Supporting Statement for EHR Adoption in Ambulatory Physician Care Practices

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Prepared for
Office of Management and Budget

Prepared by
RTI International
George Washington University
Massachusetts General Hospital
On behalf of
National Coordinator for Health Information Technology
Department of Health & Human Services

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JUSTIFICATION AND BACKGROUND

1. Circumstances Making the Collection of Information Necessary

Health information technology (HIT), and electronic health records (EHR) in particular, have the potential to advance health care quality by helping patients with acute and chronic conditions receive recommended care, diminishing disparities in treatment, and reducing medical errors. Nevertheless, EHR dissemination has not occurred rapidly for a variety of reasons, including the high cost of installation, lack of organizational capability and support among health care providers, legal and regulatory obstacles, and the technological uncertainties inherent in EHR systems themselves.

On April 27, 2004, the President issued an executive order (EO) announcing his commitment to the use of health information technology (HIT) in order to reduce medical errors, lower costs, and provide better information for consumers and physicians. The EO directed the Secretary of Health and Human Services to establish within the Office of the Secretary the position of National Coordinator for Health Information Technology. Executive Order 13335 gave the Office of the National Coordinator the authorization to conduct studies to collect information to advance the development, adoption and promotion of Health Information Technology.

An information base that includes data on variation in EHR adoption by provider type and geography, and reports on successful dissemination and implementation strategies, is thought to be critical for future policy development in this area. The purpose of this project is to ascertain the level of EHR adoption in the ambulatory care setting among physicians and physician group practices through the use of national surveys of physicians and practice managers. This effort would be led by researchers at the George Washington University (GWU), the Massachusetts General Hospital (MGH), and RTI International. The survey would seek to gain insight into the EHR adoption process, which includes acquisition, implementation, and use of an EHR system, as well as barriers and incentives to adoption. No individually identifiable information will be required to be collected; therefore there is no threat to privacy. In addition, the study would seek to understand if EHR adoption is happening at differential rates among providers who serve vulnerable populations (e.g., racial and ethnic minorities, those enrolled in Medicaid).

This effort, under contract to the Office of the National Coordinator for Health Information Technology (ONC), builds on prior work conducted by this group that sought to understand the current information base for EHR adoption[1] In 2006, the research team conducted an environmental scan of all surveys of EHR adoption conducted between 1997 and 2005. (The full findings from the environmental scan are reported in Appendix A.) These surveys were rated by the project team on the quality of their methodology and content. Survey quality was judged according to benchmarks set by survey research literature and expert consensus using opinion leaders in the field. The following variables were considered in rating the quality of the survey methodology:

Source of sample	Dates of field work	Study representativeness
Sample size attempted and completed	Availability of the full questionnaire for review	Effort at achieving high response rate

[1] Jha, AK; Ferris, TG; Donelan, K; DesRoches, C; Shields, A; Rosenbaum, S; and Blumenthal, D. (November-December 2006). "How Common Are Electronic Health Records in The United States? A Summary of The Evidence" *Health Afairs;* 25(6): w496-w507.

Sample design	Disclosure of sponsor	Sample size
Response rate and methods used to calculate it	Use of a professional survey or research organization	Questionnaire development process

Content quality was rated according to a survey's relevance to six key areas approved by our Expert Consensus Panel (ECP) (see Exhibit B-5.1 in Section B for a list of Expert Consensus Panel members) as the critical core elements for measuring EHR adoption.

- Whether the practice or organization had an EHR
- Whether the survey distinguished between EHR acquisition, installation, and use
- Name of EHR functionalities
- Measures of incentives for EHR adoption
- Measures of barriers for EHR adoption
- Ability to identify barriers in adoption among different populations

Only two surveys achieved a high quality rating for both methodology and the five content areas. Only one ongoing survey, the National Ambulatory Medical Care Survey (NAMCS) (OMB #09200234, exp 8/31/2009), achieved a high quality methodology rating.

Overall, this systematic review found that the currently available survey data are limited by inconsistencies in sampling techniques, data collection instruments and terminology, and varying response rates[2]. The existing survey research allows some general inferences, but it cannot be used to generate precise, valid, and reliable estimates of rates and patterns of EHR adoption at any point in time or longitudinally. This research also cannot validly identify areas where adoption may be lagging, such as safety net institutions or other facilities serving vulnerable populations.

2. Purpose and Use of Information Collection

The National Ambulatory Medical Care Survey remains an excellent vehicle for collecting data from physicians. It includes several measures of the availability of EHR functionalities, as well as one measure of EHR use and one of planned EHR acquisition. However, our ECP has suggested that in order to achieve a comprehensive measure of EHR adoption, this list of EHR functionalities should be expanded to target a wider range of EHR functionality use among physicians than those that could be ascertained from the 2007 NAMCS (see Appendix B for the proposed survey). This would require a modification of the NAMCS 2008 survey. Because of the way that NAMCS is fielded, data from the 2008 survey would not be available until July 2009 at the earliest. ONC, however, has specifically asked for data in a shorter time period in order to make policy choices in the EHR arena. Data from this proposed survey would be available in the late Fall 2007, approximately 18 months sooner than NAMCS. For this reason, our survey would serve to provide data for policy development until the 2008 NAMCS data becomes available. As the administration has called for near universal adoption of this technology by 2014, having data on issues critical to policy development by 2007 could significantly assist in the achievement of the administration's very time-sensitive and ambitious goals with respect to dissemination of EHRs.

The survey would provide needed baseline data for policymakers in the following domains:

[2] Olson, L., et al. 1999. "Use of web site questionnaire as one method of participation in a physician survey," Annual meeting of the American Association for Public Opinion Research. Shosteck, H. and WR Fairweather, 1979. "Physician Response Rates to a Mail and Personal Interview Survey," *Public Opinion Quarterly,* 43:2 206-17; and Parsons, JA., et al. 1994. "Factors Associated with Response Rates in a National Survey of Primary Care Physicians," *Evaluation Review,* 18:6 756-66.

SURVEY DOMAIN	JUSTIFICATION FOR INCLUSION
EHR Acquisition	Would provide definitive baseline data on where physicians/group practices are in the adoption cycle.
EHR Implementation	Would provide definitive baseline data on where physicians/group practices are in the adoption cycle
EHR Use	Would provide needed data on the proportion of physicians and group practices that have accomplished the administration's goal of EHR adoption.
Barriers to EHR Adoption • Legal barriers • Organizational barriers • Financial barriers • State of the technology	Data on barriers to adoption would allow policymakers to understand the factors that are impeding adoption at the individual physician and group practice level.
Incentives to HER Adoption • Legal incentives • Organizational incentives • State of the technology	Understanding physicians' and practice managers' beliefs about incentives for EHR adoption would allow policymakers to address misconceptions, as well as prioritize incentive programs likely to spur adoption and/or place resources in areas where they would be likely to have the greatest impact
Practice Characteristics	Data on practice characteristics will allow researchers to examine rates of adoption among different practice sites. This would also allow policymakers to determine if and why practices serving vulnerable populations are adopting this new technology at a differential rate, possibly exacerbating disparities in treatment and quality of care.

NAMCS is designed to collect data on a number of aspects of physician practice. Due to the breadth of topics already included in NAMCS, however, it is unlikely that the survey would be able to accommodate the inclusion of all these critical domains without causing undue burden to respondents. Therefore, in order to collect the data necessary to shape federal policy in this area, new data collection efforts are required. This will only collect data that is currently not collected by NAMCS.

3. Use of Improved Information Technology and Burden Reduction

The data collection protocol reflects DHHS's objective to gather accurate information efficiently while minimizing respondent burden. Literature concerned with physician surveys indicates that allowing

for multiple modes of data collection not only lessens respondent burden, but also improves response rates.[2] Further, offering alternative response methods is both a technologically feasible and cost-effective method of collecting high quality data. Finally, RTI has the capacity to efficiently combine data from all three streams in secure electronic environments and without data loss. We propose dividing the survey into two parts in order to direct appropriate questions to the most knowledgeable source of information. This is particularly important in the area of the use of an EHR. Individual physicians are more likely than practice managers to reliably report on their use of individual EHR functionalities. Practice managers will be more knowledgeable than physicians about such practice characteristics as panel payor mix and the amount of un-reimbursed care provided in the last year. Practice managers are also more likely to know about EHR adoption at other practice sites in a multi-site group practice.

Splitting the survey into two parts, directed at different respondents, will also ease the data collection burden on both parties. For physicians, a succinct survey of roughly 48 questions will be self-administered after delivery by U.S. Mail or via the Internet. Participants also will be afforded a telephone option through the use of computer-assisted telephone interviewing (CATI) technology. Practice managers will be asked to complete an associated four-page (32 item) form delivered in the same manner as the physician survey. The practice managers' survey appears in Appendix C.

4. Efforts to Identify Duplication and Use of Similar Information

As described above, we inventoried and analyzed existing surveys to determine the adequacy and comprehensiveness of the data currently being collected. Through that study, we determined that there is a need for new data collection on EHR adoption. This new data could form the basis for policy development to spur EHR adoption.

No other data collection is being conducted currently that can meet the goals of the EHR Survey or the data needs of the Office of the National Coordinator as they relate to the administration's goal of near universal adoption of EHRs by 2014. Further, the survey is designed as a vehicle for seamlessly adding questions to an existing survey (NAMCS), so that it can become the source of ongoing monitoring of EHR adoption in the future.

5. Impact on Small Business or Other Small Entities

Some respondents selected for inclusion will be small businesses, such as physicians in solo practice or in two-to-five-physician practices. The time to read instructions and to complete the survey is estimated at 20 minutes. The use of this time is the only foreseeable immediate effect on small businesses. There is no expectation of special record-keeping or for the respondent to review records prior to participation. The practice managers' survey will be up to four pages in length and take no more than 10 minutes to complete. These estimates are based on tested timing from surveys of similar length and with similar highly literate audiences.

Moreover, to minimize the burden on respondents in all practices, and on small groups in particular, the information being requested has been held to the absolute minimum required for the intended use. The physicians' survey is limited to six pages and collects 48 data items; the practice managers' survey is limited to four pages and collects 32 data items.

This survey may ultimately be helpful for solo practitioners and small group practices, as it will identify barriers to their adoption of this new technology. The proposed sample size (see Section B.2.3 for a full discussion of the proposed sample size) will allow researchers to examine variations in the importance of barriers and incentives to adoption by practice size, thereby allowing for policy development that could target incentives to practices based on their size.

6. Consequence to Federal Program of Not Collecting This Information

The survey would effectively serve as a way of improving the ability of NAMCS to monitor EHR adoption on an ongoing basis. While it is somewhat different in design from NAMCS, the physicians and practice managers survey build on the current NAMCS instrument and will be compatible with NAMCS data (see Section B .2.1 for a discussion of the methodologic differences between this proposed survey and NAMCS). This study will provide a tool for collecting timely and valuable additional data vital to short-term policy development. A failure to collect these data would diminish the ability of DHHS-ONC to create the knowledge base essential to understanding EHR adoption and its barriers among medical practices. Further, the data collected are key to the ability of federal agencies to design policies that strengthen the use of health information to monitor and respond to the spread of disease, adverse reactions to treatments, and the increasing costs of federal health care programs such as Medicare and Tricare. Only by correctly identifying barriers to usage can public health agencies develop strategies to surmount those barriers and encourage adoption of EHR systems. Over the longer term, the survey would result in a more comprehensive understanding of physician use of EHR functionalities by providing DHHS-ONC with the ability to ensure that questions intended for integration into NAMCS will collect the information desired.

7. Special Circumstances

This is currently conceived of as a one-time data collection effort. It is expected that approximately six items related to EHR adoption ultimately will be absorbed into future rounds of NAMCS, which is an existing longitudinal effort (see Section A. 12.2 for a list of items proposed to be included in the 2008 NAMCS). Staff from NAMCS (see Exhibit B-5.1 in Section B for the list of National Center for Health Statistics staff members who have participated in the project) have been involved with the project as federal observers and have been integral in the review of the proposed survey instrument.

For the purposes of the EHR Survey, we see no circumstances in which respondents would have to a) report this data more than once; b) prepare written responses; c) submit more than one, original version of the survey; d) keep records which they do not already keep; e) classify data in a way unusual to OMB; or f) divulge proprietary or trade secrets.

8. Federal Register Publication

8.1 Federal Register Publication. The notice was published in the Federal Register for a 60-day comment period on February 9, 2007 (Volume 72, number 27, page 6244). There were no public comments.

8.2 Consultations with Parties Outside Funding Agency. In order to ensure the technical soundness of the study and the relevance of its findings for DHHS-ONC and practicing physicians, we have consulted with a diverse group of experts both inside and outside the federal government over the course of this project. A list of the ECP members, as well as project staff and federal government participants, can be found in Exhibit B-5.1. Their advice is summarized in the manuscript *Health Information Technology in the United States: The Information Base for Progress.* This report was compiled by leading researchers representing universities and medical schools, federal agencies, research institutes, and philanthropies. A copy of this report is included in Appendix A and is available on the Web at www.hhs.gov/healthit/ahic/materials/meeting10/ehr/2006_rpt_HIT_US.pdf. In addition, the ECP, including a representative from NAMCS, worked closely with us in developing the survey instruments, sampling design, and other related matters.

8.3 Consultations with Representatives of Those from Whom Information Is to Be Obtained. The research team took several steps during the survey development process to ensure that the survey would be relevant to the physicians and practice managers surveyed. First, the ECP (Exhibit B-5.1) included seven practicing physicians, as well as representatives of the American Medical Association and the Medical Group Management Association. Their views were integral to the development of the survey domains and the proposed surveys. Second, focus groups were conducted with physicians and practice managers in three cities as part of the survey development process. Finally, case studies were conducted with

physician group practices to ensure that the research team had a full understanding of the process of EHR adoption. Please refer to Section B-5 .2 of this document for more information on this process.

9. Payments or Gifts to Respondents

This data collection plan includes offering $20 honoraria to all physician respondents. Existing research on the use of incentives in survey research with physician respondents indicates that incentives improve the response rate and thus the validity of the results[3]. Moreover, current research suggests that it is more cost-effective to make pre-payment than payment following completion[4]. At the same time, a stipend of this amount is not likely to cause the respondent to feel coerced into participation. For this sample, such a sum is viewed as a token of appreciation, rather than compensation[5]. A check, payable to the order of the sampled physician, will be mailed to each physician in the first mailing of the questionnaire.

10. Assurance of Confidentiality and Data Security

This study is being conducted in accordance with all relevant regulations and requirements of federal law, including the Privacy Act of 1974 (5 U.S.C. § 552a), the Privacy Act Regulations (34 C.F.R. pt 5b), and the Freedom of Information Act (5 C.F.R. 552) and related regulations (41 C.F.R. pt 1-1, 45 C.F.R. pt 5b, and 40 C.F.R. 44502). RTI will withdraw any personally identifying data before any draft or final data set is submitted to DHHS, GWU, or MGH, and no information capable of personally identifying any respondent will be included in any data set submitted to these same groups. Data on physicians interviewed for this study will be published in aggregate statistical form only.

11. Justification for Questions of a Sensitive Nature

The information collected in this study is not generally sensitive. Proposed survey topics include opinions and behaviors related to the use of electronic record-keeping and barriers and facilitators to the adoption of EHRs. The proposed physician survey does include a request for the physician's Universal Provider Identification Number (UPIN). This would be only used to link to the Medicare claims database in order to verify the racial and ethnic makeup of the physician's patient panel. RTI has the capability to make this link and strip the data of any identifiers.

The current survey also includes items related to practice revenue. This information is necessary to explore the relationship between practice revenue and propensity to adopt EHR systems.

12 Estimates of Hour Burden of the Collection of Information

12.1 Estimates for Hour Burden in the EHR Survey. The total reporting hours of burden associated with the data collection for the physician portion of the EHR Survey are 1,000 hours. Exhibit A- 12.1 displays respondent burden time estimates for this study, and provides a summary by respondent type of the sample size, estimated response time per respondent, and total response time. Each completed interview will take, on average, 20 minutes or about 0.33 hours to administer. This includes reading cover letters and instructions. Practice managers would take a

[3] Mullin, PD, et al. (1999).). "The Cost Effectiveness of Randomized Incentives and Follow UP Contacts in a National Mail Survey of Family Physicians," Evaluation and the Health Professions, 10:2 232-54. Lockhart, DC (1991) "Mailed Surveys of Physicians, the Effects of Incentives and Length on the Return Rate," Journal of Pharmaceutical Marketing & Management, 6:1 107-21; and Berk, ML, et al. (1990) "The Use of Prepaid Incentives to Convert Non-responders in a Mail Survey of Physicians," ASA Proceedings of the Section on Survey Research Methods, 766-69.

[4] Hogan, SO (2006). "The Costs of Using a Pre-Paid Incentive in a Physician Survey," paper presented to the Midwest Association for Public Opinion Research, Chicago, IL. Nov. 17-18, 2006.

[5] Thran, SL, and ML Berk (1993). "Surveys of Physicians: An Overview," paper presented to the American Statistical Association annual meeting.

shorter, four-page questionnaire. This is expected to take approximately 10 minutes to complete and about 500 minutes in aggregate. This estimate is based upon experience with studies of similar length.

12.2 Exhibit A-12.2. Estimated Burden for Electronic Health Records Survey

EHR Survey	Number of Final Respondents	Observations per Respondent	Individual Response Burden (minutes)	Annual Burden (hours)
Physicians	3000	1	20/60	1,000
Practice Managers	3000	1	10/60	500
Total				

12.3 Estimated Annualized Cost to Respondents for the Hour Burden. There is no cost to respondents for participating in the survey, except for the hourly cost identified in heading 12.1. They will not be asked to keep any records. Assuming a physician's average personal earning capacity is $87.00 per hour and an average length of survey completion is 0.33 hours, the average cost to each physician respondent is $29.00.[6] At an estimated hourly wage rate of $33.00, the cost to practice managers is approximately $4.00 per person.[7] The total cost to the respondents is $103,500.These estimates are displayed in Exhibit A 12.3 below.

Exhibit A-12.3: Estimated Annual Costs to Respondents:

Respondents	Hourly wage	Total burden hours	Total cost
Physicians	$87.00	1,000	$87,000
Practice managers	$33.00	500	$16,500

13. Estimates of Annualized Cost to the Respondent for Record-Keeping

This is currently planned as a one-time survey and there are no associated costs of ongoing record-keeping. There is no expectation that respondents will acquire or use any equipment not already in respondents' possession.

14. Estimated Annualized Costs to the Federal Government

The total cost to DHHS of conducting this study is $497,869, which includes development of scientific procedures for data collection, the data collection, and analysis and reporting of the resulting data. This estimate was reached by analyzing financial awards to GWU/MGH to conduct this study. The additional content that could be easily incorporated into NAMCS is not expected to significantly increase that survey's cost to the federal government.

15. Reasons for Any Program Changes or Adjustments

This is a new data collection.

16. Plans for Tabulation and Publication

It is expected that one to two publishable manuscripts will be generated from these data. Several additional conference reports could also result. It is presumed that standard techniques for statistical analysis will be employed in any such manuscripts or reports.

Full implementation of the data collection is expected to begin in June of 2007. Preliminary data would be available in late Fall 2007. Appendix D presents a project schedule.

17. Reason for Not Displaying Expiration Date for OMB Approval

The OMB number and expiration date will be displayed on the cover of the data collection instruments and advance letters.

18. **Exceptions with "Certification for Paperwork Reduction Submissions"**

Not applicable.

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6 Based on median salary of $175,000 and a 55 hour work week reported in on pp. 5-6 of Kane, CK and Loeblich, H (2003) "Physician Income: A Decade In Review," in *Physician Socioeconomic Statistics,* Chicago: American Medical Association.

7 Based on average national incomes of office managers. Presented by U.S. Department of Labor's Occupational Information Network, Online (O*NET) on the Internet at http://online.onetcenter.org/.

APPENDIX A:
HEALTH INFORMATION TECHNOLOGY IN THE UNITED STATES: