



SURVEYS OF QUALITY IMPROVEMENT

CENTERS FOR MEDICARE & MEDICAID SERVICES

2007 Remeasurement Office Systems Survey

Analytic Report

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EXECUTIVE SUMMARY

The Centers for Medicare & Medicaid Services (CMS) delivers assistance and information to the Medicare provider community through its Quality Improvement Organization (QIO) program. The CMS contracts with QIOs to work on a series of provider-centered tasks intended to ultimately improve the care delivered to Medicare beneficiaries. In the 8th Scope of Work (SOW) (as in the 7th SOW) an evaluation is part of the CMS-QIO contracts. Westat and Masspro (the QIO in Massachusetts), conducted surveys of Medicare providers in order to supply CMS with feedback for its evaluation of the QIO program. In order to reduce burden on 1d1 practices,¹ questions on satisfaction, knowledge, and value were added to the Office Systems Survey (OSS), a survey on electronic clinical information (ECI).

The OSS was designed to measure adoption and use of electronic clinical information among small to medium sized physician practices, and to assess physicians' satisfaction, knowledge, and perception of their state QIO. Through the OSS, CMS tracked progress of this work over the course of the 8th SOW by conducting a baseline and remeasurement survey. The baseline OSS, conducted in 2006, consisted of 3,950 physician office practices; the remeasurement OSS included 3,606 physician office practices.

The average OSS satisfaction composite score was 86 percent. Satisfaction scores ranged from a minimum of 61 to a maximum of 98 percent. Eighty-two percent of QIOs received a satisfaction score of 80 percent or more. In contrast, the average QIO knowledge and value score was 72 percent. Only 28 percent of QIOs received a knowledge and value score at or above 80 percent. Knowledge and value scores ranged from a minimum of 50 percent to a maximum of 92 percent (see Table 1).

Table 1. A summary of OSS scores

	Description	OSS satisfaction subcomposite (%)	OSS knowledge and value subcomposite (%)
QIO Scores	National Average	86	72
	Min – Max	61 – 98	50 – 92

Source: Office Systems Survey, September 2007

¹ Physician practices and Medicare Advantage (MA) Plans

The QIO community as a whole scored high on the overall elements of provider satisfaction as measured by the OSS. More than three-quarters of respondents reported being very satisfied with each of the elements of QIO service. Satisfaction with QIO timeliness was identified as a significant driver of overall physician satisfaction. Timeliness was also a key driver of physician perception that QIO assistance was worth the time and effort spent.

In addition to reporting on their satisfaction with overall elements of QIO service, providers reported on their satisfaction with QIO assistance in the adoption of electronic clinical information. Satisfaction with ECI assistance was lower than satisfaction with general elements of QIO service. More than one-quarter of providers reported being neither satisfied nor dissatisfied with QIO assistance in ECI adoption (response of *neutral*).

The responses to the value questions were notably different across the three items included in the value composite. While 83 percent of providers agreed that assistance received from the QIO was worth the time and effort, only 56 percent agreed that they could not have gotten where they were in adoption and use of health information technology (HIT) or care management process improvement without the QIO's help. Trend analysis showed that between the baseline and remeasurement surveys there were significant (8%) increases in scores for QIO contribution to HIT and care management process improvement.

Among the providers, knowledge of QIO and CMS initiatives was quite high. More than 90 percent of physician offices were aware that CMS was testing pay for performance as a means to improve quality. Seventy-one percent of respondents knew that the QIO also worked with nursing homes, hospitals, and home health agencies in quality improvement projects. Through the trend analysis comparing the baseline and remeasurement knowledge scores, Westat found that there was a statistically significant (10%) increase in provider knowledge of QIO settings and pay for performance.

1. INTRODUCTION AND METHODOLOGY

This report provides an analysis of the findings from the 2007 Remeasurement Office Systems Survey, conducted in September 2007. Analysis includes descriptive analyses, key driver analyses, and trend analyses between the baseline (2006) and remeasurement (2007) surveys. We begin by providing a brief overview and introduction to the OSS. A detailed scoring description for the OSS is included in the document Surveys of QI: Survey Scoring for 8th SOW.

1.1 Introduction

Under the direction of the Centers for Medicare & Medicaid Services (CMS), the Quality Improvement Organization (QIO) Program consists of a national network of 53 QIOs, responsible for each U.S. state, territory, and the District of Columbia. The QIOs work with consumers, physicians, hospitals, and other caregivers to refine care delivery systems to ensure that patients receive the right care at the right time. Through QIOs and End-Stage Renal Disease Networks (ESRD), as well as in partnership with other stakeholders, the program assists providers in transforming health care quality.

As noted earlier, the current QIO contract with CMS is the QIOs' 8th Scope of Work (SOW). Under this SOW, the QIOs have been tasked with many initiatives aimed at improving effectiveness, efficiency, and economy, all toward the end goal of improving the quality of health care services delivered to the Medicare beneficiary. Among these goals is to demonstrate improvement in clinical measures through the Doctor's Office Quality – Information Technology (DOQ-IT). The Office Systems Survey was designed to measure adoption and use of electronic clinical information among small to medium sized physician practices and to assess physicians' satisfaction, knowledge, and perception of their state QIO. Through the OSS, CMS tracked progress of this work over the course of the 8th SOW by conducting a baseline and remeasurement survey.

In addition to building a picture of the adoption of health information technology among providers, the OSS gathers information about physicians' satisfaction regarding their interactions with their state-level QIO, their knowledge of CMS initiatives and QIO mandate, and their perception of the value added by the QIO. With OSS baseline and remeasurement data available, this summary report will

describe the current levels of provider satisfaction, knowledge, and perception of QIO value and will illustrate the trends for these measures over the course of the 8th SOW.

1.2 Survey Methodology

The Office Systems Survey is one of the provider surveys that was conducted for CMS in the 8th SOW. Westat helped CMS design and test a series of provider satisfaction survey instruments for Tasks 1a, 1b, 1c, 1d2, 1d3 and the MA Plans. In order to avoid having physician offices (representing Task 1d1) participate in multiple surveys under the 8th SOW, questions on satisfaction, knowledge, and value were added to the Office Systems Survey instrument focusing on the adoption of HIT. (Refer to Appendix A for a copy of the questionnaire.) The OSS was administered by Masspro, with the analysis and scoring of satisfaction, knowledge, and value composites conducted by Westat.

Each QIO was responsible for recruiting 5 percent of the primary care physician practices in the state to participate in the DOQ-IT program. In order to participate in DOQ-IT, the physician practices were required to complete the Office Systems Survey. The survey was directed at the practice office administrator, as this person was deemed to be the most knowledgeable in the majority of circumstances. The OSS contained a data attestation that certified that the survey “is a correct assessment of this practice,” designed to ensure that a leader in the practice agreed to the accuracy of the responses.

The baseline OSS was administered to 4,518 small to medium sized physician practices nationally while the remeasurement survey was administered to 3,606 practices.

The 2007 OSS opened on July 16, 2007, with data collection continuing through September 30, 2007. The remeasurement survey was aimed at measuring the degree of health information technology adoption after the introduction of QIO programs and initiatives. The feedback from physicians on elements of satisfaction, knowledge, and value represented the attitudes and awareness of providers who had a relationship with the QIO in their state that had been established over the course of at least 1 year.

The OSS was available via the Internet and on paper. Each practice participant was mailed a packet that included a user name and password for the electronic version, as well as a paper copy of the survey and instructions for completing both the online and paper surveys. In order to maximize the number of survey respondents, Masspro and its data collection partner, the Maine Health Information

Center (MHIC), provided QIOs with access to an administrative reporting system that tracked the progress of their survey participants. This tool reported survey results in real time so that QIOs could tailor their outreach programs to target only those practices that did not complete the survey. Masspro and the MHIC also staffed a Help Desk to assist either QIO or survey respondents telephonically, or via email, with any questions or issues.

After the conclusion of the data collection period, Masspro and the MHIC performed data entry and in-depth data cleaning. Paper surveys were a significant challenge; to ensure the highest degree of accuracy in data keying, all data were keyed twice with an automated system to recognize keying discrepancies. Where discrepancies were discovered, the survey was reviewed by a data management supervisor. Since the survey required a response to all questions (unless skips were allowed based on previous responses), many were returned to physician practices to be completed. Ensuring that these surveys were completed required the combined resources of the MHIC, Masspro, and the QIO.

Once all data were keyed, web and paper survey data were thoroughly reviewed and cleaned. The aim of the data cleaning was to ensure that respondents had accurately followed all skips and that crucial elements of data were present in all completed surveys.

1.3 Sample Disposition

Data collection efforts resulted in 3,606 completed surveys, a 91 percent response rate across all QIOs. Table 1-1 shows the number of completed surveys by QIO.

Table 1-1. Survey completes by QIO

QIO	Number completed
Alaska	9
Alabama	54
Arkansas	87
Arizona	73
California	254
Colorado	53
Connecticut	41
District of Columbia	14
Delaware	16
Florida	211
Georgia	59
Hawaii	23
Iowa	42
Idaho	20
Illinois	187
Indiana	83
Kansas	40
Kentucky	74
Louisiana	65
Maine	159
Maryland	44
Maine	18
Michigan	121
Minnesota	25
Missouri	81
Mississippi	34
Montana	11
North Carolina	45
North Dakota	5
Nebraska	22
New Hampshire	14
New Jersey	155
New Mexico	19
Nevada	25
New York	249
Ohio	144
Oklahoma	52
Oregon	42
Pennsylvania	189
Puerto Rico	44
Rhode Island	21
South Carolina	30
South Dakota	11
Tennessee	133
Texas	295
Utah	20
Virginia	62
Virgin Islands	4
Vermont	15
Washington	52
Wisconsin	25
West Virginia	26
Wyoming	9
All QIOs	3,606

2. DESCRIPTIVE ANALYSIS

In this chapter we provide a descriptive overview of the findings and results from the 2007 Remeasurement Office Systems Survey. The chapter includes sections on provider (OSS) survey scores, provider satisfaction, perception of QIO value, and knowledge of QIO and CMS initiatives. The OSS results were combined with the 2007 Provider Survey results for Medicare Advantage plans to calculate Task 1d1 provider scores. For more details on the scoring under the 8th SOW see the document *Surveys of QI: Survey Scoring for 8th SOW*. For more information on Task 1d1 and other provider survey results, please refer to the 2007 Provider Survey.

2.1 Provider (Office Systems Survey) Scores

The 2007 Provider Survey scores were based on an algorithm CMS created and documented in its 8th SOW for the QIO program. The scores were generated by combining three of the survey sections: knowledge of QIOs and CMS, satisfaction with the QIO (including satisfaction with QIO technical assistance), and perceived value of the QIO program. In the CMS scoring grid, knowledge and perceived value were combined, forming one scoring component, with satisfaction as the second component. The satisfaction section contributed the most weight to the provider survey score, with much smaller contributions from the value and knowledge sections of the survey.

The final OSS remeasurement instrument for the 8th SOW included 16 items that were used in scoring composites. The three survey scoring concepts and the content of the 16 scored items are as follows:

- **Knowledge of CMS**
 - Item 3.3a. Awareness of CMS pay for performance/incentive programs
 - Item 3.3b. Awareness that the QIO worked with a variety of provider groups
- **Satisfaction with the QIO**
 - Item 3.1a. Satisfaction with the timeliness of the QIO's response
 - Item 3.1b. Satisfaction with professionalism, courtesy, and respectfulness of QIO staff

- Item 3.1c. Satisfaction with ease of access to the QIO
- Item 3.1d. Satisfaction with the overall QIO services
- Item 3.5a. Satisfaction with QIO assistance assessing practices' technology needs
- Item 3.5b. Satisfaction with QIO assistance providing information on technology options
- Item 3.5c. Satisfaction with QIO assistance with vendor selection
- Item 3.5d. Satisfaction with QIO assistance preparing for electronic health record (EHR) implementation
- Item 3.5e. Satisfaction with QIO assistance improving quality of care in the practice
- Item 3.5f. Satisfaction with QIO assistance improving practice efficiency
- Item 3.5g. Satisfaction with overall QIO assistance with adoption of EHR

■ **Perceived Value of the QIO Program**

- Item 3.2a. Agreement that QIO assistance was worth time/effort required on part of provider
- Item 3.2b. Agreement that provider could not have gotten where it was in adoption and use of HIT without QIO's help
- Item 3.3c. Agreement that the provider could not have gotten where it was in care management process improvement without QIO's help

Table 2-1 presents a summary of the OSS scores. Scores for the satisfaction composite ranged from 61 percent to 98 percent, while knowledge and value scores ranged from 50 percent to 92 percent.

Table 2-1. A summary of OSS scores

Description		OSS satisfaction subcomposite (%)	OSS knowledge and value subcomposite (%)
QIO Scores	National Average	86	72%
	Min – Max	61 – 98	50 – 92

Source: Office Systems Survey, September 2007

The satisfaction scores were the higher of the two composite scores. Forty-two of the 51 QIOs received a satisfaction score of 80 percent or more, while more than one-third of the QIOs had satisfaction scores at or above 90 percent.² The average QIO satisfaction score was 86 percent. Figure 2-1 presents the distribution of QIO satisfaction scores from the remeasurement OSS.

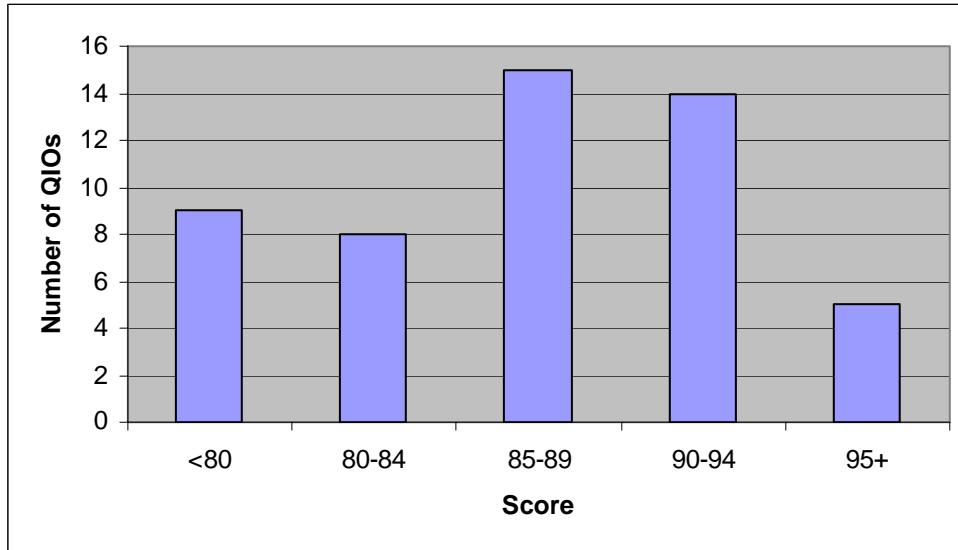


Figure 2-1. Distribution of QIO OSS satisfaction scores

Figure 2-2 presents the distribution of QIO knowledge and value scores from the OSS remeasurement survey. Seventy-two percent of QIOs received a knowledge and value score that was less than 80 percent. Only six QIOs had composite scores at or above 85 percent. The average QIO knowledge and value score was 72 percent.

² Two QIOs had OSS scores suppressed due to small sample sizes.

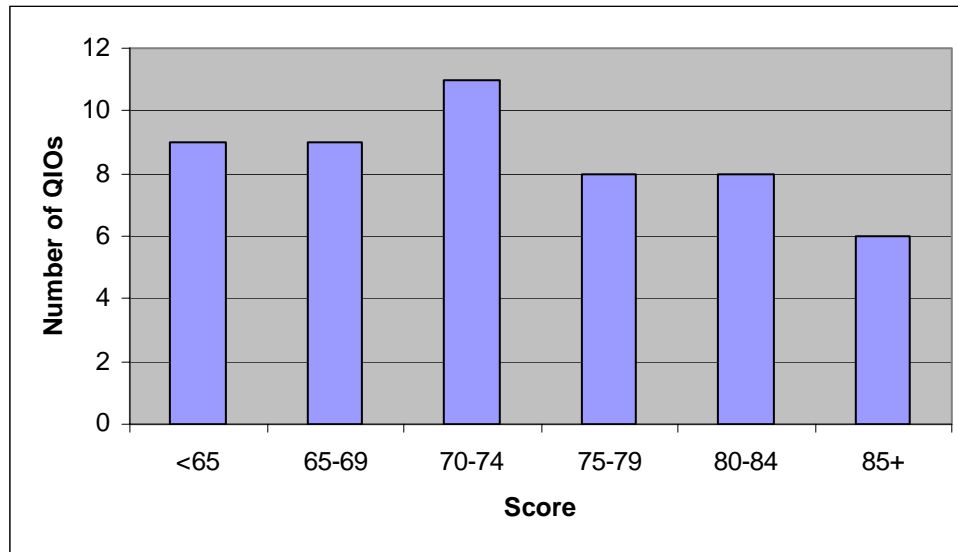


Figure 2-2. Distribution of OSS knowledge and value scores

2.2 Provider Satisfaction

The OSS survey used two sets of questions to measure provider satisfaction with the QIO. The first set of questions focused on general elements of satisfaction including timeliness, professionalism, courtesy and respectfulness, ease of access to QIO staff, and overall interactions with the QIO. The second set of satisfaction questions centered on provider satisfaction with the assistance provided by the QIO to help with HIT adoption. All satisfaction questions used a five-point scale ranging from Very Satisfied to Very Dissatisfied. Table 2-2 presents the satisfaction questions included in the 2007 Office Systems Survey.

Table 2-2. OSS satisfaction questions

	Question wording
Timeliness (Q3.1a)	How satisfied is your practice with the QIO work in the following areas: timeliness of the QIO's response to questions or requests for assistance?
Professionalism (Q3.1b)	The professionalism, courtesy and respectfulness of the QIO staff?
Ease of Access (Q3.1c)	The ease of access to the QIO staff (when you try to contact them)?
Overall (Q3.1d)	Thinking about all interactions with the QIO, how satisfied are you with their services?
Assessing Technical Needs (Q3.5a)	How satisfied is your practice with the assistance provided by the QIO in the following areas: assessing your practice's technology needs?
Information on Technology Options (Q3.5b)	Providing information on technology options?
Help Selecting Vendor (Q3.5c)	Helping with vendor selection processes?
Preparing EHR (Q3.5d)	Preparing for EHR implementation?
Help Improving Quality of Care (Q3.e)	Helping to improve quality of care in your practice?
Help Improving Practice Efficiency (Q3.5f)	Helping to improve practice efficiency (e.g., workflow analysis and redesign, etc.)?
Overall Assistance with EHR Adoption (Q3.5g)	Overall assistance with adoption of EHR in your practice?

Source: Office Systems Survey, September 2007

Table 2-3 shows that levels of provider satisfaction with elements of overall QIO service were high. Eighty-four percent of providers reported being very satisfied with QIO professionalism. More than three-quarters of respondents indicated that they were very satisfied with QIO timeliness, ease of access to the QIO, and overall QIO services. Less than 3 percent of providers reported being dissatisfied with any of the elements of overall QIO service.

Table 2-3. Provider satisfaction with QIO

	Very Satisfied (%)	Somewhat Satisfied (%)	Neutral (%)	Dissatisfied ¹ (%)
Timeliness (Q3.1a)	76.6	10.5	10.5	2.4
Professionalism (Q3.1b)	84.2	6.4	7.6	1.8
Ease of Access (Q3.1c)	78.7	9.9	9.4	2.0
Overall (Q3.1d)	76.6	10.4	10.5	2.5

Source: Office Systems Survey, September 2007

Base: All respondents (n=3,606)

¹ Includes responses of Somewhat Dissatisfied and Very Dissatisfied

In addition to reporting on their satisfaction with overall elements of QIO service, providers reported on their satisfaction with QIO assistance in the adoption of electronic clinical information. Provider satisfaction with QIO technical assistance in ECI was lower than satisfaction with general elements of QIO service. Lower technical assistance ratings were also noted in the 2006 Baseline OSS.

Table 2-4 shows the level of provider satisfaction with technical assistance provided by the QIOs. Across all aspects of ECI technical assistance, between 42 and 52 percent of providers reported that they were Very Satisfied with the QIO assistance. Slightly higher percentages of Very Satisfied responses were noted for activities occurring in the early phases of HIT adoption, such as assessing technical needs and providing information on technical options. Less than 4 percent of respondents reported being dissatisfied with the QIO on any element of technical assistance.

Unlike satisfaction ratings for overall QIO service, there were many **neutral** responses to the technical assistance questions. Neutral responses, while not outright negative, did not count toward the percent positive calculation used to create QIO satisfaction scores. As such, the one-quarter or more of neutral responses served to significantly lower results for satisfaction with technical assistance.

Table 2-4. Provider satisfaction with QIO technical assistance

	Very Satisfied (%)	Somewhat Satisfied (%)	Neutral (%)	Dissatisfied ¹ (%)
Assessing Technical Needs (Q3.5a)	51.1	20.7	26.1	2.1
Information on Technology Options (Q3.5b)	52.5	21.1	23.9	2.6
Help Selecting Vendor (Q3.5c)	42.3	15.2	39.7	2.8
Preparing EHR (Q3.5d)	43.3	19.0	35.2	2.5
Help Improving Quality of Care (Q3.e)	44.8	24.5	28.4	2.3
Help Improving Practice Efficiency (Q3.5f)	45.1	23.1	28.8	3.0
Overall Assistance with EHR Adoption (Q3.5g)	45.5	20.1	31.4	3.1

Source: Office Systems Survey, September 2007

Base: All respondents (n=3,606)

¹ Includes responses of Somewhat Dissatisfied and Very Dissatisfied

2.3 Provider Perception of QIO's Value

Provider perception of QIO value is an important concept that has gained prominence over the past few years. For each QIO to be successful in a state, and for the QIO program as a whole to demonstrate its significance as a tool to improve the quality and economy of care delivered to Medicare beneficiaries, providers must perceive QIO tools, assistance, and expertise to be of value. Four questions within the remeasurement survey were devoted to measuring provider perception of QIO value. Table 2-5 presents the value questions included in the 2007 Office Systems Survey.

Table 2-5. OSS value questions

QIO assistance worth the time and effort (Q3.2a)	Please indicate your level of agreement with the following statements about the value of the services your practice received from the QIO. The assistance we received from the QIO was worth the time or effort required on the part of our staff.
Progress with HIT because of QIO Help (Q3.2b)	We could not have gotten where we are in the adoption and use of health information technology (EHR or e-prescribing and registry) without the QIO's help.
Progress in care management because of QIO help (Q3.2c)	We could not have gotten where we are in care management process improvement without the QIO's help.
Contribution of QIO to EHR efforts (Q3.4)	Using a scale of 10 to 0, please rate the contribution of the QIO to your EHR efforts: where 10 = "The QIO contribution was indispensable;" where 0 = "The QIO did not contribute at all".

Source: Office Systems Survey, September 2007

Provider responses to the value questions were notably different across the items. More than 80 percent of providers agreed that the assistance received from the QIO was worth the time and effort spent. In contrast only, 56 percent of providers agreed that they could not have gotten where they were in adoption of HIT and care management process improvement without the QIO help.

The findings for the OSS remeasurement value items mirrored those found in the 2006 Baseline Office Systems Survey. In 2007, there was a 25 point gap in the positive scores between questions measuring whether the assistance received was worth the effort, and attribution of practice progress to the QIO. This gap was closer to 35 points at the time of the 2006 Office Systems Survey. The QIO value scores, rose but were still lower than satisfaction scores. Relatively higher satisfaction and lower value scores is a trend that was documented across most of the QIO satisfaction surveys in the 8th SOW.³ Table 2-6 shows how providers perceived the value of the QIO contribution.

³ Relatively higher satisfaction and lower value scores were noted on the 2006 Office Systems Survey, the 2006 and 2007 survey of stakeholder satisfaction with QIOs, as well as the 2006 surveys of QIO satisfaction with QIOSCs.

Table 2-6. Provider perception of value

	Strongly Agree (%)	Somewhat Agree (%)	Neither Agree nor Disagree (%)	Disagree ¹ (%)
QIO assistance worth the time and effort (Q3.2a)	54.9	27.8	14.1	3.2
Progress with HIT because of QIO help (Q3.2b)	33.9	22.4	34.4	9.2
Progress in care management because of QIO help (Q3.2c)	33.8	22.8	35.1	8.3

Source: Office Systems Survey, September 2007

Base: All respondents (n=3,606)

¹ Includes responses of Somewhat Disagree and Strongly Disagree

On a scale from 0 to 10, where 0 means that the QIO did not contribute at all and 10 means that the QIO contribution was indispensable, the average physician office rating of the QIO contribution towards EHR efforts was 7 (see Table 2-7). Twenty-six percent of respondents reported that the QIO help was indispensable (up from 11% in the 2006 Baseline OSS), while 5 percent reported that the QIO did not contribute at all (down from 18% in the 2006 Baseline OSS).

Table 2-7. Contribution of QIO to EHR efforts

Ratings	Percent
10 (indispensable)	25.5
9	13.2
8	16.8
7	10.1
6	8.9
5	11.0
1-4	9.5
0 (did not contribute)	5.1
Mean	7.10
Median	8

Source: Office Systems Survey, September 2007

Base: All respondents (n=3,606)

2.4 Provider Knowledge

Provider knowledge of the QIO program and of QIO/CMS initiatives is critical as QIOs seek to expand the footprint of the program and take on more leadership roles in the field of health care and health promotion. To gauge provider awareness, the 2007 OSS contained two knowledge questions, shown in Table 2-8.

Table 2-8. OSS knowledge questions

	Question wording
Pay for Performance (Q3.3a)	Did you know about any of the following before today, not know this before today, or weren't sure about this? CMS is currently testing pay for performance or incentive programs as a means to improve quality.
QIO Settings (Q3.3b)	The QIO also works with nursing homes, hospitals, and home health agencies in quality improvement projects.

Source: Office Systems Survey, September 2007

Knowledge about QI initiatives among providers was quite high. More than 90 percent of physician offices were aware that CMS was testing pay for performance as a means to improve quality, up from 77 percent in the 2006 Office Systems Survey. Seventy-one percent of respondents knew that the QIO also worked with nursing homes, hospitals, and home health agencies in quality improvement projects. This was up from 58 percent in the 2006 Baseline OSS. Table 2-9 shows provider knowledge of QI initiatives.

Table 2-9. Knowledge of pay for performance and QI setting initiatives

	Knew this before today (%)	Did not know this before today (%)	Not sure (%)
Pay for performance (Q3.3a)	90.5	6.9	2.6
QI setting initiatives (Q3.3b)	71.1	23.8	5.1

Source: Office Systems Survey, September 2007

Base: All respondents (n=3,606)

3. PREDICTORS OF SATISFACTION FOR THE OFFICE SYSTEMS SURVEY

One of the techniques Westat has used in analyzing customer satisfaction data is key driver analysis. Key driver analysis uses multivariate techniques to assess the independent effects of a service or product (drivers) on measures of customer satisfaction. The goal is to make scores from a satisfaction survey actionable, and to determine which characteristics of services to focus on in order to improve or maintain overall satisfaction.

To conduct key driver analysis, Westat computed correlations for bivariate analysis and constructed multivariate linear regression models. Once the regressions were completed, we compared the relative size of the standardized regression coefficients associated with the drivers and identified the services that had the strongest influence, independent of the other characteristics in the model, on indicators of customer satisfaction and assessed value.

As a first step in the key driver analysis, we examined the bivariate relationship among and between the satisfaction and value questions. We identified strong correlations between individual measures of satisfaction and the overall satisfaction questions (corr. coeff. of 0.69-0.89). These findings point to strong psychometric properties within the satisfaction composite groupings. Similarly, the four individual measures of value had strong intercorrelations (corr. coeff. of 0.59-0.63), as well as moderate to strong correlations with measures of satisfactions (corr. coeff. of 0.28-0.59). These findings suggest that, while perception of value may be lower than reported satisfaction, the two concepts are tightly woven together.

Predictors of Satisfaction

Tables 3-1, 3-2 and 3-3 present the results from the multiple regression analyses conducted to identify predictors of provider satisfaction. Findings are presented for providers who began ECI implementation prior to the QIO intervention, for providers who had not begun ECI implementation prior to the QIO intervention, and for all providers regardless of ECI implementation status. Parameter estimates and R-square values are shown to explain variations in provider satisfaction and to identify the most important drivers of satisfaction.

Table 3-1. Predictors of core satisfaction measures: parameter estimates

	Practices that had begun ECI implementation	Practices that had not begun ECI implementation	All practices
Satisfaction with overall QIO services			
Key Driver: Satisfaction with timeliness	.37	.40	.40
Key Driver: Satisfaction with professionalism	.11	.27	.24
Key Driver: Satisfaction with ease of access	.39	.22	.25
<i>R-square for model (p<0.001)</i>	.86	.83	.84
Satisfaction with overall QIO assistance in EHR			
Key Driver: Satisfaction with help selecting vendor	.25	.12	.17
Key Driver: Satisfaction with help preparing for EHR implementation	.28	.27	.29
Key Driver: Satisfaction with help improving quality of care	.15	.18	.16
Key Driver: Satisfaction with help improving practice efficiency	.27	.21	.21
<i>R-square for model (p<0.001)</i>	.62	.76	.84

Note: An * indicates that the driver in the model was not stable and hence not reported.

Variables with a contribution of at least .15 to the models are reported in the table. Additional variables may have made minor contributions to the R-square value reported.

The R-square value for the model indicates the percent of variance accounted for by the variables in the model. To interpret this statistic for the first satisfaction model, we can say that the combination of provider satisfaction with timeliness, professionalism, and ease of access, as well as belief that progress in HIT and care management are due to QIO, account for 84 percent of the variation in overall satisfaction with QIO services.

Further, the parameter estimate of 0.4 for timeliness tells us that satisfaction with timeliness was the most important driver of overall satisfaction with QIO services. Interestingly, for providers who began ECI implementation prior to QIO intervention (ECI-providers), QIO timeliness was an important driver of satisfaction (parameter estimate = 0.37), but so too was ease of access to the QIO staff (parameter estimate = 0.39). Ease of access to QIO staff was a much less important driver of satisfaction for providers who had not begun ECI implementation (non-ECI-providers).

Turning from satisfaction to measures of value, regression analysis showed many interrelated drivers. The variable with the greatest impact on physician rating of the QIO contribution toward EHR was perception that QIO assistance was worth the time and effort required by the provider. In effect, we found that the overall value rating for the QIO was driven by another one of the value items in the survey. Drilling down further, provider assessment that QIO assistance was worth the time and effort was driven by satisfaction with QIO timeliness. To link these two models, we could say that QIO attention to timeliness should lead to increased perception that the QIO contribution is valuable. Please see Table 3-2 for parameter estimates for the predictors of value.

Table 3-2. Predictors of core value measures: parameter estimates

	Practices that had begun ECI implementation	Practices that had not begun ECI implementation	All practices
Overall QIO contribution to EHR efforts			
Key Driver: Assistance worth the time and effort	.96	1.06	.98
Key Driver: Progress in HIT due to QIO	.63	.66	.83
Key Driver: Progress in care management due to QIO	.59	.53	.46
<i>R-square for model (p<0.001)</i>	.42	.57	.54
Assistance was worth the time and effort			
Key Driver: Satisfaction with timeliness	.46	.27	.30
Key Driver: Satisfaction with help preparing for EHR implementation	.17	.05	*
Key Driver: Satisfaction with help improving quality of care	.29	.06	.13
<i>R-square for model (p<0.001)</i>	.55	.58	.57

Note: An * indicates that the driver in the model was not stable and hence not reported.

Variables with a contribution of at least .15 to the models are reported in the table. Additional variables may have made minor contributions to the R-square value reported.

In the models assessing QIO assistance in areas of HIT adoption, we identified different drivers for providers depending on their degree of ECI adoption. For all providers, a key driver of satisfaction with QIO assistance in EHR adoption was provider satisfaction with the help received in preparing for EHR implementation. ECI-providers however, had two additional drivers of satisfaction with EHR adoption: satisfaction with help in vendor selection and help improving practice efficiency.

This suggests that, as providers moved along the continuum of EHR adoption and implementation, they looked to the QIOs to provide a wider variety of assistance and information.

The model, progress in HIT adoption due to the QIO, helps to further illustrate the differences in providers at various stages of ECI implementation. For ECI-providers, the key driver for progress in HIT due to the QIO was satisfaction with QIO help preparing for EHR implementation. QIO assistance with help selecting a vendor was a more important driver for non-ECI practices.

The stepwise process in adopting and implementing electronic clinical information in a practice may include the following: assess needs, gather information on options, select a vendor, prepare for the shift to EHR, and work on improving quality of care and efficiency. The QIO must identify where the practice is on the continuum of ECI adoption and appropriately match the help offered. For most of the regression models, QIO timeliness was a lesser, but still significant, predictor of satisfaction. This suggests that, while matching the services offered to practice needs, the QIO should also note that timely response to questions or requests for assistance is critically important to maintaining provider satisfaction. Table 3-3 presents the results from the regression models for provider satisfaction with QIO assistance in HIT adoption.

Table 3-3. Predictors of satisfaction with QIO assistance in HIT adoption: parameter estimates

	Practices that had begun ECI implementation	Practices that had not begun ECI implementation	All practices
Progress in HIT due to QIO assistance			
Key Driver: Satisfaction with timeliness	*	.15	.15
Key Driver: Satisfaction with assessing technical needs	*	.15	.13
Key Driver: Satisfaction with help selecting vendor	*	.21	.21
Key Driver: Satisfaction with help preparing for EHR implementation	.49	.12	.20
Key Driver: Satisfaction with help improving quality of care	.23	.16	.12
Key Driver: Satisfaction with overall QIO assistance in EHR	.20	.12	.15
<i>R-square for model (p<0.001)</i>	.36	.47	.46
Progress in care management due to QIO assistance			
Key Driver: Satisfaction with timeliness	.19	.14	.15
Key Driver: Satisfaction with help preparing for EHR implementation	.37	*	.11
Key Driver: Satisfaction with help improving quality of care	.51	.38	.38
Key Driver: Satisfaction with overall QIO assistance in EHR	*	.15	.12
<i>R-square for model (p<0.001)</i>	.46	.47	.47

Note: An * indicates that the driver in the model was not stable and hence not reported.

Variables with a contribution of at least .15 to the models are reported in the table. Additional variables may have made minor contributions to the R-square value reported.

4. TREND ANALYSIS

The Office Systems Survey was conducted at two points in time. The 2006 Baseline OSS was designed to provide feedback to CMS and the QIO community about levels of small and medium size physician office HIT adoption. It also served as an early assessment of physicians' satisfaction with their state QIO. Approximately 1 year later, the 2007 Remeasurement OSS was conducted. The remeasurement survey was designed to collect information on levels of HIT adoption after QIO intervention and to re-evaluate physician office levels of satisfaction. Because the two surveys used nearly identical questionnaires and because the respondent population was the same, the OSS data are appropriate for trend analysis.

The Baseline OSS, conducted in 2006, consisted of 3,950 physician office practices. Respondents to the baseline were included in the remeasurement survey. There were 3,606 physician office practice responses received from the remeasurement OSS.

Trend analyses are typically conducted on questions and composites that have remained exactly the same across two or more survey administrations. In the case of the OSS, this statement holds true for the knowledge questions but is not entirely true for satisfaction and value items. In the baseline survey, in order to account for newly formed QIO-provider relationships, satisfaction and value items included a response category of N/A. In the remeasurement survey, the N/A response was removed. To account for this change in response categories, item-level trend analyses were conducted using only non-N/A responses.

To examine trends between the baseline and remeasurement survey administrations, survey responses were matched based on QIO-assigned practice IDs. The remeasurement survey contained 3,602 records that were matched to the baseline survey.

In order to most closely match the item-level scores provided to CMS and the QIO community while accounting for slight changes in the questionnaire between the survey administrations, the following steps were taken in conducting the trend analyses:

- Removed records at the item level for the baseline and remeasurement survey when the baseline response was N/A.

- Calculated the percent positive scores at the QIO level for each of the satisfaction, value, and knowledge items. Percent positive scores were calculated by taking the positive responses within each state and dividing by the total number of responses for that state. Positive responses included Very Satisfied, and Somewhat Satisfied for the satisfaction items; Strongly Agree, and Agree for the value items; and Knew this before today for the knowledge questions.
- Aggregated the 53 state-level scores to the national level for each item at baseline and at remeasurement.

In order to compare the national-level baseline and remeasurement item percent positive scores, a series of paired t-tests were performed. Paired t-tests are used to compare the scores of two related samples to determine if the scores from time 1 are significantly different from those at time 2. Specifically, the t-test assesses the statistical significance of the change in scores to determine if the change is significantly different from zero at the 95 percent confidence level. Table 4-1 shows paired t-test results for the baseline OSS and the remeasurement OSS.

Table 4-1. Paired t-test results for the baseline and remeasurement OSS

Variable	2007 Average QIO Score (%)	2006 Average QIO Score (%)	Change (%)
Satisfaction with QIO timeliness	90.9	92.1	-1.2
Satisfaction with QIO courtesy and professionalism	93.4	95.8	-2.5*
Satisfaction with ease of access to QIO	91.9	94.2	-2.3
Satisfaction with overall interactions	90.0	92.6	-2.6
Assistance from QIO was worth the time and effort	87.2	87.6	-0.4
Progress with HIT because of QIO help	64.1	56.1	8.0**
Progress in care management because of QIO help	61.6	53.1	8.5**
Knowledge about pay for performance	89.0	78.2	10.8**
Knowledge about QIO settings	73.4	64.2	9.1**
Satisfaction assessing technical needs	78.9	76.2	2.7
Satisfaction with information on technology options	78.9	77.8	1.2
Satisfaction with help selecting vendor	69.9	71.0	-1.1
Satisfaction with help preparing for EHR	74.1	76.6	-2.5
Satisfaction with help improving quality of care	79.5	72.5	7.0**
Satisfaction with help improving practice efficiency	76.4	72.6	3.8
Satisfaction with overall assistance with EHR adoption	77.4	78.0	-0.6

* p < .05

**p < .01

Table 4-1 shows the 16 satisfaction, knowledge, and value items that were examined in the trend analysis. Between the baseline and remeasurement surveys, there was a significant change in the percent positive scores for six items. The greatest changes in scores were for the items measuring physician knowledge. In 2007, 11 percent more providers were aware that CMS was testing pay for performance as a means to improve quality. Nine percent more providers were aware that the QIO worked across a variety of care settings

Two significant increases were identified in the domain of provider perception of QIO value. In 2007, 8 percent more providers agreed that they made progress in the areas of HIT and care management because of the QIO. Scores for provider satisfaction with the help they received from the QIO to improve quality of care increased by 7 percent in the remeasurement survey. The only downward trend noted was in provider satisfaction with QIO courtesy and professionalism; scores for this measure dropped by 2 percent between 2006 and 2007.

Appendix A

DOQ-IT Office Systems Survey



Office Systems Survey

Thank you for volunteering to participate in the Centers for Medicare & Medicaid Services (CMS) Office Systems Survey (OSS). The goal of this CMS Doctors Office Quality Information Technology (DOQ-IT) initiative is to unite technology and clinical practice in the physician office setting. This is a unique opportunity for your practice to contribute to a large-scale national effort to improve the quality of ambulatory health care. The survey asks about three types of electronic clinical information tools/functions that you may be using in your practice to help manage your patient's health needs. These tools allow for the systematic application of evidence based medical guidelines to your patient population with a goal of developing care plans for any given patient.

In the survey you will be asked if you are currently using or are in the process of obtaining a:

- Electronic Health Record (EHR)
- Electronic registry software
- Electronic prescribing software

Throughout the survey we will ask you to provide information about the **functions** of the systems you currently have in place. The goal is to use this information to help CMS develop additional programs that can assist physicians move toward the common goal of improving care.

Please complete all sections of the survey unless directed within it to skip a section.

Again, we thank you for your participation and look forward to continuing to work with you.

SECTION 1 - General Information - Practice

1.1. Date:

1.2. QIO Assigned Practice ID Number: {MERGE FIELD}

Please review your practice information below for accuracy. Please make corrections where necessary:

1.3. Legal Name of Practice {MERGE FIELD}

1.4. Location

Address: {MERGE FIELD} Add a second line as in IPG web form

1.5. Location

City: {MERGE FIELD}

1.6. Location
State {MERGE}

1.7. Location

Zip Code: {MERGE FIELD}

1.8. Telephone No.: {MERGE FIELD}

1.9. Fax No.: {MERGE FIELD}

1.10. E-mail Address: {MERGE FIELD}

1.11. Practice (Group) Medicare Billing Number (PIN): {MERGE FIELD}

(If unknown, please check with your billing manager or HCFA 1500 Form - field 33)

1.12. Federal Tax ID for this practice: {MERGE FIELD}.

1.13. Please check here if all of the above information is correct.

1.14. Is your practice affiliated with an Independent Practice Association (IPA), Physician Hospital Organization (PHO) or medical group?

Yes No

1.15. If Yes, Please indicate which IPA, PHO or medical group: _____

1.16. Preferred Method of Contact: Telephone Fax E-mail (check all that apply)

1.17 Please provide your Practice Group NPI (If available) _____

1.18 Are you familiar with the Certification Commission for Healthcare Information Technology (CCHIT) and its electronic health record (EHR) Product-certification program?

Yes No

1.19 If you have purchased an EHR since June 2006 or are in the process of purchasing an EHR now, how much did the CCHIT certification status influence your decision?

1 = Not at all	1	2	3	4	5	5 = High
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1.20 Are you participating in any of the following programs? Please check all that apply

	Physician Quality Reporting Initiative (PQRI)
	Better Quality Information
	Bridges to Excellence (BTE)
	DOQ-IT Warehouse submissions
	State or regional public reporting group
	Other Federal Quality Improvement initiatives
	Private Quality Improvement initiatives
	Other (please name):



SECTION 2 – Provider Profile

Your Quality Improvement Organization (QIO) provided the following information. Please review the information below for accuracy and make corrections/additions where necessary. Please note that physician identifiers are being requested in this survey to ensure that the correct information corresponds with the correct physician practice. The information you provide will be used by CMS internally, for the purposes of this project. This information will not be shared or disseminated outside of the project staff. **Please complete all information for all MD/DO's at your practice site.**

2.1. First Name	2.2. MI	2.3. Last Name
2.4. UPIN ¹		2.5. (NPI) National Provider Identification Number
2.6. Credentials (MD, DO)	2.7. Specialty ²	2.9. Language(s) spoken (other than English)
	2.8. If other, please specify	
2.10. Primary Practice Location (Y/N) ³	2.11. PIN # (Individual Medicare Billing Number) ⁴	
Yes No		
2.12. Please check here if all of the above is correct. <input type="checkbox"/>		

2.1. First Name	2.2. MI	2.3. Last Name
2.4. UPIN ¹		2.5. (NPI) National Provider Identification Number
2.6. Credentials (MD, DO)	2.7. Specialty ²	2.9. Language(s) spoken (other than English)
	2.8. If other, please specify	
2.10. Primary Practice Location (Y/N) ³	2.11. PIN # (Individual Medicare Billing Number) ⁴	
Yes No		
2.12. Please check here if all the information is correct. <input type="checkbox"/>		

2.1. First Name	2.2. MI	2.3. Last Name
2.4. UPIN ¹		2.5. (NPI) National Provider Identification Number
2.6. Credentials (MD, DO)	2.7. Specialty ²	2.9. Language(s) spoken (other than English)
	2.8. If other, please specify	
2.10. Primary Practice Location (Y/N) ³	2.11. PIN # (Individual Medicare Billing Number) ⁴	
Yes No		
2.12. Please check here is all of the above information is correct. <input type="checkbox"/>		

Footnotes:

- 1 Unique Physician Identification number, a six place alphanumeric identifier assigned to each physician/practitioner
- 2 Please use the following codes to indicate specialty: Cardiology (C); Endocrinology (E); Family Practice (F); Geriatrics (G); Internal Medicine (I); Other (please specify)
- 3 Please indicate whether the provider listed primarily practices at this office location (50% or greater = practices primarily at this site).
- 4 Please provide the Individual Medicare Billing Number (PIN) that is assigned by the Medicare Carrier in your state for use by this physician/clinician at this practice site only. (HCFA 1500 form field 24K or 33).

SECTION 3 – QIO Experience

The purpose of this section of the survey is to learn about your experience working with your local Quality Improvement Organization (QIO).

3.1 How **satisfied** is your practice with the QIO work in the following areas:

QIO Assistance	Very satisfied 1	Somewhat Satisfied 2	Neutral 3	Somewhat Dissatisfied 4	Very Dissatisfied 5
a. Timeliness of the QIO's response to questions or requests for assistance					
b. The professionalism, courtesy and respectfulness of the QIO staff					
c. The ease of access to the QIO staff (when you try to contact them)					
d. Thinking about all interactions with the QIO, how satisfied are you with their services?					

3.2 Please indicate your level of agreement with the following statement about the **value** of the services your practice received from the QIO:

QIO Assistance	Strongly agree 1	Agree 2	Neither agree or disagree 3	Disagree 4	Strongly disagree 5
a. The assistance we received from the QIO was worth the time or effort required on the part of our staff.					
b. We could not have gotten where we are in the adoption and use of health information technology (EHR or e-prescribing and registry) without the QIO's help.					
c. We could not have gotten where we are in care management process improvement without the QIO's help.					

3.3 Did you **know** about any of the following before today, not know this before today, or weren't sure about this?

QI activity	Knew this before today 1	Did not know this before today 2	Not sure 3
a. CMS is currently testing pay for performance or incentive programs as a means to improve quality.			
b. The QIO also works with nursing homes, hospitals, and home health agencies in quality improvement projects.			

3.4 Using a scale of 10 to 0, please rate the **contribution** of the QIO to your EHR efforts:

10 = "The QIO contribution was indispensable"	10	9	8	7	6	5	4	3	2	1	0	0 = "The QIO did not contribute at all"

3.5 How **satisfied** is your practice with the assistance provided by the QIO in the following areas:

QIO Assistance	Very satisfied 1	Somewhat Satisfied 2	Neutral 3	Somewhat Dissatisfied 4	Very Dissatisfied 5
a. Assessing your practice's technology needs					
b. Providing information on technology options					
c. Helping with vendor selection processes					
d. Preparing for EHR implementation					
e. Helping to improve quality of care in your practice					
f. Helping to improve practice efficiency (e.g. workflow analysis and redesign, etc.)					
g. Overall assistance with adoption of EHR in your practice					

3.6 When did you first begin actively working with the QIO in the planning and implementation of EHR in your practice? _____(mm/dd/yy)

3.7 Is there an organization that you would prefer to use for quality improvement assistance, rather than the Quality Improvement Organization?

1. Yes
2. No
3. It would depend on cost and other factors
4. I don't know.

3.8 What has been completed on each activity to date (as of the date of the survey)?

	Not started 0	Some activity completed 1	About halfway to completion 2	Nearing completion 3	Completed 4
a. Perform office readiness assessment					
b. Document and analyze current office workflows					
c. Redesign office flow to meet EHR process					
d. Evaluate care management and process improvement pre EHR					
e. Full implementation of EHR					
f. Use EHR to identify additional care management and process improvement opportunities					



SECTION 4 – Office Practice

The implementation of information technology (IT) presents many operational challenges. As the transition from paper to computer takes place, there are opportunities to redesign existing workflows to gain maximum efficiencies. These questions focus on current workflow processes.

* This series of questions refers to patient visits to ANY and ALL clinicians in your practice **over the past month.**

4.1 Please estimate the proportion of patient encounters/visits for which clinicians **or others** in your practice engage in each of the following activities.

Clinicians or others in your practice:	None 0	About ¼ 1	About ½ 2	About ¾ 3	All or nearly all 4
a. Pull paper charts for scheduled patient visits.					
b. Dictate visit notes into a tape recorder or phone.					
c. Dictate visit notes directly into the EHR.					
Use a computerized (as opposed to paper) system to manage the following office workflows:					
d. Telephone calls					
e. Prescription refills					
f. Referrals					
g. Results follow-up (lab, diagnostic test, x-ray)					

SECTION 5 - Electronic Health Record

The Electronic Health Record (EHR) is a longitudinal electronic record of patient health information generated by one or more encounters in any care delivery setting. This record may include patient demographics, diagnoses, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data, and radiology reports. The EHR has the capability of generating a complete record of a clinical patient encounter, as well as supporting other care-related activities, such as evidence-based decision support, quality management, and outcomes reporting. *(The EHR covers all conditions that the patient might have and is distinct from a registry that covers a specific disease or a limited set of diseases).* Implementation of the EHR may vary based on the goals set by a practice and the intended functions such as: enter progress notes; provide decision support within the patient encounter; and utilize computerized physician order entry for laboratory and prescriptions.

This section asks about the use/planned use of an EHR in your practice.

* This series of questions refers to patient visits to ANY and ALL clinicians in your practice **over the past month.**

5.1 Does your practice currently have an Electronic Health Record (EHR) [or signed a contract for an EHR] at your site?

Yes Proceed to question 5.2.

No Proceed to question 5.6.

If you answered Yes to 5.1, please answer questions 5.2-5.5.

5.2	When was the vendor contract signed? _____(mm/dd/yy)
5.3a	With the exception of administrative functions (i.e. appointment scheduling, billing etc) did your practice have access to any of your current EHR functions at your site prior to August 1, 2005? <input type="checkbox"/> Yes <input type="checkbox"/> No
5.3b	With the exception of administrative functions (i.e. appointment scheduling, billing etc) did your practice have access to any of your current EHR functions at your site prior to working with the QIO <i>(please refer to the prepopulated date in Question 3.6)</i> <input type="checkbox"/> Yes <input type="checkbox"/> No
5.4	What is the name and version of the EHR system you use at your site? _____ _____
5.5	Are you currently using the system at your site? <input type="checkbox"/> Yes Please proceed to question 5.7. <input type="checkbox"/> No Please proceed to Section 6 – Patient Registry/Care Management Processes

If you answered No to 5.1, please answer question 5.6 and then proceed to Section 6- Patient/Care Management Processes.

5.6 If no, when do you plan to implement an EHR? Within 1 year 1-2 years 3-4 years
 Not known at this time

5.7 Please estimate the proportion of patient visits/encounters for which clinicians or others in your practice use the EHR to perform each of the following tasks.

Clinicians in your practice use the EHR to:	None 0	About ¼ 1	About ½ 2	About ¾ 3	All or nearly all 4
a. Place laboratory orders electronically					
b. Review laboratory test results electronically					
c. Place radiology orders electronically					
d. Review radiology results electronically					
e. Enter data into documentation templates					
f. Review and act on reminders for care activities (e.g. overdue health maintenance)					
g. Maintain medication lists for individual patients					
h. Maintain allergy list					
i. Maintain problem and/or diagnosis list					
j. Trend lab and/or other test results over time					

5.8 Does your EHR include ALL or essentially all patients in your practice?

Yes **No**

SECTION 6 – Patient Registry/Care Management Processes

For purposes of this survey, a registry is defined as an electronic system that is designed to identify patients with specific diagnoses or medications; identify patients overdue for specific therapies; prompt ordering of specific laboratory tests or recommended drugs, and prompt communication with patients requiring follow-up. For example, a practice may use a diabetes registry to document care at visits, and to create reports that indicate which patients are due for certain blood tests, or are not meeting specific treatment goals for diabetes. A registry may also be used to ensure all suggested preventive screenings take place. A Registry is usually a stand-alone system that tracks specific information regarding a limited number of disease states, but otherwise lacks additional functionality. An EHR can also be used for Patient Registry/Tracking purposes. **If your practice uses either an EHR, or a Registry, answer as appropriate the questions in this section.**

These next questions ask about the existence and use of electronic registries in your practice.

* This series of questions refers to patient visits to ANY and ALL clinicians in your practice **over the past month.**

- 6.1a Does your practice site use an EHR to track patients who have a specific chronic illness, or receive preventive care (i.e. immunizations, mammography and other cancer screening) for at least one condition?
 Yes Please proceed to Question 6.7
 No Please proceed to Question 6.1b
- 6.1b Does your practice site use a stand alone electronic registry (e-registry) to track patients who have a specific chronic illness, or receive preventive care (i.e. immunizations, mammography and other cancer screening) for at least one condition?
 Yes Please proceed to Question 6.2
 No Please answer Question 6.6 and then proceed to Section 7.
- 6.2 When was the e-registry contract signed? _____(mm/dd/yy)
- 6.3a With the exception of administrative functions (i.e. appointment scheduling, billing etc) did your practice have access to any e-registry functions at your site prior to August 1, 2005?
 Yes **No**
- 6.3b With the exception of administrative functions (i.e. appointment scheduling, billing etc) did your practice have access to any e-registry functions at your site prior to working with the QIO (**please refer to the prepopulated date in Question 3.6**)
 Yes **No**
- 6.4 What is the name and version of the e-registry system at your site? _____
- 6.5 Are you currently using the e-registry system at your site?
 Yes Please proceed to question 6.7
 No Please proceed to Section 7
- 6.6 When do you plan to start a registry? Within 1 year 1-2 years 3-4 years Not known at this time

6.7 Which of the following conditions are included in your practice's registry/EHR:

- | | | | | | |
|-----------------------------|------------------------------|-----------------------------|--------------------------------------|------------------------------|-----------------------------|
| a. Diabetes | <input type="checkbox"/> Yes | <input type="checkbox"/> No | f. Adult Asthma | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| b. Coronary Artery Disease | <input type="checkbox"/> Yes | <input type="checkbox"/> No | g. Depression | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| c. Hypertension | <input type="checkbox"/> Yes | <input type="checkbox"/> No | h. Anticoagulation | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| d. Congestive Heart Failure | <input type="checkbox"/> Yes | <input type="checkbox"/> No | i. Other | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| e. Preventive Care | <input type="checkbox"/> Yes | <input type="checkbox"/> No | If Others, please list: _____ | | |

6.8 Following is a list of tasks that may be performed by registries. For each task, please estimate the proportion of patients or patient encounters for which clinicians **or others** in your practice use each type of registry/EHR.

Registry/EHR Tasks	Types of Disease/Condition Registries				
	0= none	1= about ¼	2= about ½	3= about ¾	4= all or nearly all
	Preventive Care	Diabetes	Coronary Artery Disease	Congestive Heart Failure	Hypertension
a. - Prompt your practice to notify patients who are overdue for office visits.	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0
	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3
	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4
b. - Prompt clinicians to order tests, studies, and other services (e.g., immunizations).	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0
	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3
	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4
c. - Produce reminders for <u>patients</u> about needed tests, studies, and other services (e.g., immunizations).	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0
	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3
	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4
d. - Generate a list of eligible patients for each disease/condition.	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0
	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3
	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4
e. - Generate a list of patients requiring intervention.	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0
	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3
	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4
f. - Generate a specific patient care plan	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 0
	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 1
	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2	<input type="checkbox"/> 2
	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 3
	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4	<input type="checkbox"/> 4

g. - Generate written or electronic educational information to help patients understand their condition.	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
h. - Create written care plans (personalized to patient's condition or age/gender for preventive care) to help guide patients in self-management at home/school/work.	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
i. - Prompt clinician and/or patient to review self-management plan (or patient specific preventive care plan) together during a visit.	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
j. - Modify self-management plan (or patient specific preventive care plan) as needed following a patient visit.	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
k. - Place laboratory orders electronically.	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
l. - Review laboratory test results electronically.	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

SECTION 7 - Electronic Prescribing

With electronic prescribing tools, clinicians can generate prescriptions electronically using either a freestanding product, or as a component of the EHR. The next series of questions ask to what extent your practice uses an electronic prescribing tool and whether that tool is freestanding, or part of your EHR.

* This series of questions refers to patient visits to ANY and ALL clinicians in your practice **over the past month**.

7.1 Does your practice site use electronic software to generate prescriptions (as part of an EHR or a freestanding e-prescribing system):

- Yes** Please proceed to Question 7.2
 No Please proceed to Question 7.7

If you answered Yes to question 7.1, please answer questions

7.2 Please check which types of prescriptions your practice's electronic software generates:

- New prescriptions only Refills Both

7.3 Is e-prescribing accomplished within your EHR?

- Yes** Please skip to question 7.8
 No

7.4 What is the name and version of the e-prescribing system you use?

7.5 When was the contract signed? _____(mm/dd/yy)

7.6a Did your practice site have access to your current e-prescribing system prior to August 1, 2005?

- Yes**
 No

7.6b Did your practice site have access to your current e-prescribing system prior to working with the QIO? (*please refer to the prepopulated date in Question 3.6*)

- Yes**
 No

Please skip to Question 7.8

If you answered No to question 7.1, please answer question 7.7 and then proceed to Section 8.

7.7 When do you plan to implement e-prescribing?

- Within 1 year 1-2 years 3-4 years Not known at this time

Please skip to Section 8

7.8 Please estimate the proportion of patient visits/encounters for which clinicians or others in your practice use an electronic or hand-held device for each of the following e-prescribing activities.
0= none 1= about ¼ 2= about ½ 3= about ¾ 4= all or nearly all

E-prescribing activities:	None 0	About ¼ 1	About ½ 2	About ¾ 3	All or nearly all 4
a. - Identify generic or less expensive brand alternatives at the time of prescription entry					
b. - Reference the drug formularies of the patient's health plans/pharmacy benefit manager to recommend preferred drugs at time of prescribing					
c. - Offer guidelines and evidence-based recommendations when prescribing medication for a patient					
d. - Calculate appropriate dose and frequency based on patient parameters such as age and weight					
e. - Maintain a list of each patient's current medications					
f. - Screen prescriptions for drug allergies against the patient's allergy information					
g. - Screen new prescriptions for drug-drug interactions against the patient's list of current medications					
h. - Select individual medication for prescription					
i. - Print prescriptions on a computer printer					
j. - Transmit prescriptions directly to pharmacy via electronic fax (no paper printed)					
k. - Transmit prescriptions directly to pharmacy via electronic means (without relying on a fax machine at either clinician's office or in the pharmacy)					
l. - Provide patient-friendly information about the medication to the patient					



SECTION 8 - Data Attestation

8.1 I have reviewed the data submitted in this survey and agree that it is a correct assessment of this practice.

Agree Disagree

8.2 Name: _____

8.3 Title: _____

SIGNATURE: _____

SECTION 9 - Attestation

9.1 I understand that I may be chosen to participate in validating this survey. If selected, your survey responses will be reviewed with you most likely through telephonic follow up. Current routine survey methodology requires that a small percentage of responses be validated, or checked, to ensure accuracy. We anticipate this process will take no more than 20 minutes of your time. **I acknowledge that I have read and agreed to the attestation.**

Agree

9.2 Comments

This material was prepared by MassPRO, the Medicare Quality Improvement Organization for Massachusetts, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily represent CMS policy. 8sow-ma-OSS-06-01 survey-jan-5pilot