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Gastroenterologists' Experience with the 2007 Physician Quality Reporting Initiative (PQRI): A Demonstration Project

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INTRODUCTION

In July 2007, the Centers for Medicare and Medicaid Services (CMS) launched the Physician Quality Reporting Initiative (PQRI), a voluntary program offering health-care providers an incentive bonus to report quality measures related to medical practice.¹ In its inaugural form, PQRI did not require *compliance* with quality measures. Rather, it was designed to reward practitioners who simply *reported* whether or not they evaluated patients for specific measures, denoted as “pay for reporting.”

The PQRI was established by the Tax Relief and Health Care Act of 2006,² reflecting the U.S. government's desire to see improvements in the health care delivered to Medicare beneficiaries. This was further evidence of a paradigm shift in how CMS thought of itself in terms of being a third-party payer. Replacing its historical function to passively pay for health care, CMS wanted to reward health care providers who make efforts to improve the quality of care they deliver, thereby gaining better value for every CMS dollar spent, a concept designated “value-based purchasing.”³

Of the 74 quality measures included in the 2007 PQRI, four related to gastroesophageal reflux disease (GERD) for gastroenterologists who wanted to participate. These measures were developed by the American Gastroenterological Association in conjunction with the American Medical Association's Physician's Consortium for Performance Improvement and adopted by

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the Ambulatory Care Quality Alliance (known as the AQA) for use by CMS.⁴ The four measures were:

1. The percentage of patients aged 18 years and older with a diagnosis of GERD, seen for an initial evaluation, who were assessed for the presence or absence of the following alarm symptoms: involuntary weight loss, dysphagia, and GI bleeding.
2. The percentage of patients aged 18 years and older with a diagnosis of GERD, seen for an initial evaluation, with at least one alarm symptom who were either referred for upper endoscopy or had an upper endoscopy performed.
3. The percentage of patients aged 18 years and older with a diagnosis of GERD or heartburn whose upper endoscopy report indicates a suspicion of Barrett's esophagus who had a forceps esophageal biopsy performed.
4. The percentage of patients aged 18 years and older with a diagnosis of GERD, seen for an initial evaluation, who did not have a barium swallow test ordered.

Health care providers participating in fee-for-service Medicare were to report additional Current Procedural Terminology (CPT) codes known as either CPT-II codes or "G" codes that corresponded to each measure as they applied to individual patients. Codes were included for both compliance and non-compliance with the measure (e.g. patients NOT assessed for alarm symptoms were also included). Exclusion-modifier codes existed for cases where providers felt particular patients did not fit the criteria indicated by the measures. This would enable a provider to report on every fee-for-service Medicare patient seen with specific GERD-related International Classification of Diseases, 9th revision (ICD-9) codes. Therefore CMS could determine both a numerator value (the number of Medicare patients for whom PQRI codes were reported) and a denominator value (the number of patients with specific ICD-9 codes reported on Medicare billing forms, and thus eligible for PQRI reporting). If this calculation demonstrated measure reporting by clinicians for at least 80% of eligible patients, the clinician had reported "successfully". For clinicians to receive a bonus payment, they needed to report successfully on at least three measures applicable to their specialty. Therefore, gastroenterologists had to report on at least three of the four GERD measures. The bonus offered was 1.5% of total allowed Medicare part B charges, subject to a cap, and reflected patients seen between July 1 and December 31, 2007.

The purpose of the current study was to assess the reasons for, ease of compliance with, and any pitfalls encountered by gastroenterologists participating in the 2007 PQRI program. The goal was to provide insight about PQRI to gastroenterologists considering future participation, as well as to inform feedback about the program to CMS.

METHODS

This study was approved by the Institutional Review Board of Boston University Medical Center. We invited 15 practices to participate in a series of web-based surveys (KeySurvey.com, Braintree, MA) and follow-up phone calls to collect data about the practice, their reasons for interest in PQRI, and their experiences during and after the 2007 PQRI program. Invited practices were identified by members of the American Society for Gastrointestinal Endoscopy's Health and Public Policy Committee and the Practice Management Committee as having physicians with potential interest in PQRI. We specifically did not offer incentives to the practices in order to avoid exerting influence over their commitment to participation in PQRI.

A physician or practice manager from each practice volunteered to answer surveys before, during, and after their 2007 PQRI experience, including whether or not they received bonus payments from CMS. Practices were surveyed in May 2007 (prior to the start of PQRI),

September 2007, January 2008 and September 2008. We used Likert-type scales to measure the importance of potential reasons for participation in PQRI and the ease of participation. We asked participants: "Overall, have you found reporting of PQRI measures to be:" with possible responses including "1) Much easier than anticipated, 2) Somewhat easier than anticipated, 3) About what I anticipated, 4) Somewhat harder than anticipated, and 5) Much harder than anticipated."

Results are presented with descriptive statistics only as the invited sample was small. Calculations were performed using SAS version 9.1 for Windows (SAS Institute, Cary, North Carolina).

RESULTS

Practice Information

Of the 15 invited practices, 14 provided information for this study. Six practices never launched a PQRI program citing concerns that the potential bonus was likely too low to justify the perceived efforts (n=3), insufficient time to participate due to other recent changes in the practice (n=2), and the recent loss of a health information manager (n=1). The remaining 8 practices that did attempt to participate in PQRI were included for analysis. All were at least 10 years old and were located in California, Florida, Kentucky, Massachusetts, Minnesota, Tennessee (n=2), and Virginia. Six were located in urban settings and two in suburban settings. Seven were private practices and one was based in an academic medical center. Seven practices were GI specialty-specific, and one was a multi-specialty practice. The median practice size was 11 gastroenterologists (range 4–50; IQR 5–14). Office volume ranged from <5,000 to >40,000 office visits per year. Five of eight practices used electronic health records (EHR) and five participated in other pay-for-performance (P4P) programs. Only four of the practices had formally estimated the bonus they might receive, with the mean (SD) estimate per gastroenterologist expected to be \$1,148 (\$752).

Participation in PQRI

The relative importance physicians gave for participation in PQRI are shown in Table 1. The most important reason for participation (1=not at all important, 3=somewhat important, 5=very important) was to prepare for anticipated mandatory P4P programs (median score 5; range 4–5; IQR 4–5), while the bonus payment was less important (median score 4; range 1–5; IQR 2.5–5). Only two practices considered participation very important for improving the quality of health care delivered.

Estimated costs associated with starting a PQRI program ranged from <\$1,000 to >\$10,000, and all practices devoted 1–5 staff hours per week to launch the PQRI programs. One practice estimated 10 staff-hours per week were required to maintain the program, while the remainder estimated an ongoing 1–5 staff-hours weekly. Six practices encountered obstacles in establishing a PQRI program. These were: problems in getting EHRs programmed correctly (n=2), the late release of measure specifications by CMS (which made it difficult to know exactly what to report; n=3), resistance by physicians to participation (n=2), and simply the logistics required to determine how to implement the program (n=2). One practice commented on the need to ensure patients would not get billed for each measure reported, as their electronic billing forms required a nominal value entry (e.g. one cent) for each G code listed. Several weeks were needed to make and test software changes to EHRs and this caused one practice to start so late, that no measures got reported, despite spending >\$4,000 on computer programming. Overcoming resistance to participation on the part of practice physicians required group meetings, training classes, and one-on-one meetings with a medical director. Three practices reported further obstacles once the program was operational. One noted a need

for further education of the physicians, and two reported difficulties in remembering to fill out the paper forms they used for reporting.

Among the seven practices that reported measures to CMS, the median score for ease of participation (1=difficult, 4=neutral, 7=easy) was 4 (range 2–6, IQR 2–6). Most practices found reporting measures to be approximately what was anticipated (n=4), while two practices found reporting somewhat or much easier than anticipated, and one found reporting somewhat harder than anticipated.

There were various methods used to capture appropriate codes for reporting to CMS, but these could be broadly categorized as paper-based (n=3) and EHR-based (n=4) methods. Paper-based methods involved use of a one page form with quality measure descriptions and coding check-boxes. One practice kept these in folders scattered throughout the office and practitioners had to remember to fill one out when seeing a Medicare patient. In another practice, these forms were affixed to the paper charts of Medicare patients by office staff prior to the patient encounter. Paper forms were passed on to billing staff who would verify accuracy before submitting to CMS.

The remaining practices relied on their EHR to track patients. In one case, when a physician selected an ICD-9 code associated with a PQRI measure, the billing was routed to a specific person who coded for PQRI. Others had rule-based programs written to generate the appropriate CPT-II or G codes for inclusion with the bill. In some cases, pop-up screens would appear when specific ICD-9 codes were entered in the electronic billing form. These pop-up menus allowed physicians to choose the measures to report and which G codes were to be submitted.

Successful Reporting

Among the seven practices that reported measures to CMS, four had gastroenterologists who were successful in receiving a bonus payment. The mean (SD) payment to these practices was \$6,759 (\$5,285) and the mean (SD) payment per gastroenterologist was \$703 (\$389). Three of the four successful practices employed an EHR-based system, and the fourth used a paper-based system. There was a fourth EHR-based practice whose physicians fell significantly short of the 80% compliance requirement to qualify for a bonus payment. In this case, the practice's Information Technology department did not make it mandatory to fill in PQRI boxes on their pop-up menus. The practice contact suspected they would have received bonus payments if completion of these check-boxes was a required field before electronic billing could proceed. After implementing this change for the 2008 PQRI, the practice found compliance rates close to 100%. The multi-specialty practice that used a paper-based system of reporting had five of 29 physicians receive bonus payments- three were internists and two were obstetrician-gynecologists reporting on non-GERD measures. None of the seven gastroenterologists in the practice received a bonus.

Table 2 includes various aspects about the participating practices characterized as whether or not they were successful in receiving a PQRI bonus (limited to gastroenterology). Among those that were successful, the bonus payment was characterized as "somewhat more than expected" by one, "about what was expected" by one, "about half of what was expected" by one, and "much less than expected" by the fourth. All four considered the bonus sufficient to cover the costs for participating, although one commented that these monies "just barely" covered costs. Three continued to participate in PQRI in 2008, but the fourth practice (that is EHR-based) did not, citing the low bonus payment as insufficient to justify addressing the new measures used by CMS for that year.

Physicians participating in PQRI were invited to access confidential personal feedback reports from the CMS website revealing the number of instances they reported successfully for each measure, enabling comparison to benchmarking data from the overall program. Unfortunately, this was deemed difficult by several practices. One manager commented that “the process to gain access is extremely tedious and requires multiple steps and security clearances... I did receive communication last week via a Medical Group Management Association email that stated multiple providers have gained access to the CMS system to review their data, however their data was not there, so I’m not sure what the end results will be...” Another manager wrote, “the registration part to get access to the reports was where we had the most difficulty. Once we got the security official verified and got through the tricky wording on the registration, we had no problems.”

Overall Impressions of PQRI

There were several comments offered by physicians describing their overall impressions of the 2007 PQRI. One physician summarized: “We’re not doing this because of financial incentives; and not because measures reflect quality... we’re doing it because it is automated, and because of the expectation that better measures will arise in the future.” Others shared this sentiment, questioning the validity of the quality measures used and characterizing the financial incentive as too low to impact physician behavior. One physician remarked that PQRI “seems much too complex for a four doc[tor] non-automated practice to fuss with; we earn FAR MORE for paying attention to coding co-morbid diagnoses within our managed care programs... than we would ever earn through PQRI structured currently.” Another stated that “PQRI will not drive quality or change practice unless the compensation is significantly increased and the process of measure development is eased.”

DISCUSSION

We monitored a broad range of gastroenterology practices as they navigated their way through the 2007 PQRI program and found that successful reporting was possible, although with mixed results. We found that initial motivation for participating related more to anticipation of mandatory reporting programs than a desire to improve health care delivery or even to receive the incentive bonus. Despite a range of start-up costs, most practices spent \$5,000 or less to participate and committed approximately one to five staff-hours per week. One of the three practices using a paper-based system reported successfully, while three of the four practices relying on EHRs were able to report successfully.

The Centers for Medicare and Medicaid Services announced in July 2008 that more than 56,700 health professionals satisfactorily reported quality information as part of the 2007 PQRI.⁵ Considering that over 109,000 health care providers participated in PQRI, the rate of successful reporting was 52%, concordant with the 43% observed in our study. The average PQRI incentive payment to individuals was between \$600 and \$700 dollars and the average payment to physician group practices was over \$4,700. These values were likewise similar to what we observed among the four gastroenterology practices that successfully reported on PQRI measures, and suggest that, despite our small sample size, our results are a reasonable representation of physicians’ experiences outside of this demonstration project.

The effectiveness of any P4P (or in this case, pay-for-reporting) program will depend upon several factors relating both to the incentive offered and to the medical practice targeted for change.⁶ We believe that the size of the incentive will play a large role in motivating physicians to alter their practice pattern, and this was specifically commented upon by the practitioners in our study who felt the 1.5% bonus was not particularly compelling. This observation was also made in a recent study in which the investigators monitored rates of achievement of quality improvement targets among 154 physician groups (5,350 physicians) as P4P contracts were

phased in gradually between 2001 and 2003 in Massachusetts.⁷ The investigators found that incentives may need to exceed \$2,000 per physician or \$100,000 per physician group, or both, before such programs yield results. The 2009 version of PQRI allows for a 2% incentive bonus without a cap, perhaps indicating CMS's acknowledgement that the 1.5% bonus in 2007 may have been inadequate.

The cost of improving quality will also be a factor for any physician or practice considering participation in a voluntary program such as PQRI. For instance, if physicians feel the need to purchase an EHR before participating in PQRI, the government might achieve greater participation by granting tax credits to help practices obtain and maintain EHRs. In fact, CMS included the use of an EHR as a new quality measure in the 2008 PQRI measure set in order to stimulate interest in this technology. However, a recent national survey of nearly 2,800 physicians found only 17% had access to some form of EHR in their office, and only 4% were using a fully functional electronic-records system.⁸ In that study, larger practice size was significantly associated with having an EHR, suggesting that smaller practices may face greater obstacles to successful participation in PQRI. These results are supported by the findings in our study that the larger practices among this sample appeared more likely to have an EHR in place, participate in other P4P programs, and successfully report on the 2007 PQRI measures.

Several practitioners in our demonstration project also questioned the validity of the quality measures used within the 2007 PQRI. The fact that CMS did not include these GERD measures in the 2008 measure set substantiates their concerns, and raises questions about the legitimacy of the entire measurement process. Quality measures, and the means by which they are reported, must be proven valid if physicians are going to devote resources to PQRI. Some physicians in this demonstration project were reluctant to continue in PQRI if the measures change from year to year. There is a cost associated with developing a system for reporting measures to CMS, whether it is reprogramming an EHR, or retraining physicians on how to report new measures. Practices may wish to avoid PQRI unless they receive assurances that measures will be stable over time.

We acknowledge certain limitations of our study. We specifically invited practices considered a priori to be highly motivated and capable of successful participation in PQRI. Our results may therefore be biased towards demonstrating a greater success rate than would be observed among a more generalized population of gastroenterologists. Another limitation is our small sample size, limiting our ability to identify practice-related variables associated with successful participation based upon statistical modeling. Finally, we have no way to be sure that the estimates of cost and staff hours required to participate in PQRI are accurate. However, this information was collected prospectively, well before practices received (or did not receive) bonuses. Therefore these estimates should not be biased by successful or unsuccessful reporting.

There were changes made to PQRI in 2008 and 2009 to make it a more "user-friendly" program. In addition to the increased bonus payment in 2009, CMS introduced more quality measures and offered a registry-based reporting option. Other options included alternative starting dates during a calendar year and the ability to report certain grouped measures. Details of the PQRI program are available at www.cms.hhs.gov/pqri.

In summary, participation in PQRI is feasible for gastroenterology practices, but should not be interpreted as a significant source of revenue at this time. Rather, physicians in the demonstration project considered this participation as good practice for anticipated future mandatory reporting programs. It appears that EHR-based systems for reporting may work better than paper-based systems, but this bears further study. If a practice uses an EHR, we suggest that programming changes begin several weeks or months prior to commencement of

reporting. Furthermore, if using an EHR, the use of required fields or other mandatory check-boxes may better ensure compliance among practitioners and help achieve higher participation rates. The use of valid quality measures may help achieve improved “buy in” by physicians and make the introduction of PQRI into a practice less onerous. As the focus on health care quality continues, it behooves the gastroenterological community to develop quality measures with real potential for positive impact on health outcomes and to test these measures to ensure validity. The use of such proven measures may be more readily adopted by practicing physicians, regardless of financial incentives, given our underlying interest in providing the best possible care to our patients.

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Table 1

Importance of Reasons for Participation in the 2007 Physician Quality Reporting Initiative

Reason for Participation	Median Score (IQR)
To receive the 1.5% bonus	4.0 (2.5–5.0)
To prepare for future mandatory participation	5.0 (4.0–5.0)
To improve the quality of health care delivered	2.5 (2.0–4.0)
To enhance our practice's image with patients	1.0 (1.0–3.0)
To help with the demonstration project	3.5 (2.0–4.0)

IQR = interquartile range

Score based on the following Likert-type scale: 1=not at all important, 3=somewhat important, 5=very important

Table 2
Practice-associated Variables and Successful Reporting of Quality Measures

Practice	Number of Gastroenterologists	Office volume per Year (in 1000s)	% of patients insured by Medicare	EHR used for PQRI	Participate in other P4P programs	Start up costs - for PQRI (in 1000s)	Staff-hours spent per week on PQRI	Participated in 2008 PQRI	Successful Reporting
A	7	10-20	30	Yes	No	<\$1	6-10	No	Yes
B	7	10-20	30	No	Yes	\$1-5	6-10	Yes	Yes
C	11	40-30	30	Yes	No	\$1-5	1-5	Yes	Yes
D	24	>40	10	Yes	Yes	<\$1	1-5	Yes	Yes
E	4	<5	10	No	Yes	<\$1	1-5	No	No
F	5	10-20	20	No	Yes	<\$1	1-5	Yes	No
G	50	>40	20	Yes	Yes	>\$10	1-5	Yes	No

Successful reporting indicates whether or not any of the physicians in the practice received a bonus incentive from CMS for reporting on at least three quality measures at least 80% of the time.
EHR=electronic health record; P4P=pay for performance