

Part B. Collection of Information Employing Statistical Methods

1. Respondent Universe and Sampling Methods

Surveys of Eligible Professionals and Administrators

The respondent universe for the eligible professional survey consists of all professionals eligible to participate in PQRS or eRx. The respondent universe for the administrator survey is all administrators who work in the practices of professionals eligible to participate in PQRS or eRx. A random sample of 8,400 eligible professionals and administrators will be selected for the study. (Attachment A.)

Sample size and sampling techniques: Stratified random sampling will be used to select a nationally representative sample of eligible providers. Strata are formed based on the variables available in the frame and the specific requirement of the evaluation study. Strata variables are specialty type, group practice reporting option (GPRO), participation status, and reporting mechanism. Then a simple random sample will be selected with equal probability within each stratum.

The eligible professional survey targets 2,100 completes, 1,050 from the participating group and 1,050 from the nonparticipating group. With an estimated 50-percent response rate, we expect to contact about 4,200 providers. With each provider practice, we will sample the practice administrator—an additional 4,200 surveys yielding 2,100 completes. The administrator sample size may be slightly smaller, as some providers share the same practice; in this case, the administrator survey will only be completed once for the practice.

To allocate the 2,100 eligible professional completes with 1,050 in each participating and nonparticipating group, we started with a proportional allocation that has the smallest design effect. Then we oversampled the GPRO group and the providers whose reporting mechanism is electronic health record (EHR), registry only, or claim and registry; these are very small groups and proportional allocation would allocate very small sample sizes. Table 1 shows the allocated target sample size in each stratum, as well as the marginal total for each strata variable. We also included the sampling rate for each stratum, which is the ratio of the final allocated completes and the proportionally allocated completes according to frame count by stratum.

Table 1: Allocation of Completed Surveys and Sampling Rate

Specialty Group	GPRO Option	Reporting Mechanism	Participation Status	Target Completes	Sampling Rate
Nonspecialty group	Non-GPRO	Claim	Participants	65	0.43
Nonspecialty group	Non-GPRO	Claim and Registry	Participants	57	1.94
Nonspecialty group	Non-GPRO	EHR	Participants	70	129.56
Nonspecialty group	Non-GPRO	Registry	Participants	44	4.91
Nonspecialty group	Non-GPRO	Other	Nonparticipants	187	1.00
Specialty oversampling group	Non-GPRO	Claim	Participants	68	0.43
Specialty oversampling group	Non-GPRO	Claim and Registry	Participants	25	1.98
Specialty oversampling group	Non-GPRO	EHR	Participants	28	127.16
Specialty oversampling group	Non-GPRO	Registry	Participants	40	4.89
Specialty oversampling group	Non-GPRO	Other	Nonparticipants	425	1.00
Specialty undersampling group	GPRO	Web	Participants	300	2.75
Specialty undersampling group	Non-GPRO	Claim	Participants	15	0.42
Specialty undersampling group	Non-GPRO	Claim and Registry	Participants	5	1.98
Specialty undersampling group	Non-GPRO	EHR	Participants	7	123.34
Specialty undersampling group	Non-GPRO	Registry	Participants	9	5.04
Specialty undersampling group	Non-GPRO	Other	Nonparticipants	30	0.45
Other specialties	Non-GPRO	Claim	Participants	152	0.43
Other specialties	Non-GPRO	Claim and Registry	Participants	63	1.97
Other specialties	Non-GPRO	EHR	Participants	45	127.89
Other specialties	Non-GPRO	Registry	Participants	57	4.96
Other specialties	Non-GPRO	Other	Nonparticipants	408	0.80
Total				2,100	
Participation Status					
Participants				1,050	
Nonparticipants				1,050	
Specialty Groups					
Nonspecialty group				423	
Specialty oversampling group				586	
Specialty undersampling group				366	
Other specialties				725	
GPRO Option					
GPRO				300	
Non-GPRO				1,800	
Reporting Mechanism					
Web				300	
Claim				300	
Registry				150	
Claim and Registry				150	
EHR				150	
Other				1,050	

Based on the allocations in Table 1, we have determined the minimal detectable differences (MDDs) for group comparisons at 80-percent power, as seen in Table 2.

Table 2: Minimal Detectable Differences

NON-PARTICIPANTS				
	Nonspecialty group	Specialty oversampling group	Specialty undersampling group	
Specialty oversampling group	0.124			
Specialty undersampling group	0.281	0.270		
Other specialties	0.124	0.098	0.270	
PARTICIPANTS				
	Nonspecialty group	Specialty oversampling group	Specialty undersampling group	
Specialty oversampling group	0.144			
Specialty undersampling group	0.120	0.135		
Other specialties	0.121	0.136	0.110	
GPRO option				
GPRO vs. Non-GPRO	0.096			
	PQRS only	eRx only		
eRx only	0.128			
PQRS and eRx	0.097	0.121		
	Web	Claim only	Registry only	Claim and registry
Claim only	0.115			
Registry only	0.141	0.141		
Claim and Registry	0.141	0.141	0.163	
EHR	0.141	0.141	0.163	0.163

NOTE: The calculations are based on the following assumptions: 80-percent power; two-tailed test at a 5-percent significance level; the design effect due to oversampling and undersampling of 1.2; the design effect due to nonresponse of 1.2; and covariates explaining 30 percent of the variance in outcomes with the mean of the outcome equal to 0.50.

The MDD is used to determine the *likelihood* of detecting a significant difference between groups; however, confidence intervals (CIs) can be used to determine, with 95-percent confidence, the *range* in which a true point estimate falls. Table 3 contains the half-width CIs for participants and nonparticipants, as well as for subgroups, for binary or categorical variables.

Table 3: Confidence Intervals for Participants, Nonparticipants, and Subgroups

	Target completes	Half-width of 95% confidence level (proportion near 0.50)
PARTICIPANTS		
Overall	1,050	0.030
Specialty		
Nonspecialty group	236	0.064
Specialty oversampling group	161	0.078
Specialty undersampling group	336	0.054
Other specialties	317	0.055
GPRO Option		
GPRO	300	0.057
Non-GPRO	750	0.036
Reporting Mechanism		
Web	300	0.057
Claim	300	0.057
Registry	150	0.081
Claim and Registry	150	0.081
EHR	150	0.081
Participation Status		
PQRS only	353	0.052
eRx only	185	0.072
PQRS and eRx	512	0.044
NONPARTICIPANTS		
Specialty		
Overall	1,050	0.030
Nonspecialty group	187	0.072
Specialty oversampling group	425	0.048
Specialty undersampling group	30	0.183
Other specialties	408	0.049

NOTE: The calculations are based on the following assumptions: two-tailed confidence interval at 95-percent confidence level; the design effect due to oversampling and undersampling of 1.2; the design effect due to nonresponse of 1.2; and covariates explaining 30 percent of the variance in binary outcomes with the mean of the outcome equal to 0.50.

Quality checks. SurveyMonkey™ will be set up to indicate required items and the appropriate skip patterns. We will also perform a frequency check of the data once we have received between 50 and 100 completed electronic surveys. This helps ensure that there are no problems with the electronic data entry system and also ensures that skip logic within the instrument is working as intended. (Attachments B1 and B3.)

When surveys are returned by mail or fax, they will first be logged in (“received”) by staff. They will then undergo a manual quality review check to ensure that all items deemed critical are answered. (Attachments B2 and B4.) The instruments returned by mail and fax will be entered into SurveyMonkey™. A random sample of entered surveys will be reviewed by another team member. If one or more critical items are left unanswered, we will attempt to contact the respondent to obtain the necessary information.

Training materials for data collectors. Econometrica team staff will be trained to respond to any incoming phone calls or emails from professionals and office staff. A brief training manual will be developed that contains the following:

- Overview of the study including the study sponsor, study purpose, study team, characteristics of sample members, and survey methodology used.
- A fact sheet about the evaluation, the importance of the evaluation, and an explanation that the decision to participate is voluntary and will not affect in any way their interaction with the PQRS or eRx programs.
- A copy of the surveys.
- Reinforcement of Econometrica’s strict confidentiality rules as well as CMS’ requirements.

Obtaining and training interviewers or collectors. Training materials for data collectors will not be necessary, as this survey is self-administered.

Data entry staff will receive training on both quality control procedures after receipt of the survey and on specifications about data entry itself. Critical items will be reviewed, and staff will be trained to determine what constitutes a valid response and what kind of responses would require follow-up with the respondent. In terms of specifications for data entry, we will review the skip logic embedded in the survey instrument and train staff in how to code responses if the skip logic is not followed.

Computer record formats. The data will be imported into a SAS format. Label and format statements will be documented.

Time table and cost burden. The survey is expected to be fielded from January 2014 through February 28, 2014. The estimated cost burden on respondents is \$112,014.00.

Interviews with Eligible Professionals and Administrators

Eligible professionals who respond to the Survey of Eligible Professionals will serve as the universe for the eligible interviews. A convenience sample of 25 participating and non-participating eligible professionals will be selected for interviews. Similarly, a convenience sample of 25 administrators who responded to the administrator survey will be interviewed.

Sample size and sampling techniques. Three percent (approximately 25 eligible professionals and 25 administrators) of the surveyed eligible participating (Attachment C1) and non-participating professionals (Attachment C2) and group practices will be interviewed. In the eligible professional and administrator surveys (which precede the interviews), we will include a question asking if they would be willing to participate in a 30-minute program evaluation interview. We will work in consultation with CMS to contact participating eligible professionals and practices directly. The convenience sample will include professionals and administrators who represent different specialties, practice sizes, individual versus group reporting option, and measure submission approaches.

Quality checks. The team will discuss its notes and refer to the tape to settle differences among staff members. A combined set of notes for all interviews will be created that provides information on reasons for eligible professionals' and administrators' participation and their experience and assessment of the program.

Training materials for data collectors. A procedures manual will be developed for conducting the interviews. The manual will be updated as new circumstances arise.

Obtaining and training interviewers or collectors. Interviewer training will involve a review of the purpose of the topic guide and practice interviewing each other. A debrief will occur after each interview to improve subsequent interviews. Additional training will occur as needed depending on the team's experience conducting interviews.

Computer record formats. The data will be stored in Word format and in MP3 audio format.

Time table and cost burden. The interviews are expected to be conducted from January 2014 through February 28, 2014. The estimated cost burden on respondents is \$1,666.88.

Survey of Medicare Beneficiaries

The Medicare enrollment database will serve as the universe for the beneficiary sample. The sample will include approximately 4,200 beneficiaries with an anticipated ineligibility rate of 10 percent, yielding an eligible sample of 3,750. (Attachment D1.)

Sample size and sampling techniques. The sample of beneficiaries will be limited to those beneficiaries who see participating and non-participating eligible professionals with prescribing privileges. We plan to use 2012 claims data to select the sample. The beneficiary sample will be drawn from the matched treatment and control eligible samples. We will pull the Health Insurance Claim (HIC) numbers from a sample of beneficiaries assigned to

providers from each of the study groups and use the Medicare Enrollment Database (EDB) to identify contact information. The sample will include approximately 4,200 beneficiaries with an anticipated ineligibility rate of 10 percent, yielding an eligible sample of 3,750. We will create replicate samples in case additional releases are necessary. This may occur if a larger than anticipated number of respondents indicates they have not received services from the provider of record within the past 12 months, rendering them ineligible. The estimated response rate is between 30 and 35 percent, yielding approximately 1,275 completed surveys.

Quality checks. When mail surveys are returned to the Econometrica team, they will first be logged in and then undergo a manual quality review check to ensure that all items deemed critical are answered. The instrument will then go to data entry where all forms will undergo 100-percent verification (double-keyed) as an additional quality control measure. Imputation procedures will be developed for unanswered questions.

Training materials for data collectors. The Econometrica team will train help desk staff so they can respond to incoming phone calls and emails from beneficiaries or other interested parties. The Econometrica team will develop a brief training manual that contains the following:

- Brief overview of the study, including the study sponsor, study purpose, study team, characteristics of sample members, survey methodology used, and survey instrument.
- A fact sheet about the evaluation, the importance of the evaluation, and an explanation that the decision to participate is voluntary and will not affect in any way their interaction with the PQRS or eRx programs.
- A copy of the survey instrument.
- Reinforcement of the Econometrica team's strict confidentiality rules, as well as CMS' requirements.

Computer record formats. The data will be in a SAS format. Label and format statements will be documented.

Time table and cost burden. The survey is expected to be fielded from January 2014 through March 31, 2014. The estimated cost burden on respondents is \$14,931.00.

2. Information Collection Procedures

Surveys of Eligible Professionals and Administrators

Data source and collection techniques. The source of data will be in the form of surveys sent to the physicians and administrators. The following procedures are the same for all members of the Surveys of Eligible Professionals and Administrators:

- Pre-Notification Letter: Approximately 14 days after receipt of Office of Management and Budget (OMB) clearance, we will mail a pre-notification letter on

CMS letterhead alerting the eligible professional and administrator to the survey and its importance to program evaluation. Studies have found that pre-notification letters improve response rates.

- Initial Survey Request Letter: Approximately 1 week later, we will mail the eligible professionals the following materials:
 - A cover letter (Attachment B5) that explains the purpose of the survey and its importance in evaluating the PQRS and eRx programs. This letter would also clearly indicate that the professional (or the professional's proxy administrator) will be given a URL to complete the survey. We will also include language that professionals who complete the survey electronically via the online link and send back the survey will receive a \$100 incentive in the form of a gift card for their participation. A toll-free number and an email address will be included in the packet in case the eligible professionals or administrators have questions.
 - A fact sheet about the evaluation, the importance of the evaluation, and an explanation that the decision to participate is voluntary and will not affect in any way their interaction with the PQRS or eRx programs.
- One week following the initial survey request letter, the first reminder letter will be sent to nonresponders, which will include the electronic link and the following:
 - A cover letter that explains the purpose of the survey and its importance in evaluating the PQRS and eRx programs. We will also include language that professionals (or proxies) who complete the survey electronically via the online link and send back the survey will receive a \$100 incentive in the form of a gift card for their participation. A toll-free number and an email address will be included in the packet in case the respondent has any questions.
- Two more reminder letters will be sent if necessary. The letters will include a package for the mail-in survey:
 - A cover letter that explains the purpose of the survey and its importance in evaluating the PQRS and eRx programs. This letter would also clearly indicate that the professional (or the professional's proxy administrator) can opt to take the survey online or fax the survey back to Econometrica. We will also include language that professionals (or proxies) who complete the survey electronically will receive a \$100 incentive and those who complete the hardcopy survey will receive a \$50 incentive in the form of a cash card incentive for their participation.
 - A printed copy of the eligible professional and administrator surveys, whichever is appropriate for the respondent.
 - A fact sheet about the evaluation, the importance of the evaluation, and an explanation that the decision to participate is voluntary and will not affect in any way their interaction with the PQRS or eRx programs.

- A prefilled fax cover sheet that contains Econometrica's contact information, including our fax number.
- A self-addressed business-reply envelope for mailing the survey back to Econometrica. We will use business-reply postage to minimize the postage cost of unreturned paper-based surveys.
- A final letter consisting of all of the materials in the initial packet will be sent to all nonresponders on February 21, 2014.

The CMS advance letter, survey packet materials, and reminder letters can be found in Attachment B5.

Interviews with Eligible Professionals and Administrators

Information will be collected using a brief modular topic guide with sections applicable for professionals and administrators. Three Econometrica team staff (a facilitator and two note-takers) will conduct 30-minute interviews over the phone with each eligible professional or administrator. With the interviewees' permission, the interviews will be recorded, transcribed, and analyzed to extract their experience with PQRS and eRx, any discussion of improvement in care coordination, impact of participation on patient care, and cost to participate in the program.

Data elements and instruments. Topic guides will be created with modules to account for differences in clinical area (primary care versus specialty), responders (clinicians versus administrative staff), and reporting options.

Sample size and sampling techniques. Three percent (approximately 25 eligible professionals and 25 administrators) of the surveyed eligible participating and non-participating professionals and group practices will be interviewed. In the Survey of Eligible Professionals and Survey of Administrators (which precedes the interviews), we will include a question asking if they would be willing to participate in a 30-minute program evaluation interview. We will work in consultation with CMS to contact participating eligible professionals and administrators directly. The convenience sample will include professionals and administrators who represent different specialties, regions, and reporting options.

The topic guides and correspondence can be found in Attachment C.

Survey of Medicare Beneficiaries

The survey of Medicare beneficiaries will use the Consumer Assessment of Healthcare Providers and Systems (CAHPS) Clinician and Group Survey with the Patient Centered Medical Home (PCMH) module. Minor revisions will be made to address the unique needs of the evaluation of the PQRS and eRx programs. A copy of the questionnaire is in Attachment D1.

Data source and collection techniques. Data will be collected from Medicare beneficiaries using a mail survey, as is common with CAHPS administration. The procedures are as follows:

- **Pre-Notification Letter:** The survey will begin with the mailing of an advance letter, approximately 14 days after receipt of OMB clearance. It will be on CMS letterhead to help legitimize the survey and encourage participation.
- **Initial Survey Request Letter:** Approximately 1 week later, a survey packet containing a cover letter, the survey instrument, a fact sheet, and a business-reply envelope will be mailed to the beneficiary. We will also include a \$2 incentive. A toll-free number will be included in the packet in case beneficiaries have questions. We will also include language indicating that the beneficiary can complete the survey on the phone by calling a toll-free number.
- **Beneficiaries will receive three reminders via letters and one re-mail of the survey packet. (Attachment D2.)** Given the mail mode with a token incentive, we estimate a response rate of 45 percent to 50 percent. This is slightly higher than that outlined in the CAHPS Clinician & Groups Surveys and Instructions document.
 - The first reminder, sent approximately 1 week after the survey packet mailing, will be a letter that explains the purpose of the survey and its importance in evaluating the PQRS and eRx programs.
 - A second reminder, sent approximately 1 week after the first reminder, will ask the beneficiary to return the completed questionnaire.
 - A final letter consisting of all of the materials in the initial packet will be sent approximately 1 month after the initial survey packet mailing.

The CMS advance letter, survey packet materials, and reminder letters can be found in Attachment D2.

3. Methods to Maximize Response Rates

Surveys of Eligible Professionals and Administrators

Physicians and support staff can be a challenging population to contact and survey due to workload and scheduling demands; therefore, the estimated response rate is 50 percent. The survey topics related to quality measures and improving the quality of patient care are highly salient to the universe of sampled eligible professionals. In addition to survey topic relevance, numerous methods will be used to encourage response and reduce challenges to participation.

- **CMS endorsement.** A letter on CMS letterhead will be sent in advance of the survey. This will serve to legitimize the survey and will also stress the importance of eligible professionals' input on the PQRS and eRx programs as CMS considers ongoing program refinements.

- **Use of incentives.** Eligible professionals and administrators will be provided with up to a \$100 postpay incentive. This will encourage participation among those who may typically disregard such a survey without an incentive payment.
- **Survey length.** The survey has been developed so that it can be completed in 10–15 minutes. This is important given the limited time that eligible professionals and administrators will have available to participate.
- **Survey support.** The contractor will set up a toll-free helpline and an email address for this survey. This phone and email contact information will be made available to sample members in the survey cover letter and fact sheet. This toll-free line and email box has restricted access, limited to project personnel only.
- **Targeted nonresponse follow-up.** The contractor will send up to four reminder letters to nonresponders. The language of each successive letter will convey the urgency of survey participation.
- **Flexible participation.** For respondents whose preferred mode of completion is not mail, the contractor will offer the opportunity to complete the survey by Web or by fax. This flexibility will allow the respondent to participate in the most convenient manner based on their own scheduling needs.

The contractor will compare the individual and practice characteristics of responders and nonresponders using sample frame data, to the extent that they are available. This will help determine the potential for nonresponse bias and inform the need for a nonresponse bias analysis.

Interviews with Eligible Professionals and Administrators

Only those eligible professionals and administrators who have agreed to be interviewed will be contacted.

Survey of Medicare Beneficiaries

The estimated response rate among Medicare beneficiaries is between 45 percent and 50 percent, based on the use of a token incentive (\$2 bill) and current response rates to similar CAHPS surveys. The topics covered in the survey are highly salient to Medicare beneficiaries—these include the extent to which their health care needs are being met and their perceptions of their health and mental and emotional well-being. In addition to survey topic relevance, numerous methods will be used to encourage response and reduce challenges to participation.

- **CMS endorsement.** A letter on CMS letterhead will be sent in advance of the survey. This will serve to legitimize the survey and will also stress the importance of understanding how the PQRS and eRx programs are impacting the quality of care received by patients. The letter will mention a \$2 incentive to encourage survey participation.

- **Survey design.** The survey used in this data collection is one that has been used with similar populations in the past (the CAHPS Clinician and Group Practice Survey with the Primary Care Medical Home module). The survey will take approximately 10–15 minutes to complete.
- **Allowing for assistance with survey completion.** Some Medicare beneficiaries may be unable to complete the survey without assistance. Although self-response is encouraged, we will allow the respondent to receive assistance completing the survey. Information is collected at the end of the survey about the extent of help received by the sample member.
- **Incentive.** A \$2 bill will be included with the survey packet mailing. Although \$2 is a small amount, it is a useful way to show our appreciation for survey participation. Also, for individuals on a fixed income, \$2 can be useful in meeting basic needs.
- **Survey support.** The contractor will set up a toll-free helpline and an email address for this survey. This phone and email contact information will be made available to sample members in the survey cover letter and fact sheet. This toll-free line and email box has restricted access, limited to project personnel only.
- **Targeted nonresponse follow-up.** The contractor will send up to three reminder letters to nonresponders. The language of each successive letter will convey the urgency of survey participation.
- **Flexible participation.** The survey can be completed over the phone, if preferred by the sample member. A toll-free line will be made available for this purpose.

The contractor will compare the individual characteristics of responders and nonresponders using sample frame data, to the extent that they are available. This will help determine the potential for nonresponse bias and inform the need for a nonresponse bias analysis.

4. Tests of Procedures

Prior to implementation, the procedures were tested among nine eligible professionals and administrators. The survey instrument for Medicare beneficiaries will not be tested because it has been used over a period of time by different researchers.

Surveys of Eligible Professionals and Administrators

The questionnaires for the Surveys of Eligible Professionals and Administrators were pretested in February 2013. The survey pretest results determined that the information being requested in the survey is reasonable, clearly stated in coherent and unambiguous language, and collected in the least burdensome way possible. Pretest participants were selected purposively. As a result of the pretest, Econometrica will not make any recommendations for survey revisions.

Pretest responses to the survey questionnaires were collected electronically. The pretest was used to verify the average interview length, currently estimated at 10–15 minutes per respondent.

Survey of Medicare Beneficiaries

There are no plans to pretest the beneficiary survey, as the CAHPS family of surveys has been well validated and the survey methodology is consistent with that used to field CAHPS surveys.

5. Statistical Consultants

The following persons were consulted on the statistical aspects of this study:

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The companies that will actually collect and analyze the data for CMS are:

- Mathematica Policy Research will collect the Survey of Medicare Beneficiaries based on the CAHPS Clinician and Group Survey with the PCMH supplemental questions.
- Econometrica, Inc., will collect and analyze the Surveys of Eligible Professionals and Administrators and the Interviews of Eligible Professionals and Administrators. In addition, Econometrica will analyze the Survey of Medicare Beneficiaries based on the CAHPS Clinician and Group Survey data with the PCMH supplement questions.