SUPPORTING STATEMENT

Part A

Patient-Reported Health Information Technology and Workflow

March 28, 2013

Agency of Healthcare Research and Quality (AHRQ)

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A. Justification

1. Circumstances That Make the Collection of Information Necessary

The mission of the Agency for Healthcare Research and Quality (AHRQ) set out in its authorizing legislation, The Healthcare Research and Quality Act of 1999 (see http://www.ahrq.gov/hrqa99.pdf), is to enhance the quality, appropriateness, and effectiveness of health services, and access to such services, through the establishment of a broad base of scientific research and through the promotion of improvements in clinical and health systems practices, including the prevention of diseases and other health conditions. AHRQ shall promote health care quality improvement by conducting and supporting:

1. Research that develops and presents scientific evidence regarding all aspects of health care;
2. The synthesis and dissemination of available scientific evidence for use by patients, consumers, practitioners, providers, purchasers, policy makers, and educators; and
3. Initiatives to advance private and public efforts to improve health care quality.

The Agency for Healthcare Research and Quality (AHRQ) is a lead Federal agency in developing and disseminating evidence and evidence-based tools on how health information technology (IT) can improve health care quality, safety, efficiency, and effectiveness.

Health IT can improve quality of care by arraying relevant information, displaying clinical guidelines, highlighting test values of concern, calculating medication doses, and supporting clinical decisionmaking in many ways (Chaudhry et al., 2006). Successful health IT implementation requires careful attention to the workflow of clinicians and others involved in care delivery. However, few studies have examined how health IT can change workflow in ambulatory physician practices. Further, in most studies that address health IT in ambulatory settings, workflow is not the main focus of the research (Unertl, Weinger, Johnson et al., 2009, Carayon, Karsh, Cartmill et al., 2010a). The health IT literature has not focused on sociotechnical factors, such as patient or provider characteristics, physical environment and layout; technical training and support; functionality and usability of health IT; worker roles, staff workload, stress, and job satisfaction; and communication flows. Important work that does address such factors comes mainly from inpatient settings, or from other countries where the health care system is quite different than in the U.S. (Tjora and Scambler, 2009; Ammenwerth, Iller, and Mahler, 2006; Niazkhani, Pirnejad, de Bont et al., 2008; Niazkhani, Pirnejad, Berg et al., 2009). Although many of these studies have concluded that changes in workflow occur when implementing different health IT applications, few studies have actually examined *how* workflow changes.

In recent years there has been an increase in the use of health IT to capture patient reporting of medical histories, symptoms, results of self-testing (e.g., blood glucose levels, blood pressure), weight questions and concerns, over-the-counter medication use, and other information that patients need to share with their care providers. Health IT can

elicit such information from patients, and help incorporate it into the flow of information within a physician's practice so that the information is detailed, actionable, timely, and can be used to meet patients' treatment goals. Gathering and integrating information from patients using health IT can include:

- Patient portals, sometimes referred to as (electronic) personal health records or PHRs; allow patients to view portions of their medical records (e.g., laboratory test results), and support other health-related tasks such as making appointments or requesting medication refills. Some patient portal applications exist as stand-alone Web sites; other portal applications are integrated into an existing electronic health record (EHR) system;
- Secure messaging with patients (use of secure e-mail between patients and clinicians, typically using the secure messaging functionality in the EHR and/or patient portal) (Byrne, Elliott, and Firek, 2009; Bergmo, Kummervold, Gammon et al., 2005); and
- E-forms (surveys that are administered using computerized media [e.g., tablets, laptops] to collect information from patients using pre-formatted forms before or during patient visits).

The use of patient-reported information is not yet widely integrated into health IT. This project will fill the gaps in the current literature by exploring the influence of sociotechnical factors—for clinicians and their office staff, and for patients—in capturing and using patient-reported information in ambulatory health IT systems and associated workflows. The goal of the project is to answer the following research questions:

- How does the use of health IT to capture and use patient-reported information support or hinder the workflow from the viewpoints of clinicians, office staff, and patients?
- How does the sociotechnical context influence workflow related to the capture and use of patient-reported information?
- How do practices redesign their workflow to incorporate the capture and use of patient-reported information?

The study will consist of rigorous mixed-methods case studies of six ambulatory care physician practices including three small practices (1-4 physicians and the other clinicians and office staff in their practices) and three medium-sized practices (5-10 physicians, and the other clinicians and office staff in their practices). These case studies will be conducted during multiday (3 to 4 days) site visits to collect information for this exploratory research. The multiple case study research approach of Eisenhardt and colleagues will guide data collection and data analysis, to elucidate health IT workflows and important sociotechnical factors (for patients, clinicians, and office staff) in the capture and use of patient-reported information.

A focus of the case studies will be to identify current workflows related to patient-reported information, and determine the work system factors that influence workflows (barriers and facilitators). In particular, data collected from the six practices will help identify bottlenecks and sources of delay, unnecessary steps or duplication, rework to correct errors or inconsistencies, role ambiguity, missing information, and lack of data

quality controls or reconciliation of inconsistencies. The focus is not on the *content* of information reported by patients, or how it alters clinicians' diagnostic or treatment decisions. Rather, the focus is on the workflows required to capture, process, and make use of information that patients report to their care providers.

To achieve the goal of this project the following activities will be conducted at each of six participating ambulatory physician practices (referred to herein as 'study sites'):

1) **Preliminary Conference Call:** The Practice Manager (the individual in each practice who manages day-to-day operations) and the Physician Leader (the physician in each practice who is most knowledgeable about health IT and health IT implementation) will be asked to participate in a preliminary conference call to learn about the study site and what will be expected of their practice as a study site. This call will last approximately one hour and will be completed by up to 2 participants per site for a total of up to 12 participants across sites. The Preliminary Conference Call Discussion Guide and Project Summary is included as **Attachment A**.
2) **Pre-Visit Questionnaire:** The Practice Manager will be asked to complete a brief questionnaire prior to the site visit, describing the practice size, health IT installed, patient population served, and other general contextual information about the practice and use of health IT. The Pre-Visit Questionnaire will take approximately one hour to complete, will be completed by up to one respondent per study site, and is included as **Attachment B**.
3) **Practice Tour:** Each of the six site visits will begin with a one-hour tour of the practice and discussion with the Practice Manager to observe the physical layout and computer work stations, clarify the purpose of the study and the site visit, and clarify information from the Pre-Visit Questionnaire. The Practice Tour Guide is included as **Attachment C**.
4) **Interviews with Practice Manager and Physician Leader:** Following the tour at each study site, the Practice Manager and Physician Leader will be asked to participate in a one hour interview. The interview with the Practice Manager will focus on the sociotechnical context of the practice, with an emphasis on the social context of the practice. The interview with the Physician Leader will also focus on the sociotechnical context of the practice, and, in particular, the technical aspects of clinicians using the health IT system. The focus will be on the workflow across the practice, not the workflow of these two individuals. This information will be used to create the basic outline or structure of a Workflow Process Map(s), a diagram that shows the temporal sequencing of tasks in relation to other work system elements (person, organization, environment, and tools and technologies). It will also be used to begin to identify potential variation or flexibility in individuals' workflows, and provide context regarding multiple IT systems that may be in use in the practice. The guides for the interviews with the Practice Manager and the Physician Leader are included as **Attachments D and E**, respectively. The information obtained from these interviews will be augmented by observation of workflows in the practice and interviews with others in the practice, as described in #5 and #6.

5) **Observations of Clinicians and Office Staff:** Researchers will observe between 8 to 20 clinicians (including physicians, nurse practitioners, physician assistants, nurses, medical assistants, and ancillary staff) and between 3 to 7 office staff (including the front desk receptionist, IT staff, clerks, and other non-clinical staff) per study site, depending on site size for a total of up to 84 clinicians and up to 30 office staff observations across the study sites. Observations will take place as clinicians and office staff work to elicit, integrate and work with patient-reported information. Each clinician will be observed for up to two hours and each office staff person will be observed for up to 30 minutes. These observations periods are different because clinicians' work is more complex and varies more from one patient to the next, while office staff work varies less. Observations will focus on processes, bottlenecks, facilitators, workarounds, and points in the workflow when paper information supplements electronic information. Observations of both clinicians and office staff will be recorded on the Observation Form, included as **Attachment F**. The observations will be used to create a detailed Workflow Process Map(s). This data collection will not burden the clinic staff and is not included in the burden estimates in Section 12.
6) **Interviews with Clinicians and Office Staff:** Following observations of the workflow, each clinician and office staff person who was observed will be interviewed for up to one hour, for a total of up to 84 clinicians and up to 30 office staff interviews. If there are more clinicians or office staff than can be interviewed during the site visit, those with the most extensive experience with patient-reported information will be selected for interviews. These interviews will include discussion about the sociotechnical context, the workflow observed (see above), facilitators and barriers to capturing and using patient-reported information, and whether there are uncommon workflow patterns that arise occasionally but were not observed. Unlike the interviews with the Physician Leader and Practice Manager, these interviews will focus on the workflow of each individual, not the workflow across the entire practice. The same interview guide will be used for both clinician and office staff interviews, and is included as **Attachment G**.
7) **Survey of Clinicians and Office Staff:** All clinicians and office staff in the six study sites will be invited to respond to a survey; the invitation for the survey is provided as **Attachment H.** Although there may not be sufficient time on site to observe and interview every clinician and office staff person in the medium-sized practices, all of them will be asked to complete the survey questionnaire. Therefore, the number of survey respondents is greater than the number of observed and interviewed individuals. Up to 11 surveys will be completed at each small-sized study site and up to 35 surveys will be completed at each medium-sized study site, for a total of up to 138 respondents across the six sites. The surveys will be used to collect data regarding attitudes about and perceptions of the health IT workflows staff engage in related to patient-reported information and the impact of health IT on workload, stress, and job satisfaction, because workflow can impact workload and job satisfaction which have been shown to impact quality of care. The survey will also be used to collect data on barriers and

facilitators associated with capturing and using patient-reported information. The Clinician and Office Staff Survey is included as **Attachment I**.

8) **Patient Interviews:** Patients will be interviewed to understand the workflow of entering or reporting information from the patient's perspective; the extent and adequacy of training or instruction patients received in using the health IT; attitudes about the time it takes to report information; and whether there are challenges, barriers, facilitators, or workarounds commonly used by patients as they report information requested by their care providers. Five patients will be interviewed at each small practice and up to seven at each medium-sized practice, for a total of up to 36 across the six study sites. More patients will be interviewed in the medium-sized practices because there are more clinicians in these practices, and each may have different patterns of interacting with their patients. Interviewing more patients will enhance the ability to capture information about variation in the clinician-patient information sharing and interaction. These interviews will help researchers understand the range of patient experiences. The Patient Interview Guide is provided as **Attachment J**.
9) **Post-Visit Follow-up to Review the Workflow Process Map(s):** Following each site visit, researchers will complete the Workflow Process Map(s) for the study site and send it to the Practice Manager and Physician Leader, requesting confirmation that the understanding of their workflows is correct. This Workflow Process Map(s) will be sent in conjunction with a Follow-Up Email, included as **Attachment K**.The Workflow Process Map(s) will require approximately one hour to review and the review will be conducted using the Interview Guide for Follow-Up, included as **Attachment L**.

This study is being conducted by AHRQ through its contractor, Abt Associates Inc., and subcontractors University of Wisconsin-Madison and University of Alabama-Birmingham, pursuant to AHRQ's statutory authority to conduct and support research on health care and on systems for the delivery of such care, including activities with respect to health care technologies and the quality, effectiveness, efficiency, appropriateness and value of health care services including quality measurement and improvement. 42 U.S.C. 299a(a)(1), (2) and (5).

2. Purpose and Use of Information

The focus of this research is anticipated to be relevant to many other settings in which health IT is employed to capture and use information reported by patients to their care providers. Information collected by this study may help researchers and practitioners better understand the impact of workflow and health IT in ambulatory care practices.

The lessons learned from this research may be used in a variety of ways:

1) To identify additional workflow components that ambulatory practices should consider when implementing health IT to capture and use patient-reported information;
2) To identify issues relevant to best practice guidelines for health IT implementation;

3) To identify issues for consideration in the design and evaluation of other patient-centered health IT tools.

The study findings will be widely disseminated to health IT researchers and implementers via AHRQ's National Resource Center for Health IT Web site. The study will enhance the existing knowledge about sociotechnical factors that impact health IT workflow, and how small and medium-sized ambulatory practices employ health IT to capture and use patient-reported information as they redesign their workflow to deliver patient-centered care.

3. Use of Improved Information Technology

This study will use a combination of paper and electronic forms to collect data. Observations and the Workflow Process Map(s) of activities related to the capture and use of patient-reported information will be collected using paper forms. Interviews will be audio-recorded (with the permission of interviewees) and these recordings will be transcribed and entered into NVivo for content analysis. Clinician and office staff surveys will be distributed online using the Qualtrics survey system. The data will be analyzed using SPSS statistical analysis software. For respondents who do not have access to the Internet at work, a paper and pencil version of the survey will be offered, and a stamped envelope pre-addressed to the research team, in which to mail the completed paper survey. The content of the paper and pencil survey will be identical to the Web-based version.

4. Efforts to Identify Duplication

A literature review was conducted and found no studies with a similar combination of objectives, design, setting, and study participants. This study will address the important aspect of health IT implementation related to patient-reported information, in the under-studied setting of small and medium-sized ambulatory care practices, which is not currently addressed in the health IT literature.

5. Involvement of Small Entities

The six study sites participating in this project are small (1-4 physicians) or medium (5-10 physicians) ambulatory care practices. Some are affiliated with a larger health system, others are not. To minimize burden on participating small and medium-sized physician practices, all data collection will be concentrated into a brief case study period. Each entity's involvement will include all case study data collection described above. This includes a Preliminary Conference Call and providing basic information about the scale and composition of the practice and its patients; participating in a three to four day site visit to include interviews, surveys, direct observations; and reviewing the Workflow Process Map(s) created by the research team. There will be no ongoing involvement or repeat data collection.

6. Consequences if Information Collected Less Frequently

This is a onetime data collection: each study site will be involved in a single case study; there will be no repeat case studies or repeat data collection.

7. Special Circumstances

This request is consistent with the general information collection guidelines of 5 CFR 1320.5(d)(2). No special circumstances apply, except that survey respondents will be asked to complete the survey during the site visit at their location or within one week thereafter.

8. Federal Register Notice and Outside Consultations

8.a. Federal Register Notice

As required by 5 CFR 1320.8(d), notice was published in the Federal Register on February 13th, 2013 for 60 days, and again on May 1st, 2013 for 30 days. No comments were received (see **Attachment M**).

8.b. Outside Consultations

AHRQ consulted with its research contractor, Abt Associates Inc., in developing the study protocol. Supporting Statements Parts A and B along with all the attachments were also shared with David Hunt from the Office of the National Coordinator for Health IT for review.

9. Payments/Gifts to Respondents

The practices in this project are subcontractors to Abt Associates Inc. (see **Attachment N**). As such they will invoice for activities related to the project including pre-site visit activities (Preliminary Conference Call, Pre-Visit Questionnaire), site visit data collection activities (practice tour, interviews, surveys), post-site visit review of the Workflow Process Map(s), and administrative activities (review by the study site's Institutional Review Board, site visit scheduling, and identifying appropriate patients for interviews from among those with scheduled appointments). Subcontracts will not exceed $5,000 per site and the number of labor hours will vary depending on the size of each subcontractor's practice, and will average 32.8 hours per study site for data collection activities, for which the weighted average labor cost is $52.90. The hourly rate is calculated based on weighted salaries for the five main types of individuals who will participate: Practice Manager, Physician Leader, physicians, other clinicians, office staff.

AHRQ will offer eligible patients a gift of $10 to participate in individual interviews. This amount is appropriate to secure adequate participation of patients, as a limited number of patients who will be approached to participate in this study.

10. Assurance of Confidentiality

Individuals and organizations will be assured of the confidentiality of their replies under Section 944(c) of the Public Health Service Act. 42 U.S.C. 299c-3(c). That law requires that information collected for research conducted or supported by AHRQ that identifies individuals or establishments be used only for the purpose for which it was supplied.

No private, or sensitive information will be obtained or accessed about the respondents or other living individuals during any data collection activities. AHRQ will collect the respondent's name, organizational affiliation, organizational phone number, and job

category. This information will be used for respondent tracking purposes or for clarification call backs.

All respondent involvement will be voluntary. Verbal consent will be obtained from each respondent from each organization prior to participation and each respondent will be given information sheets describing the study (see **Attachments O through S**). Respondents will be informed that: (1) the project team will not share their name, or copies of the observation notes, interview notes, or survey responses with anyone outside of the team; and (2) respondent comments may be included in reports, but will not be attributed to specific individuals.

All data from surveys, observations, and interviews will be assembled and stored at the University of Wisconsin-Madison, where data will be analyzed. No identifying information will be included on any materials, other than the site at which each piece of information was collected, and job category (e.g., physician, nurse, office staff, patient).

The online survey data will be hosted by Qualtrics Labs, Inc. The vendor does not have any ownership rights to the data collected. Qualtrics stores data on servers located in several secure locations protected by video surveillance, keycard access, biometrics, and other forms of security. Survey data are transferred to and from Qualtrics via an encrypted 128-bit SSL Web site. Once collected, the Web-based survey data will be exported from Qualtrics to a secure password-protected server at the University of Wisconsin-Madison. Data from the paper surveys will be entered into the same database. All paper forms will be stored in locked filing cabinets and locked offices. Electronic files will be maintained only on the password-protected server; hardcopy of the survey data will not be produced. All survey data will be de-identified so that participants will be known only by the study site and job category. Computers at the University of Wisconsin-Madison are password protected and located in offices that are locked during non-working hours.

All other information collected on site by researchers will be stored in locked file cabinets at the University of Wisconsin-Madison; no identifiers will be included on any of these materials, other than the study site to which they pertain. Interviews will be transcribed and stored electronically, in the University of Wisconsin-Madison's password-protected secure network. Interview notes will be entered into NVivo, a software system for analyzing qualitative data; the vendor does not have any ownership rights to the data. The University of Wisconsin-Madison has a license for the NVivo software, and all data and analysis will be conducted by and stored at the University.

11. Questions of a Sensitive Nature

This project includes no questions of a sensitive nature.

12. Estimates of Annualized Burden Hours and Cost

Exhibit 1 shows the estimated annual burden hours for the respondents' time to participate in this research. The Preliminary Conference Call with each site will involve two people, the Practice Manager and the Physician Leader, and will require up to one hour per site. A total of 12 people across the six study sites will be involved.

The Pre-Visit Questionnaire and the Practice Tour will be completed by the Practice Manager at each site and will require up to one hour each.

The Practice Manager and the Physician Leader at each site (12 individuals in total across the 6 sites) will be separately interviewed to gather in depth information about the sociotechnical context of the practice. The interviews will each take up to one hour to complete.

Interviews with Clinicians and Office Staff will be completed with a maximum of 114 clinicians and office staff across the six study sites, and each interview will last up to one hour.

A maximum of 138 clinicians and office staff combined (up to 11 for each of three small-sized sites and 35 for each of 3 medium-sized sites) will be asked to complete the clinician and office staff survey, which will take approximately 15 minutes for each respondent to complete.

Up to 36 patients will be interviewed (5 in each of the small sites and up to 7 in each of the medium-sized sites). Each interview will take no more than 30 minutes to complete.

A total of 12 persons (the Practice Manager and the Physician Leader at each site) will be involved in the Post-Visit Follow-up to Review the Workflow Process Map(s), which will take one hour.

The total annual burden hours, is estimated to be 215 hours.

Exhibit 2 shows the estimated annual cost burden associated with the study sites' time to participate in the research. The total annual cost burden is estimated to be $10,815.

Exhibit 1. Estimated annualized burden hours

Form Name	Number of respondents	Number of responses per respondent	Hours per response	Total burden hours
Preliminary Conference Call	12	1	1	12
Pre-Visit Questionnaire	6	1	1	6
Practice Tour	6	1	1	6
Interviews with Practice Manager and Physician Leader	12	1	1	12
Interviews with Clinicians and Office Staff	114	1	1	114
Survey of Clinicians and Office Staff	138	1	15/60	35
Patient Interviews	36	1	30/60	18
Post Visit Follow-up to Review the Workflow Process Map(s)	12	1	1	12

Form Name	Number of respondents	Number of responses per respondent	Hours per response	Total burden hours
Total	**336**	**N/A**	**N/A**	**215**

Exhibit 2. Estimated annualized cost burden

Form Name	Number of respondents	Total burden hours	Average hourly wage rate*	Total cost burden
Preliminary Conference Call	12	12	$67.15[a]	$806
Pre-Visit Questionnaire	6	6	$46.17[b]	$277
Practice Tour	6	6	$46.17[b]	$277
Interviews with Practice Manager and Physician Leader	12	12	$67.15[a]	$806
Interviews with Clinicians and Office Staff	114	114	$50.97[c]	$5,811
Survey of Clinicians and Office Staff	138	35	$46.89	$1,641
Patient Interviews	36	18	$21.74[e]	$391
Review of the Workflow Process Map(s)	12	12	$67.15[a]	$806
Total	**336**	**215**	**N/A**	**$10,815**

* Based upon the mean of the average hourly wages, National Compensation Survey: Occupational wages in the United States May 2011, "U.S. Department of Labor, Bureau of Labor Statistics."

[a] the average wage for Practice Managers ($46.17 per hour) and Physician Leaders ($88.12 per hour) [$88.12 reflects the average for Family and General Practitioners ($85.26 per hour) and Internists, General ($90.97 per hour)].

[b] the average U.S. wage for Practice Managers is $46.17 per hour.

[c] the weighted average wage for physicians ($88.12 per hour) [$88.12 reflects the average for Family and General Practitioners ($85.26 per hour) and Internists, General ($90.97 per hour)], nurse practitioners and physician assistants ($41.63 per hour) [$41.63 reflects the average for Physician Assistants ($43.01 per hour) and Health Diagnosing and Treating Practitioners, All ($40.24 per hour)], nurses ($33.23 per hour), and Office Staff ($17.94) [reflects the average for Receptionists and Information Clerks ($12.85 per hour), Office and Administration Support Workers, All Other ($16.07 per hour), and Computer Support Specialists ($24.91 per hour)].

[d] the weighted average wage for physicians ($88.12), nurse practitioners and physician assistants ($41.63), nurses ($33.23) and office staff ($17.94).

[e] the average U.S. hourly wage ($21.74).

13. Estimates of Annualized Respondent Capital and Maintenance Costs

There are no direct costs to respondents other than their time to participate in the study.

14. Estimates of Annualized Cost to the Government

The total cost of this project is $774,160 over a 36-month time period. Exhibit 3 provides a breakdown of the estimated total and average annual costs by category.

Exhibit 3. Estimated Total and Annualized Cost

Cost Component	Total Cost	Annualized Cost
Research Plan Development	$152,546	$50,849
Project Administration	$132,304	$44,101
Data Collection Activities	$243,716	$81,239
Data Processing and Analysis	$156,229	$52,076
Final Report	$73,360	$24,453
Dissemination of Results	$16,005	$5,335
Total	**$774,160**	**$258,053**

15. Changes in Burden Hours

This is a new data collection effort and does not build on a previous submission.

16. Time Schedule, Dissemination, and Analysis Plan

16.a. Time Schedule

The anticipated schedule for this project is shown in Exhibit 4. Once clearance from the Office of Management and Budget is obtained, AHRQ will finalize subcontracting and begin scheduling and conducting data collection.

Study findings will be made publicly available via a final report which will be provided in PDF format for easy download from the AHRQ National Resource Center for Health IT Web site.

Exhibit 4: Anticipated Schedule

Final subcontracting: Months 1 - 2			
	Advance coordination and Pre-Visit Questionnaire	3 to 4 day site visit	Post-Visit Workflow Process Map(s) Review
Case Study #1	Month 3	Month 4	Month 5
Case Study #2	Month 6	Month 7	Month 8
Case Study #3	Month 7	Month 8	Month 9
Case Study #4	Month 8	Month 9	Month 10
Case Study #5	Month 9	Month 10	Month 11
Case Study #6	Month 10	Month 11	Month 12
Data analysis: Months 12- 16			
Final report: Months 20- 24			
Final presentation: Months 25-26			

16.b. Analysis Plans

The Systems Engineering Initiative for Patient Safety (SEIPS) model of work system factors will guide data collection and analysis on this project (Carayon 2006). The five components of the SEIPS work system model include the person (i.e. clinicians, office staff, and patients), the tasks performed by people, the physical environment where these tasks are performed, the tools and the technology used by people, and the organizational context. These five components will be addressed in several analyses:

- ***Analysis of individual practices.*** Data from the Pre-Visit Questionnaire, the interviews with Practice Managers and Physician Leaders, the observations and the interviews with clinicians and office staff, the interviews with patients, and the clinician and office staff survey will be analyzed to produce a complete view of each practice.
- ***Cross-practice analysis and comparison.*** A cross-practice analysis will be guided by the approach described by Miles and Huberman and Eisenhardt , to identify patterns and differences between the practices.
- ***Analysis of workflow data.*** A detailed Workflow Process Map(s) will contain information about all elements of the work system model. Using the work system model and its extension, the SEIPS model, the analyses will examine how workflow activities are organized over time and space and distributed across various individuals.
- ***Variance analysis*****.** Variance analysis is a sociotechnical systems method used to identify variances or vulnerabilities in a process . A variance analysis will be conducted to compare and contrast how clinicians, office staff, and patients view their respective roles in the patient-reported information process. The variance analysis will be conducted *within a case* (i.e. analyzing differences among clinicians within a practice) and *across cases* (i.e. analyzing differences among clinicians across all six study sites).

17. Exemption for Display of Expiration Date

AHRQ does not seek this exemption.

Attachments

Attachment A: Preliminary Conference Call Discussion Guide
Attachment B: Pre-Visit Questionnaire
Attachment C: Practice Tour Guide
Attachment D: Guide for Interview with Practice Manager
Attachment E: Guide for Interview with Physician Leader
Attachment F: Observation Form
Attachment G: Interview Guide for Clinicians and Office Staff
Attachment H: Clinician and Office Staff Survey Invitation
Attachment I: Clinician and Office Staff Survey
Attachment J: Patient Interview Guide
Attachment K: Email for Follow-Up
Attachment L: Interview Guide for Follow-Up

Attachment M: Federal Register Notice
Attachment N: List of Subcontractor Practices
Attachment O: Information Sheet for Practice Managers
Attachment P: Information Sheet for Clinicians
Attachment Q: Information Sheet for Office Staff
Attachment R: Information Sheet for Patient Interviews and Observations
Attachment S: Information Sheet for Patient Observations

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