern when plans began to publish "dueling public report cards," with one plan announcing a physician group as a top performer and another reporting less favorable results for the same physician group. The varying quality measurement criteria used by health plans was also a source of concern among physician group leaders, who felt unable to provide sufficient focus on any single set of quality performance criteria.

By late 2004, the IHA pay-for-performance program had realized its initial goals: development of a uniform measurement set, a single public scorecard, and significant incentive payments by health plans to physician organizations.

In response to these concerns, the IHA, a California healthcare leadership group, assisted in the development of an industry collaboration based on several key principles:

- Development of a uniform set of quality performance metrics.
- The aggregation of data across multiple health plans to promote the reliability of the results and the production of a single public scorecard.
- Incentives directly targeted at the adoption of information technology.
- The use of electronic administrative data only to measure clinical results.

With funding provided by the California Healthcare Foundation (CHCF) and technical support from the National Committee on Quality Assurance (NCQA) and the Pacific Business Group on Health (PBGH), the program was tested in 2002. It went "live" with its first measurement year in 2003 and continues today. Currently, seven California health plans (Aetna, Blue Cross, Blue Shield, CIGNA, Health Net, PacifiCare, and Western Health Advantage) and 225 physician organizations with more than 35,000 physicians are participating. The program operates across a population of more than 6 million commercial HMO members. Participating physician organizations include multispecialty group practices and independent physician associations (IPAs), which typically receive capitation payments for professional services rendered to this population.

By late 2004, the IHA pay-for-performance program had realized its initial goals: development of a uniform measurement set, a single public scorecard, and significant incentive payments by health plans to physician organizations. Data collection and aggregation for the second measurement year (2004) was the basis for incentive payments to physician groups in fall 2005. In this article we focus specifically on the program's influence on information technology and its use.

PERFORMANCE MEASUREMENT SET

The performance measurement set, adapted for the program by the stakeholders in consultation with NCQA and PBGH, was structured into three domains: clinical, patient experience, and IT investment. Each domain received a recommended percentage weighting for the purpose of allocating incentive payments. As shown in Table 1, the 2003 weighting of 10 percent for IT investment was increased to 20 percent the following year. This increase reflected the belief that investment in IT facilitates ongoing quality improvement efforts. It was also motivated by the need to enhance the information-gathering capabilities of physician organizations and to promote the electronic capture of laboratory, pharmacy, and other data sources necessary to expand the clinical measurement set from primarily process-oriented measures to outcome measures.

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The IT measurement set domain is organized into two categories:

- **Integration of clinical data sets**—IT that supports population management independent of patient contacts.
- **Clinical decision making at the point of care**—IT that provides the physician access to data at the time of patient contact.

To receive the full 20 percent IT score in measurement year 2004, a physician organization had to demonstrate four qualifying activities with at least two of these activities in category 2, as outlined in Table 2. This was an increase from the first year of the program during which only two activities were necessary to receive the maximum of 10 percent IT credit.

Table 1: IHA PFP 2003/2004 Measurement Set

	2003 Measurement/ 2004 Reporting Year	2004 Measurement/ 2005 Reporting Year
Clinical	1. Childhood immunizations 2. Cervical cancer screening 3. Breast cancer screening 4. Asthma management 5. HbA1c screening and control 6. LDL screening and control <130 Encounter threshold ≥2.7 Encounters/member year	1. Childhood immunizations 2. Cervical cancer screening 3. Breast cancer screening 4. Asthma management 5. HbA1c screening and control 6. LDL screening and control <130 7. Chlamydia screening Encounter threshold ≥3.25 Encounters/member year
Weighting	**50%**	**40%**
Patient Experience	1. Specialty care 2. Timely access to care 3. Doctor-patient communication 4. Overall ratings of care	1. Specialty care 2. Timely access to care 3. Doctor-patient communication 4. Overall ratings of care
Weighting	**40%**	**40%**
Information Technology Investment	1. Integrate clinical electronic data sets at group level for population management 2. Support clinical decision making at point of care through electronic tools Two activities required for maximum credit	1. Integrate clinical electronic data sets at group level for population management 2. Support clinical decision making at point of care through electronic tools Four activities required for maximum credit
Weighting	**10%**	**20%**

Table 2. IT Measurement Grid

Information Technology Domain	Measurement Year 2003 Description	Measurement Year 2004 Description
Category 1 Integration of clinical electronic data sets ***Population management independent of patient contacts***	Rewarding group-level integration of electronic clinical data sets, including: • Encounter/claims • Lab results • Prescriptions • Inpatient or ER records; • Radiology findings; and the ability to report at the patient level.	Rewarding group-level integration of electronic clinical data sets, including: • Encounter/claims • Lab results • Prescriptions • Inpatient or ER records • Radiology findings • Clinical findings; and the ability to report at the patient level.
Category 2 Clinical decision making at the point of care ***Management of individual patients during contact with physician***	Rewards actual use of electronic lab or pharmacy clinical information at the point of care in the physician's office. Requires at least 50% of the primary care physicians in the group.	Rewards actual use of electronic lab or pharmacy clinical information at the point of care in the physician's office. Requires at least 50% of the primary care physicians in the group or primary care physicians serving more than 50% of members.
Scoring	Requires up to two activities with at least one in each category; each activity is worth 5%. Maximum scoring equals 10%.	Requires up to four activities with at least two in category 2; each activity is worth 5%. Maximum scoring equals 20%.

IT DOMAIN RESULTS

Eligibility for incentive payments in the IT domain requires physician organizations to submit documentation to NCQA following review and approval by an independent auditor. As shown in Figure 1, in the first year of the program, 100 of the 215 participating physician organizations submitted results. Of these, seven received partial credit, 67 full credit (i.e., 10 percent), and 26 no credit. In the second year of the program, 122 of 225 participating physician organizations submitted results, with

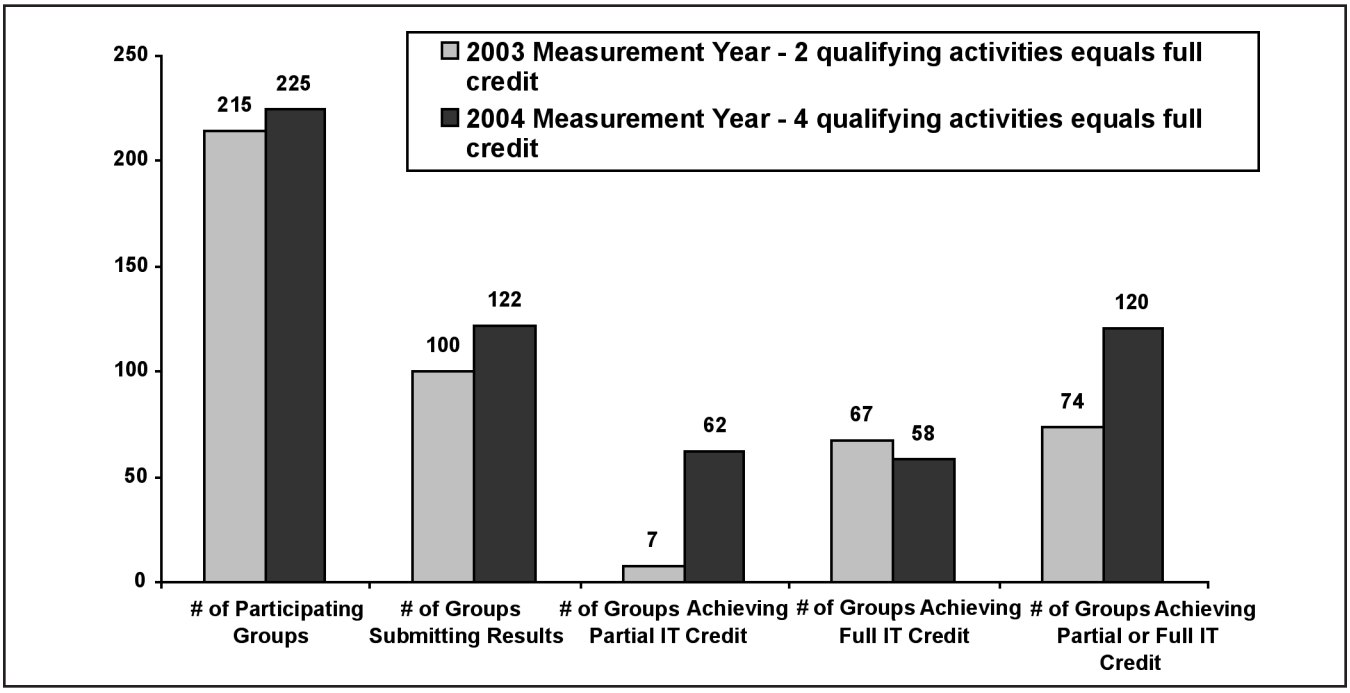

Figure 1. IT Measurement Results 2003/2004

62 receiving partial credit, 58 receiving full credit (i.e., 20 percent), and two receiving no credit. This is a 62 percent year-to-year increase in the number of groups receiving credit, demonstrating more interest and ability of physician groups to meet IT domain criteria.

Second-year results show considerable improvement, with 28 to 40 percent of physician organizations demonstrating qualifying activities.

Almost 50 percent of the health-plan member population in the program is served by the 26 percent of groups that received full IT domain credit in 2004. This appears to support the assertion that pay-for-performance programs tend to reward larger, more established physician organizations that are essentially rewarded for prior investments in IT.[5] This assertion, however, is not necessarily supported by the preliminary results of physician group leadership interviews conducted as part of the IHA program evaluation. While some physician groups may have been rewarded for prior investments, these interviews revealed that high-scoring physician groups have been making *new* investments in IT capability and personnel to generate data streams to support activities related to pay for performance.

Furthermore, the fact that a significant increase in the number of groups qualifying for credit occurred in year two of the program seems to indicate that incentives have inspired IT activity. Nonetheless, physician group leadership interviews revealed that smaller physician organizations and loosely structured IPAs are struggling with the issue of data and data systems.[6]

INTEGRATION OF CLINICAL DATA SETS FOR POPULATION MANAGEMENT

The first category according to which organizations can receive credit for technology investment is the "integration of clinical data sets." This category encourages the use of electronically collected clinical data to support population management activities. Qualifying activities require the integration of multiple data sets to generate registries, actionable reports, and electronically generated Health Plan Employer Data and Information Set (HEDIS[7]) results.

These activities may be far ranging, but they must support improvement in the management of patient populations. For example, registries are being used to identify patients who have not received screenings so they can be contacted and reminded to schedule an appointment, or to provide physician reminders at the time of the patient's visit. Actionable reports have been developed that allow physicians to monitor their asthmatic patient population by identifying patients who have not filled prescriptions.

As shown in Figure 2, first-year results revealed that only 11 to 25 percent of participating physician organizations demonstrated capability in these activities. The second-year results show considerable improvement, with 28 to 40 percent of participating physician organizations demonstrating qualifying activities. This improvement was significant in all three types of qualifying activities: registries, actionable reports, and HEDIS results.

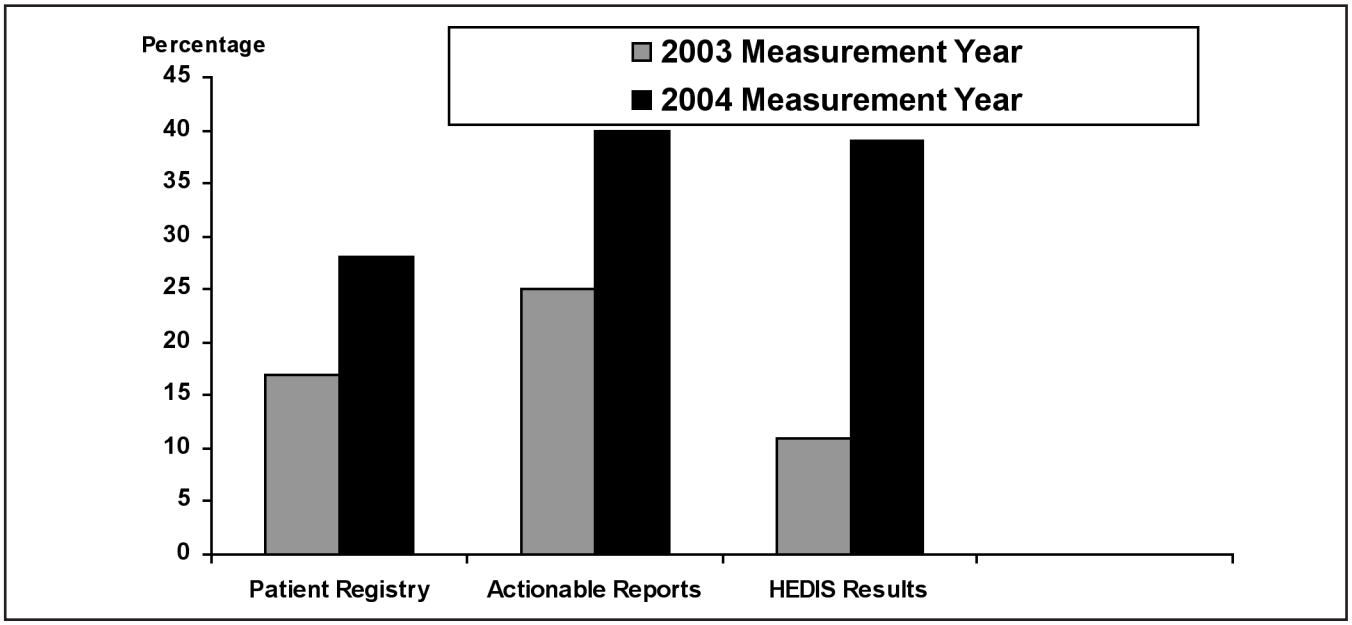

Figure 2. Integration of Clinical Electronic Data Sets

POINT-OF-CARE TECHNOLOGY FOR PATIENT MANAGEMENT

The second category through which physician organizations can receive credit is the use of point-of-care technology. This category rewards use of electronic lab or pharmacy data, for example, at the point of care in the physician's office. As shown in Figure 3, in the first year of the program, this category showed only limited results, ranging from 4 to 17 percent of participating physician organizations. Second-year results demonstrate significant increases, ranging from 9 to 27 percent. Again, increases occurred in all types of qualifying activities.

In the first year of the program, [point-of-care technology] showed only limited results. . . . Second-year results demonstrate significant increases . . .

The largest percentage increase in groups qualifying for point-of-care technology activities was for electronic checks for potential prescription interaction, retrieval of lab results, and access to clinical notes. These improvements are noteworthy because access to lab and pharmacy data sources is essential to the quality improvement efforts for outcome-oriented clinical measures such as control of HbA1c for diabetes patients and LDL for cholesterol management.

CORRELATION BETWEEN IT AND CLINICAL PERFORMANCE

Prior studies have shown that the use of information technology is directly correlated to the adoption of management processes designed to improve quality care in group practices.[8] Early results for the California pay-for-performance program indicate a relationship between IT capabilities and clinical performance. A composite clinical average for each physician group was compared with the degree to which these same groups demonstrated qualifying IT activities. This analysis, prepared by NCQA, shows that in both 2003 and 2004, higher clinical performance is associated with greater use of IT.

In 2003, the clinical measurement average for groups receiving the maximum IT credit was 9 percent higher than for those groups that submitted results but received no IT credit. In 2004, the aggregate mean for all physician groups improved for all clinical pay-for-performance measures; nonetheless, the correlation between IT and clinical performance persisted. The clinical measurement average for groups receiving maximum IT credit was again 9 percent higher in 2004.[9] (See Figure 4.) This magnitude of improvement was found across the full range of clinical measures.

CONCLUSION

Preliminary results indicate that pay for performance has captured the attention of physician organizations and influenced their investment and use of information technology. This appears to be the result of a combination of financial incentives specifically aligned with IT investment, program breadth, and public reporting. Physician organizations are investing in new technology to receive incentives in the IT domain, and they can more accurately measure their performance in the clinical domain, secure bonus incentives, and present themselves well in public reporting. ■

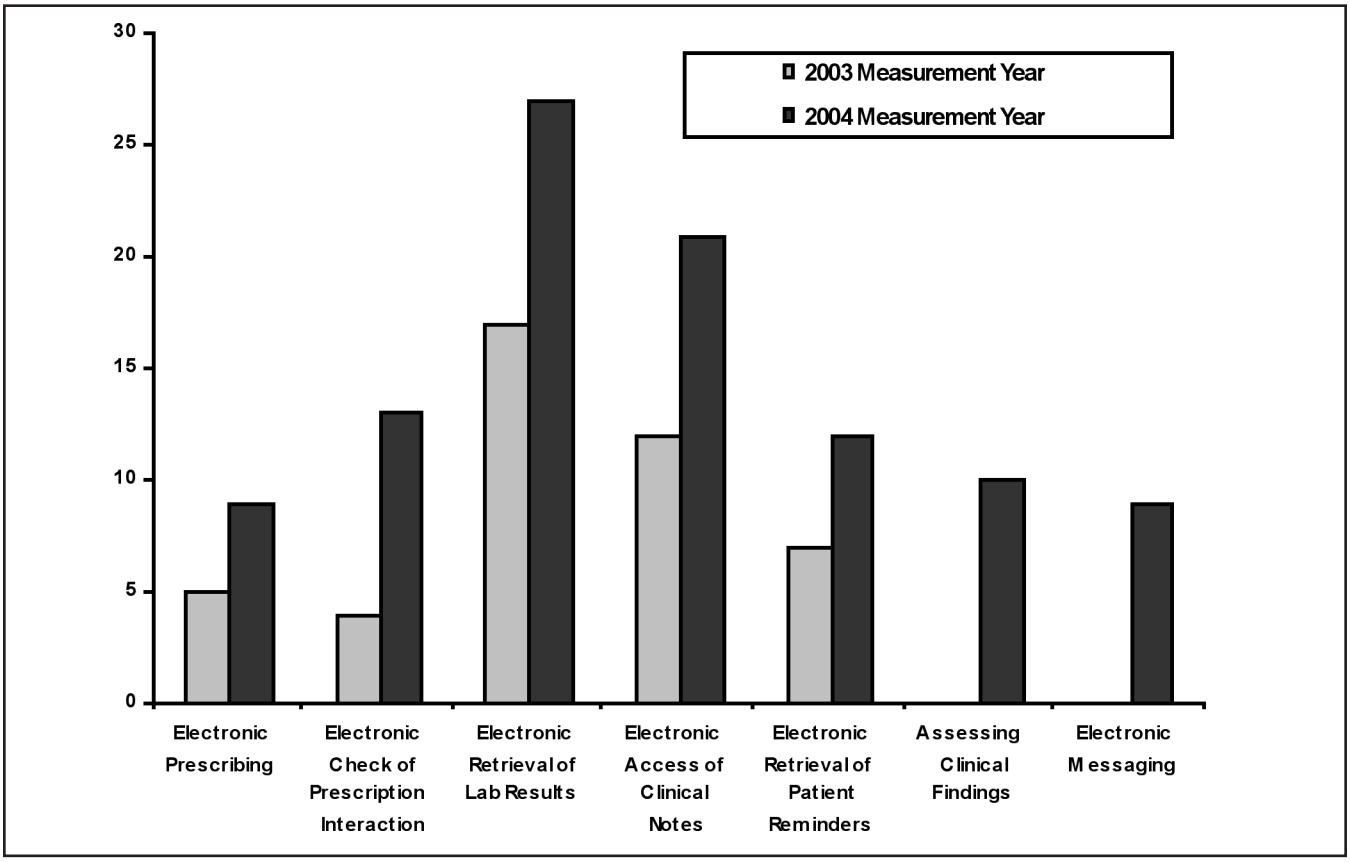

Figure 3. Point-of-Care Technology (2003/2004 Results)

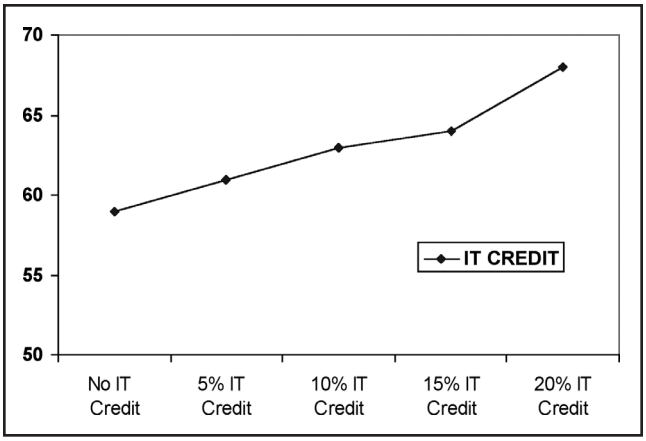

Figure 4. Clinical Measure Averages by IT Score (2004)[10]

REFERENCES

1. Bridges to Excellence; http://www.bridgestoexcellence.org/bte/bte_pressrelease_7.htm
2. Med-Vantage, Inc, http://www.healthcare-informatics.com/newsclips/documents/P4P_2004Survey.pdf
3. Pawlson LG. Pay for Performance: Two Critical Steps Needed to Achieve a Successful Program. The American Journal of Managed Care 2004 November (supplement content): 4–6.
4. Epstein AM. Paying Physicians for High-Quality Care. The New England Journal of Medicine 2004 January 22; Vol. 350#4: 406–410.
5. Rosenthal MB, et al. Pay for Quality: Provider Incentives for Quality Improvement. Health Affairs 2004; Vol. 2: 127–141.
6. Damberg CL, Raube K. Physician Group Leadership Survey, Report to Integrated Health Care Association Board of Directors, 2005 July.
7. HEDIS is a registered trademark of the National Committee for Quality Assurance (NCQA), Washington, DC.
8. Casalino L, et al. External Incentives, Information Technology, and Organized Processes to Improve Health Care Quality for Patients With Chronic Diseases. JAMA 2000 January 22/29; Vol. 289#4: 439.
9. The number of IT-related activities to achieve maximum credit increased from two in 2003 to four in 2004.
10. Physician organizations can "self-report" clinical results rather than use data submitted by health plans. To avoid the possible confounding variable created by self-reporting physician organizations, NCQA completed the analysis reflected in Figure 4 using only data submitted by health plans.