C. SUPPORTING STATEMENT - PART B

COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS

1. Respondent Universe and Sampling Methods

a. Respondent Universe

MCMP OSS

The MCMP Demonstration targets small to medium-sized group practices (10 or fewer physicians) serving at least 50 traditional fee-for-service Medicare beneficiaries with selected chronic conditions for whom the practices are providing primary care. Targeted in addition to the three primary conditions—congestive heart failure, coronary artery disease, and diabetes mellitus—are Alzheimer's disease or other mental, psychiatric, or neurological disorders; any heart condition (such as arteriosclerosis, myocardial infarction, angina pectoris, or stroke); any cancer; arthritis and osteoporosis; kidney disease; and lung disease.

CMS selected four states—Arkansas, California, Massachusetts, and Utah—following criteria specified in the enabling legislation. The QIOs in the four MCMP Demonstration states recruited practices based on relationships built through CMS's Doctor's Office Quality-Information Technology (DOQ-IT) program, in which practices must participate to be eligible for the demonstration. Table C.1 presents the distribution of eligible practices, by size, in the four states.[9] Each demonstration state will be matched to a comparison state based on specific criteria that include demographic features, degree of HIT and pay-for-performance programs currently under way, and other factors. Alternate comparison states will be chosen if the initially selected comparison state does not have enough practices for matching.

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9 We cannot present a similar table for the EHRD due to the timing of practice recruiting.

TABLE C.1

DISTRIBUTION OF ELIGIBLE PRACTICES BY SIZE
IN MCMP DEMONSTRATION STATES

State	Practice Size	Number of Practices	Percentage
Arkansas	1	99	18.6
	2	259	48.8
	3	45	8.5
	4	48	9.0
	5	21	4.0
	6	20	3.8
	7	8	1.5
	8	16	3.0
	9	4	0.8
	10	11	2.1
California	1	3,051	43.6
	2	2,570	36.7
	3	518	7.4
	4	302	4.3
	5	154	2.2
	6	134	1.9
	7	103	1.5
	8	73	1.0
	9	45	0.6
	10	45	0.6
Massachusetts	1	468	41.8
	2	324	29.0
	3	90	8.0
	4	63	5.6
	5	52	4.7
	6	34	3.0
	7	26	2.3
	8	26	2.3
	9	22	2.0
	10	14	1.3
Utah	1	39	16.3
	2	112	46.7
	3	23	9.6
	4	23	9.6
	5	15	6.3
	6	9	3.8
	7	3	1.3
	8	7	2.9
	9	6	2.5
	10	3	1.3

Source: MCMP financial support contractor.

EHRD OSS

The EHRD targets small to medium-sized practices (20 or fewer physicians) that provide primary care[10] to at least 50 fee-for-service Medicare beneficiaries with congestive heart failure, coronary artery disease, diabetes, or other chronic diseases. CMS selected Louisiana, Maryland/ DC, Pennsylvania, and South Dakota as the sites for the demonstration. These four sites were not randomly selected from a population of states and practices; rather, they were chosen through a competitive process to identify "community partners" to assist CMS with education, outreach activities, and recruitment of physician practices. Community partners represent stakeholders that have ties to primary care physicians but are not required to have a specific type of organizational entity or structure.[11] Practices are invited to begin their participation by filling out and submitting a practice application form.

b. Sampling Methods

MCMP OSS

CMS recruited a total of 699 practices across the four MCMP Demonstration states using the QIOs' relationships with practices, and will select about 700 practices in the comparison states, in roughly equal proportion to the demonstration practices recruited in the four states. We will match practices in the comparison states to the demonstration practices based on size, experience with HIT, and use of ambulatory Medicare-covered services. Table C.2 lists the number of enrolled demonstration practices by state.

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10 The following physician specialties will be eligible to participate in the EHRD if they provide primary care: general practice, allergy/immunology, cardiology, family practice, gastroenterology, internal medicine, pulmonary disease, geriatric medicine, osteopathic medicine, nephrology, infectious disease, endocrinology, multispecialty clinic or group practice, hematology, hematology/oncology, preventive medicine, rheumatology, and medical oncology.

11 For example, in the MCMP Demonstration, practices were recruited by the Quality Improvement Organizations (QIOs) in the four demonstration states, using relationships built through CMS's Doctor's Office Quality-Information Technology (DOQ-IT) program, in which practices must participate to be eligible for the demonstration.

The demonstration states, and the practices within them, were not randomly selected from a population of states and practices. Furthermore, physician practices volunteered to participate. Thus, the sampled population cannot be generalized beyond those practices enrolled in the demonstration and their matched counterparts.

TABLE C.2

MCMP DEMONSTRATION NUMBER OF ENROLLED PRACTICES BY SITE

State	Number of Enrolled Practices
Arkansas	106
California	236
Massachusetts	236
Utah	121

We will ask all demonstration and comparison practices to complete the second and final round of the OSS. The survey will start in September 2009, 27 months after the start of the demonstration's operations. ARC, the MCMP implementation contractor, will provide MPR with a list of all demonstration and comparison group practices. The goal will be a 70 percent response rate from both these practices, for a total of 980 completed surveys (490 demonstration and 490 comparison group practices) from the 1,399 practices.

EHRD OSS

With the assistance of the community partners, CMS will recruit about 200 practices per site, for a total of 800. If, in a particular site, CMS receives more practice application forms than the target, preference will be given to the smallest practices and to those that are in the early stages of EHR adoption.

The sites and practices are not randomly selected from a population of states and practices. Furthermore, physician practices within each site volunteer to participate. Thus, the sampled population cannot be generalized beyond those practices enrolled in the demonstration. However, if the four demonstration sites represent a substantial portion of the physician practices' efforts to adopt and use EHRs nationwide, the evaluation's assessment of the overall impacts of the demonstration will reflect the experiences of a larger share of small to medium-sized practices in the nation.

In spring 2009, before the start of operations, the small to medium-sized practices that have volunteered to participate will be randomly allocated within each site to the treatment or control group, which will generate 100 treatment and 100 control group practices per site, or 400 treatment and 400 control group practices in total. The design plan randomly allocates each practice to the treatment or control group within specified strata. Four key stratifying variables capture practice characteristics, measured at baseline, that are likely to be associated with EHR adoption, quality of care, and Medicare expenditures: (1) site, (2) size, (3) urban or rural location, and (4) whether the practice already had an EHR at the time of application. Stratification ensures that treatment group practices are similar to control group practices on key factors likely to be associated with outcomes of interest. Adopting a stratified design maximizes the precision of impact estimates and avoids compromising the credibility of the evaluation with chance imbalances across stratifying factors.

We will ask treatment group practices to complete the OSS at the end of each of the five demonstration years. We will use their responses regarding use of EHR functions to calculate the payment given to each practice at the end of each demonstration year. We expect that up to 5 percent of treatment group practices (or a total of 20) may withdraw from the demonstration after the second year of operations as a result of their inability to implement the minimum EHR

functions required. Therefore, we expect that 100 percent of treatment group practices will complete the OSS within the first two years of the demonstration, but also that the number may drop slightly for each round of the OSS in years 3 through 5.

We will ask control group practices to complete the OSS after demonstration years 2 and 5. Since responses for these practices will not yield a payment, we do not expect a 100 percent response to each round, as we do for treatment group practices. Our goal instead is to obtain a 70 percent response rate to the OSS at each round, or 280 practices per round, from the 400 control group practices, at the end of years 2 and 5. Table C.3 lists the expected number of completed OSS surveys for the MCMP Demonstration and the EHRD by year.

EHRD – Qualitative Discussions with Demonstration Practices and Community Partners

We will conduct two rounds of qualitative discussions with 4 treatment group practices, up to 2 control group practices, and the community partner from each of the four sites. In total, discussions will be held with 16 treatment group practices, up to 8 control group practices, and four community partners per round. The average number of respondents per practice will be 3. For the first round, we will (non-randomly) select practices in each site to ensure that we achieve a mix of sizes, locations (urban and rural), and practices with and without an EHR in place. We will cluster practices geographically to make the site visit efficient, though the clustering does not have to be tight. For example, the practices in a large site could include 2 treatment group practices and 1 control group practice from a large urban area, a third treatment group practice

TABLE C.3

EXPECTED OSS COMPLETES BY DEMONSTRATION AND YEAR

Study (Year)	Number of Responding Treatment Practices*	Number of Responding Control Practices	Total Number of Responding Practices
MCMP Demonstration (2009)	490	490	980
EHRD (2010)	400	–	400
EHRD (2011)	400	280	680
EHRD (2012)	380	–	380
EHRD (2013)	380	–	380
EHRD (2014)	380	280	660

*Assumes that 5 percent of treatment group practices will withdraw at the end of demonstration year 2.

from a rural area outside that urban area, and a fourth treatment group and second control group practice from or near a small urban area two hours away from the large one. Based on the data from the practice application forms, we will select some practices that did and some that did not have an EHR in place at the start of the demonstration. We will conduct discussions for the second round with the same practices as in the first round.

In addition, up to 6 practices that withdraw from the demonstration will be selected (non-randomly) for telephone discussions in spring 2012. All practices that have withdrawn up to that point will be eligible for selection. If more than 6 have withdrawn, we will use application or OSS data (to the extent they are available) to select a mix of practices in terms of the month they withdrew, their size, their geographic location, and their stage of EHR implementation (for

example, we would select at least 1 practice with an EHR in place if some practices with EHRs withdrew). Table C.4 presents the number of sites, contacts, and discussions by demonstration year.

TABLE C.4

EHRD PRACTICE DISCUSSIONS BY YEAR AND ROUND

Year	Practices (Round)	Number of Sites	Total Number of Practices/Community Partners Contacted	Total Number of Staff Discussions per Site
2010	Participating practices (Round 1)		16 treatment practices	72 practice staff
		4	up to 8 control practices	
			4 community partner	4 community partners
2012	Practices that withdrew	–	6 treatment practices	6 practice staff
2014	Participating practices (Round 2)[a]		16 treatment practices	72 practice staff
		4	up to 8 control practices	
			4 community partners	4 community partners

2. Procedures for the Collection of Information

EHRD OSS

A self-administered web survey will be the primary data collection mode for the EHRD OSS. Respondents will be sent (1) a letter, printed on CMS letterhead and signed by the CMS Privacy Officer, describing the survey and providing a secure login and PIN; and (2) a fact sheet of answers to commonly asked questions about the study and the survey. (A copy of the letter is included as Appendix D to this submission; Appendix E contains the fact sheet.) The OSS questionnaire (Appendix F) has been designed so that office managers or administrators (the

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a Round 2 interviews are conducted with the same practices that were interviewed in Round 1.

likely respondents) will be able to complete the survey in 29 minutes. We expect that 90 percent

of responding practices will complete the OSS on the web, with a small number completing it via

a paper-and-pencil questionnaire.

The following topics will be covered by the EHRD OSS:

- *Section 1: General Practice Information.* This section collects information on the enrolled practices, including name, address, telephone number, affiliation with an independent practice association, and participation in any other quality reporting or improvement initiatives.

- *Section 2: Provider Profile.* This section asks about the providers enrolled in the demonstration, such as their name, specialty, credentials, primary practice location, and provider and Medicare billing numbers (provider identification number or PIN).

- *Section 3: Use/Planned Use of EHRs, E-Patient Registry, or E-Prescribing Systems.* This section collects information about the various types of electronic systems (EHRs, patient registries, and prescribing) currently in use or planned for use in the practice, and the number of providers who use these systems.

- *Section 4: EHR, Patient Registry, and Prescribing System Functions.* This section collects information about the various functions that practices' use for each of the systems identified in Section 3, and the proportion of patients for which they use each function. Functions are organized under five domains: 1) completeness of information; 2) communication of care outside the practice; 3) clinical decision support; 4) use of the system to increase patient engagement/adherence; and 5) medication safety.

- *Section 5: Data Attestation.* This section requests that the respondent confirm that the responses are a correct assessment of the practice, that the survey responses are accurate, and that they may be subject to validation.

Each round of the OSS will be administered over a two-month period beginning in April.

We will establish a toll-free help desk and general email address at MPR for assistance with the

survey. Table C.5 presents the expected data collection activity by week during the field period.

The advance letter will be mailed to practices just prior to the start of data collection (i.e., in late

March) when the web survey is available to access online. We will supplement the advance letter

with three follow-up mailings: (1) a thank-you postcard or email sent to all practices roughly 2

weeks later, (2) a reminder postcard or email to all nonresponding practices 4 weeks later, and

(3) a second reminder postcard or email to all nonresponding practices 6 weeks later. About halfway through the field period (or 4 weeks after the advance letter mailing), MPR will call nonresponding practices to request their participation, answer questions, and identify practices that prefer a paper-and-pencil questionnaire. Practices that request such a version will be sent one. Data collection will continue through week 8.

We will validate OSS responses for 25 percent of responding treatment practices using the OSS Validation Form (Appendix G). We will ask practices to complete the Validation Form after they have completed the OSS in order to verify their survey responses.

TABLE C.5

OSS DATA COLLECTION ACTIVITY BY WEEK

Week of Data Collection	Activity
1	Advance letter mailed to practices
2	Thank-you postcard/email sent to practices
4	Reminder postcard/email sent to nonresponding practices
4	Telephone reminder calls to nonresponding practices
5	Paper-and-pencil questionnaires mailed/faxed to practices that request them
6	Second reminder postcard/email sent to nonresponding practices
8	Survey field period ends

MCMP OSS

A self-administered web survey will be the primary data collection mode for the MCMP OSS. Respondents will be sent a letter, printed on CMS letterhead and signed by the CMS Privacy Officer, describing the survey and providing a secure login and PIN, and a fact sheet of answers to commonly asked questions. A copy of the letter is included as Appendix H to this submission; the fact sheet is in Appendix I. The OSS questionnaire (Appendix J) has been designed so that office managers or administrators (the likely respondents) will be able to

complete it in 29 minutes. Although the EHRD and MCMP OSS instruments cover many of the same topics, the organization and content of the specific survey questions differ between the two instruments.

The following topics will be covered by the MCMP OSS:

- *Section 1: General Practice Information.* This section collects information on the enrolled practices, including name, address, telephone number, affiliation with an independent practice association, and participation in any other quality-reporting or improvement initiatives.

- *Section 2: Provider Profile.* This section asks about the providers enrolled in the demonstration, such as their name, specialty, credentials, primary practice location, and provider and Medicare billing numbers (PIN).

- *Section 3: Office Practice.* This section asks about changes in practice workflows that have occurred as a result of transitioning from paper to electronic systems.

- *Section 4: Electronic Health Record.* This section collects information about the use or planned use of an EHR in the practice, the types of functions used, and the proportion of patient visits/encounters for which the functions are used.

- *Section 5: Patient Registry/Care Management Processes.* This section collects information about the use or planned use of an electronic patient registry or care management process in the practice, the types of functions used, and the proportion of patient visits/encounters for which the functions are used.

- *Section 6: Electronic Prescribing.* This section collects information about the use or planned use of electronic prescribing in the practice, the types of functions used, and the proportion of patient visits/encounters for which the functions are used.

- *Section 7: Data Attestation.* This section requests that the respondent confirm that the responses are a correct assessment of the practice.

- *Section 8: Final Comments.* This section invites the respondent to provide any additional comments.

MPR's goal is to complete surveys with 980 practices (490 demonstration and 490 comparison) for a 70 percent response rate from the 1,399 practices. The data collection procedures for conducting the MCMP OSS are the same as for the EHRD OSS, except that the field period will run for 17 weeks, no validation will be conducted of MCMP survey responses and no $50 incentive offered to comparison group practices for completing the survey.

EHRD Discussion with Demonstration Practices and Community Partners

We will use a semistructured guide for discussions with practices and community partners (see Appendix K for the discussion guides for treatment and control practices, withdrawn practices, and community partners). The guides for treatment and control group practices will be similar, except that questions pertaining to the demonstration will not apply to the latter.

We will conduct in-person visits across all four sites for practices selected for discussions. Each site visit will be led by a two-person MPR team consisting of (1) a senior project team member, and (2) a research analyst responsible for documenting each visit and making sure the content areas are covered.

Scheduling for each contact will begin four to eight weeks before the target date for the contact. To each practice selected for discussion, we will send an introductory letter, signed by a CMS Project Officer, describing the study and encouraging participation. A copy of this letter is included as Appendix L to this submission. Follow-up calls will be made a week later, and many offices will need to have the letter faxed or emailed to them again. A confirmation letter will be faxed or emailed to sites that agree to participate, and a second confirmation call will be made the week before the visit.

Each office visit will be two to three hours long, depending on practice size, and will include discussions with three office staff: (1) a physician representative (30 minutes in small practices, up to 60 minutes in larger ones); (2) a nurse or other clinical staff member involved in care management and care coordination (30 minutes); and (3) an administrative person responsible for overseeing the adoption and implementation of the IT system (60 minutes). The physician who has been most involved with any changes (or planned changes) in response to the demonstration will be targeted for the physician discussion. If all potential physician respondents are equal in this regard, the one with the most Medicare patients will be targeted. In practices

with a medical director (assuming the person is also a practicing physician), he or she will be interviewed as the physician representative, and the time frame will be extended from 30 to 60 minutes. For larger practices that have a chief executive officer, a chief financial officer, a marketing director, or similar personnel who could inform the project, we will schedule an additional 45-minute group interview.

Discussion topics will include (1) practice perspectives on the demonstration; (2) facilitators and barriers to adopting and implementing HIT; (3) participation in other pay-for-performance or quality-reporting programs; (4) adaptation of practice operations as HIT is implemented; (5) staff attitudes toward HIT; (6) staff use of HIT functions and changes in job responsibilities as a result of adopting HIT; and (7) effects of HIT on the practice, such as increasing orientation to quality and safety.

For each practice that uses an EHR, e-prescribing, or e-registry for at least some care management functions, a 30-minute demonstration will be requested to show in real time how they use their EHR for care management functions. In the second round of in-person visits, the requests to demonstrate will be based on the practice's OSS responses to its year 4 OSS.

In addition, during the site visit discussions, documentation related to the types of changes that are discussed may be requested, with any personal health information de-identified. Examples of such documentation include a copy of an internal quality indicators report that the practice produces, or a copy of the type of self-management plan the practice uses its system to generate. Any documentation obtained will contain no identifiable information. Under no circumstances will any personal health information be recorded in discussion notes.

Before each round of practice contacts, we will have a one-hour discussion with key staff from each of the community partners who helped CMS recruit, and provide outreach and education to, the practices enrolled in the demonstration. Discussions with community partners

will include several topics: (1) partners' experience recruiting practices, (2) practice needs for the demonstration to be successful, (3) plans for working with and facilitating assistance to practices, (4) perceptions of practices' progress under the demonstration, and (5) other (non-EHRD) HIT activities in the site. This will provide a solid background on the demonstration recruitment (Round 1) and operational experience (Round 2), as well as communication strategies and messages (both rounds) prior to undertaking any practice-level discussions. Such discussions will greatly assist the MPR team in interpreting practice staff statements and probing appropriately.

We will conduct telephone interviews with up to 6 practices that withdraw from the demonstration, to determine the reasons for withdrawal and assess whether withdrawing practices are systematically different from remaining practices. Discussions with withdrawn practices will include (1) why the practice enrolled in the demonstration and what it hoped to gain; (2) why the practice decided to withdraw (extensive probes); (3) whether the practice participates in other pay-for-performance programs and if so, how they differ from EHR; (4) if not, under what circumstances they would participate in a pay-for-performance program again; and (5) what, if anything, could have been done differently that would have prevented the withdrawal.

3. Methods to Maximize Response Rates

EHRD OSS

MPR will utilize an initial advance mailing to alert both treatment and control group practices about the survey. The letter will be printed on CMS letterhead, personally addressed, and signed by the CMS Project Officer. It will include the email address and toll-free telephone number of Mindy Hu, MPR's survey manager for the OSS, whom practices can call for assistance, as well as a fact sheet with answers to commonly asked questions. Treatment practices will be aware that an annual survey is conducted as part of the demonstration and will

be motivated to respond, since their payment will be calculated based on their responses. Control group practices will also be aware of the survey but may be less motivated to respond since they will receive no payment. Therefore, to ensure a high response rate, we will offer control group practices $50 to complete the OSS.

Roughly two weeks after the initial letter is mailed, postcards or emails will be sent to all practices to thank those who completed the survey and to encourage those who haven't responded to log on and do so. Another round of reminder postcards or emails will be sent roughly four weeks after the initial letter is mailed. About four weeks after the initial mailing, telephone interviewers trained at negotiating with gatekeepers for access to health care administrators and physicians will make reminder calls to sampled practices. The purpose of these telephone contacts will be to encourage participation in the OSS, answer questions, and identify practices that prefer to complete a paper-and-pencil survey. Such surveys will be mailed to those practices that request one, along with a postage-paid, addressed return envelope. A final round of reminder postcards or emails will be sent roughly six weeks after the initial letter. These efforts are projected to yield a response rate of 100 percent among treatment group practices and 70 percent among control group practices.

MCMP OSS

The MCMP OSS data collection will use the same methods to maximize response rates as the EHR OSS, except that the field period will be 17 weeks long and comparison group practices will not receive any incentive for completing the survey. These efforts are projected to yield a response rate of 70 percent for both demonstration and comparison group practices.

EHRD Discussions with Demonstration Practices and Community Partners

MPR will take a number of steps to gain practices' participation in the in-person and telephone discussions. All practices will be sent a personalized introductory letter, printed on CMS letterhead and signed by the CMS Project Officer, providing an overview of the study and highlighting the importance of the practice contacts to the evaluation. The letter will provide the telephone number and email address of Ms. Sue Felt-Lisk, MPR task leader for the implementation analysis.

Practices will be contacted by telephone within a week of the mailing so that the letter is still fresh in their minds. During the calls, trained recruiters will emphasize that their participation is important and that the schedule will be arranged to accommodate the demands of their practice. We will re-mail or fax a copy of the letter to practices that did not receive or that misplaced their letter, and follow up with these practices a few days afterwards. Unresponsive practices will be recontacted on a regular basis, unless they have clearly refused to participate. After a practice has agreed to participate, we will send a confirmation letter and call to confirm a week prior to the in-person or telephone discussion.

4.   Tests of Procedures Or Methods

EHRD OSS

We conducted a pretest of the OSS with a convenience sample of eight practices that have and use EHR systems in central New Jersey. We made initial calls to solicit their cooperation, and mailed a paper-and-pencil questionnaire to eight practice administrators or office managers, instructing them to fill out the questionnaire, keep track of how long it took to complete it, and fax it back to MPR. A telephone debriefing was conducted with pretest respondents about their experience completing the survey. MPR staff asked questions to assess respondents' cognitive understanding of key terms and to identify any problems in answering questions or navigating

the instrument. Estimates of the time it took to complete the questionnaire were also obtained, as well as whether the respondent needed help from other practice staff and the level of effort it took those additional staff.

MPR staff asked the same eight practices to complete the Validation form and to estimate the time required to complete that instrument. The goal was to obtain a burden estimate for the validation of OSS responses. Estimates of how long it took to complete the Validation form were obtained, as well as whether the respondent needed help from other practice staff to complete the form and the level of effort it took those additional staff.

MCMP OSS

A pretest of the MCMP OSS was conducted with a convenience sample of three practices that have and use EHR systems in central New Jersey. The same pretest procedures for the MCMP OSS pretest were used as for the EHRD OSS pretest.

EHRD Discussions with Demonstration Practices and Community Partners

The discussion guides developed for the EHRD evaluation were taken in large part from guides developed and used on similar evaluations to interview practice staff and local community agency staff. The guides have been tested and validated on these other evaluations and therefore do not need to be pretested.

5. People Involved in Design

The following people have contributed to the study design and to the design of the OSS instruments, site visit protocols, and telephone interview protocols:

- Ms. Jennifer Schore, an MPR senior health researcher and study project director, (609) 275-2380

- Ms. Martha Kovac, an MPR associate director of survey research and study survey director, (609) 275-2331

- Ms. Sue Felt-Lisk, an MPR senior health researcher and study co-principal investigator, (202) 484-4519

- Dr. Lorenzo Moreno, an MPR senior health researcher and study principal investigator, (609) 936-2776

- Dr. Lorraine Johnson, CMS Project Officer, Office of Research, Development, and Information, (410) 786-9457

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