

Washington Family Physicians Survey of Computer Technology

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Capstone Project Paper
May 20, 2007

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Certificate of Approval

This is to certify that the Capstone Project of

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“Washington Family Physicians Survey of Computer Technology”

has been approved



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May 25, 2007
Date

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Acknowledgments

As in any research project, many people contribute to the final result. I would first like thank the Washington State Medical Association for sharing their physician data which served as the foundation for the study sample. The Washington Academy of Family Physicians was extremely supportive of this study and it is their efforts that will use these results for benefit of family physicians in Washington and the patients and communities they serve. WAFP staff Karla Graue Pratt - Executive Vice President and Brian Nangle - IT & Program Coordinator provided assistance without which this study would not have been possible. Special thanks to Steven Simon, MD for sharing experience from his work and for allowing use of the survey instrument developed for his study. I would especially like to thank Paul Gorman, MD for his guidance and wisdom in preparing and conducting this study. Finally, I wish to thank my wife Anne for her patience, love, and support throughout this program.

Abstract

Objective: Electronic Health Record (EHR) adoption is encouraged by health plans, government agencies, and the American and Washington Academies of Family Physicians (WAFP), but rates of EHR adoption by family physicians in Washington are unknown. This study measured current rates of EHR adoption by family physicians in Washington State as well as perceived barriers to adoption and what physicians identify as means to overcome those measures.

Design: A survey of medical practices in Washington State was performed. One physician per practice was selected to respond on behalf of their practice for all practices where family physicians work where contact information was available in the databases of the Washington State Medical Association and WAFP. The survey was distributed electronically or in print form depending on availability of an email address.

Measurements: Rates of EHR adoption, plans for adoption for those not yet using EHRs, perceived barriers to EHR adoption, and perceived means to overcome those barriers.

Results: Response rate was 43.8%. EHR adoption by this group is relatively high at 57.9% and did not vary by practice setting. Although solo practices had a relatively high rate of adoption of 43.5%, EHR adoption remains strongly associated with practice size. Identified barriers to implementation are primarily financial as are the means to overcome those barriers. If current trends continue, adoption will plateau at approximately 68% in the next 6 years.

Conclusions: Adoption rate appears to have peaked in this group given current constraints and barriers. Increased outreach efforts and assistance programs will be

necessary to achieve EHR adoption in remaining practices, particularly solo and small group practices

Introduction

Overview

The adoption of electronic health records (EHRs) is being promoted by many organizations including health plans, patient advocacy groups, state and federal government agencies, and medical professional societies. EHRs are believed to have the potential to improve quality of patient care and the efficiency of health care service delivery. Adoption of EHRs in the US has remained fairly low (1, 2) and lagged behind that of other Western countries (3). Studies of EHR adoption have generally focused on large, diverse, and geographically dispersed provider groups. More narrowly focused studies may identify specific adoption barriers and may enable more specific programs to overcome those barriers.

Background

The Institute of Medicine (IOM) published a report in 1991 and again in 1997 describing computer-based patient records as an essential technology for health care (4). The “Crossing the Quality Chasm” report by the IOM called for greater use of EHRs and other clinical information technology to improve patient safety and the quality of healthcare (5). In his State of the Union addresses in 2004, 2005, and 2006, President George W. Bush called for all Americans to have electronic medical records by 2014 (6-8). Various initiatives are underway to encourage adoption of EHRs but the effectiveness of these initiatives is uncertain and it is unclear if they address the barriers identified by physician practices (9).

Family Medicine in particular has embraced EHRs as a foundation of the New Model of health care proposed by the American Academy of Family Physicians (AAFP)

(10). “The electronic health record will enhance and integrate communication, diagnosis and treatment, measurement of processes and results, analysis of the effects of co-morbidity, recording and coding elements of whole-person care, and promoting ongoing, healing relationships between family physicians and their patients.” To educate and assist member family physicians regarding EHRs, the AAFP formed the Center for Health Information Technology (11). TransforMed is an initiative of the AAFP formed to assist practices in the transition to the New Model including use of clinical IT (12).

Previous studies

Many recent reports of adoption of ambulatory EHRs have been published. A study of physicians of all specialties in Massachusetts conducted in 2005 identified a practice EHR adoption rate of 23% (13). Adoption was strongly correlated with practice size with larger practices more likely to have EHRs. “Most frequently cited barriers to adoption were start-up financial costs (84%), ongoing financial costs (82%), and loss of productivity (81%).”

A similar study was conducted in Oregon in 2005 at the request of the state Legislative Assembly (14). Again, EHR adoption was strongly correlated with larger practice size. This study also focused on physicians of all specialties but also focused on geographic sub-regions of the state. EHR adoption measured at the level of the individual physician was 53.4%.

Several studies have been conducted of family physicians in different states. However, these studies were conducted at the level of the individual physician rather than by practice. In 2001, Loomis reported that for family physicians in Indiana (15), overall EHR use was 14.4%, with EHR use greater in larger urban practices. Menachemi

reported similar results for family physicians in Florida in 2006 (16): a 23.3% rate of routine EHR use, and as in the Indiana study, a positive association between EHR use and both practice size and non-rural practice location. Older physicians were found less likely to use EHRs than younger physicians.

Although similar, none of these studies directly extends to the population in this study. Family physicians in Washington, studied at the practice level regarding EHRs, are unique. This study will focus specifically on this group.

Research objective

The purpose of this study was to evaluate current barriers to EHR adoption and what can be done to overcome these barriers. This study focused on a select group, family physicians in Washington, so that the results of the study may be actionable to address barriers to EHR adoption for this specific group.

The decision to implement an EHR is made at the practice level and therefore this study was conducted at the practice rather than individual physician level. The goal was to address the following research questions:

1. What is the current status of EHR adoption among family physicians in Washington? Studies of this type have been performed previously but not on this specific group or at this point in time. This survey will serve as an assessment of the current status of EHR implementation in this group. Of importance will be to evaluate any differences in EHR implementation rates by practice size or location.
2. What are the current barriers to EHR adoption for family physicians in Washington? This issue has also been studied but not previously in this group and not at this point in time. Recent developments including CCHIT certification and Stark safe

harbor provisions may affect the perception of barriers by practices. Other initiatives are also underway to encourage EHR adoption.

3. What measures would enable family physicians in Washington to overcome these barriers and successfully adopt EHRs? The survey includes questions about what measures family physicians feel would enable them to overcome the barriers to EHR implementation they identify. This analysis will allow identification of what initiatives might further contribute to EHR adoption.

Significance

The data from this study will be of value to those promoting EHR adoption including the State, health plans, and the Washington Academy of Family Physicians (WAFP). The results will enable the WAFP to more effectively advocate on behalf of its members for effective assistance programs. They will also serve as a baseline against which to measure future progress in EHR adoption in this group. By fostering EHR adoption, the ultimate goal is to improve healthcare quality and cost effectiveness.

Methods

Sample

The target sample for the study survey was the practices where family physicians work performing primary care. The WAFP has a directory of members supplied by its national parent organization, the American Academy of Family Physicians (AAFP). The directory does not contain the name of the practice where they work and frequently contains a home but not office address. For these reasons the WAFP is not directly able to identify the practices where its members work or even the number and sizes of practices in the state where its members work.

The Washington State Medical Association (WSMA) maintains a database of physicians in Washington State including physician specialty and practice name or the designation “solo” for those who are in solo practice. They graciously agreed to share this data and provided a report of only family physicians aggregated by practice. Using this report it was possible to determine the number of practices where family physicians work and also the number of family physicians in each group. Cross-referencing this report with the membership data of the WAFP, further contact information was associated with many of the physicians. Of particular interest was the availability of email addresses.

Another challenge was identifying practice networks. In Washington there has been a trend towards family physician practices aggregating into “practices without walls” for reasons including practice efficiency and increased negotiating power with third party payers. In such networks, practices frequently keep their original name but operate under the umbrella of a larger entity. Decisions such as implementing an EHR are made at the network level, therefore it was necessary to identify such networks and consider them a single practice for purposes of this study. This was accomplished by reviewing practice websites, talking to physicians in those groups, and the author’s knowledge of the family medicine physician community.

From the original list, those not fitting this practice setting were excluded. Examples of those eliminated include retired physicians, physicians who had left the state, resident physicians in training programs, physicians working in industry, and family physicians delivering care not considered primary care. Industries employing family physicians included institutional review boards, state agencies and institutions,

and insurance companies. Non-primary care practice settings which were excluded from the survey included emergency medicine, rehabilitation medicine, and hospitalists.

Using this methodology, a total of 464 practices were identified where family physicians work, representing a total of 1961 individual physicians. Practice size ranged from solo to the largest being the Group Health Cooperative where 187 family physicians work in locations across the state. The practice size distribution is shown in figure 1.

From this list of 464 practices, an email address was available for at least one member of the practice in 166 cases. Of the 298 practices where no email address was available, mailing addresses were available for 125. For the remaining 173 practices, neither email nor mailing addresses were available.

Survey Questionnaire

A survey was developed directed at the research questions of interest (Appendix E). The survey was adapted from the work of Simon and used with his permission (13). Questions focused on practice demographics, current use of information technology including EHRs, perceived barriers to EHR implementation, and factors which might help overcome those barriers. The draft instrument was tested on WAFP members with their feedback resulting in some shortening of the questionnaire. In paper format, the final questionnaire was five pages in length and contained 27 questions.

Survey Administration

With a total available sample size of 291, it was elected to survey the entire available number of practices rather than a selected sample. This sample size was manageable and removed the complexity of selecting a representative smaller sample with all the potential confounding variables including practice size and location. Survey

of the total available population of this size is consistent with generally accepted recommendations (17).

The survey was administered between January and March 2007 and coordinated by the author and the WAFP office. In order to conduct the survey as economically as possible, it was elected to use SurveyMonkey as the survey collection tool. In order not to bias the survey results by only surveying those practices with an available email address, it was elected to send the survey in paper format to those practices where no email address was available. Responses to the paper survey were then entered into SurveyMonkey along with those that were collected electronically.

To promote the survey, an article was placed in *Washington Family Physician*, the monthly journal of the WAFP (Appendix C). The article described the purpose of the survey and proposed value of the results and encouraged participation by those who were asked to respond on behalf of their practice. For solo practices, the solo physician was selected to respond. In practices of more than one physician, respondents were preferentially selected based on their activity within the WAFP in hopes that they would be more likely to respond. An invitation to participate was sent by email including a link to the survey when an email address was available (Appendix D). When an email address was not available, the invitation was sent by mail with a paper copy of the survey enclosed. Surveys were sent by email to 166 practices and mailed to 125 practices.

Participants were offered the option of including their name in the survey response for entry into a drawing for an iPod. Those invited to participate by email received up to a total of two follow up invitations requesting their participation. A single

follow up mailing was sent to those invited by mail who did not respond to the first mailing.

The study protocol was approved by the Institutional Review Board – Spokane (Appendix B).

Data Analysis

Electronic responses to the survey were entered directly into SurveyMonkey by the respondent. Paper survey responses were then entered into the same survey data within SurveyMonkey by the investigator and an assistant. The data analysis tools built into SurveyMonkey were used for most of the data analysis. Additional data analysis was performed using SPSS for Windows 12.0.

Results

Respondent Characteristics

Of the 125 mailed surveys, 17 were returned as undeliverable with no forwarding address. Of the remaining 108 mailed surveys, 42 were returned for a response rate of 38.9%. Seventy-eight email responses were received, giving an email response of 47.0%. A total of 120 surveys were returned, yielding a total response rate of 43.8%. All the respondents fit the criteria of active primary care practice and all responses were included for analysis.

Practices with more than one location were asked to respond to the practice location question with “check all that apply.” Respondents self-classified their practice location as: rural 31.9%, suburban 35.3%, and urban 25.2%, and mixed (sites in more than one category) locations 6.7%. Type of practice for the respondents is displayed in

table 1. Practice size of the survey respondents was representative of the originally identified practices (Figures 1 & 2).

How would you best characterize your practice?			
		Response Percent	Response Total
Solo family medicine practice		41.5%	49
Family medicine group, partnership, or network		27.1%	32
Primary care group or partnership (family medicine plus other primary care providers)		9.3%	11
Multi-specialty group or partnership		6.8%	8
HMO		1.7%	2
Community Health Center		3.4%	4
Residency		5.1%	6
Other		9.3%	11
Total Respondents			118

Table 1: Practice type of survey respondents

The survey asked, “Does your practice have components of any electronic health record (EHR), that is, an integrated clinical information system that tracks patient health data, and may include such functions as visit notes, prescriptions, lab orders, etc?” Using this definition, EHRs are being used in 57.9% of practices responding to the survey. By practice location: 52.5% of rural practices, 55.0% of suburban practices, 55.6% of urban practices, and 100% of those practices with mixed locations report using an EHR. The eight practices in the mixed location category had a median size of 46 physicians.

One practice implemented their EHR as far back as 1990, but adoption has accelerated since 2000 (Figure 3). Twenty-two different EHRs were reported in use (Appendix G). GE Centricity (Logician) was reported in 19%, Practice Partner in 14.3%, and ChartConnect in 11.1%. No other system was present in more than 8% of practices as defined for purposes of this study.

Use of some computer technologies may be considered a precursor or even a prerequisite for implementing an EHR. Two such technologies included in this survey included use of a computerized patient scheduling system and use of a broadband Internet connection. Computerized scheduling systems are used in 93.9% of practices with an EHR compared to 79.2% in practices without an EHR. Broadband Internet access is used in 97.0% of practices with an EHR compared to 78.3% of practices without an EHR. Even in rural practices where broadband access can be an issue, 88.6% responded that broadband access was available and of those 100% were using it in their practice. Although physicians are frequently considered to not take advantage of available IT, even in those practices without EHRs the rate of adoption of other IT including computerized scheduling and broadband Internet access is nearly 80%.

Respondents were asked to rate 10 potential barriers to EHR adoption on a 3 point Likert scale with 1 being not a barrier, 2 a minor barrier, and 3 a major barrier. Both those with and without a current EHR rated start-up financial costs, ongoing financial costs, and training and productivity loss as the three greatest barriers. Privacy or security concerns were rated the lowest barrier by both groups. Complete data is shown in Tables 2, 3, and 4.

Strategies to overcome these barriers were a particular focus of this study. Respondents were asked to rate those measures which they felt would help overcome the barriers they identified. Rating was on a 4 point Likert scale with 1 being not at all, 2 very little, 3 somewhat and 4 very much. Grants, increased reimbursement for using an EHR, and technical assistance were identified as those most helpful. Pay for performance and interest free loans were felt to be least helpful. Complete data is

presented in Tables 5, 6, and 7. Of those practices with an EHR, 18% reported receiving practice income for having information systems such as an EHR and 23% reported receiving practice income for their use of such systems (Table 8).

Expense of implementing and maintaining an EHR is clearly a concern for those who have not yet adopted. Capital resources for such a project were rated as “limited” by 53.5% of practices and “no resources” by 23.3% of practices (Table 9). In evaluating difficulty in funding varying levels of expense, costs of \$10,000 to \$25,000 per physician were rated “very difficult” by 30% and “impossible” by 38% of practices, while costs of greater than \$25,000 per physician were rated by 25% of practices as very difficult and by 60% as impossible (Table 10).

One strategy that has been utilized to decrease the expense per physician in implementing an EHR is for physicians to collaborate with other physicians or a large organization. Of those who have not yet adopted an EHR, 47.6% said they would consider this option (Table 11). Their local hospital was the most frequently identified potential partner, followed by other community practices and government (Table 12). Of those who would not consider this option, loss of autonomy and the challenges of such collaboration were the most cited reasons.

In order to encourage EHR adoption it is important to understand what factors would influence physician practices to take this step. Respondents were asked how much of a role different organizations did or do play in their deciding whether to adopt an EHR. The only group with a significant role was their own practice group. Professional societies, larger practice networks, managed care plans, and the Doctors Office Quality-IT (DOQ-IT) program had very little identified influence (Table 13, 14).

Those respondents who had not yet implemented an EHR were asked their future plans with regard to an EHR. Implementation was underway in 6.2% of practices. Definite implementation plans with timing from 12 months to 5 years were reported by 31.2% of practices. Implementation had been attempted and abandoned in 6.2%. The remaining practices either had no specific plans (18.8%) or did not plan to implement an EHR (37.5%) (Table 15). Extending the EHR plans of these practices to EHR adoption to date would indicate adoption rate has reached its peak (figure 4). If current trends continue, calculating cumulative adoption in this group over the next 6 years reveals a plateau at approximately 68% (figure 5).

There was a statistically significant association between presence of students and residents in a practice and the practices use of an EHR (odds ratio 2.15; 95 percent confidence interval, 1.01 - 4.58). This was also identified in the study by Simon (13). This association was felt to possibly be explained by “a practice’s teaching status is a surrogate marker for physicians with a propensity toward technology or quality improvement efforts” or alternatively “that medical students and residents are functioning as catalysts for the office practices that house them to adopt EHRs.” Also, trainees may be more likely to choose practices with EHRs for their clinical rotations. Many practices now consider their having an EHR to enhance their ability to recruit new physicians to the practice.

As previously discussed, prior studies have shown a correlation between practice size and EHR adoption. However, these studies were conducted on a per physician rather than per practice survey methodology. Solo practices in the study group had a relatively high rate of EHR adoption at 43.5%, much greater than the 14% rate for solo practices in

the study by Simon (13). Despite this high rate of EHR adoption in solo practices, adoption was much greater in groups of seven or more physicians at 79.2% (odds ratio 4.94; 95 percent confidence interval, 1.57 – 15.52). Practices of 2 to 6 physicians had an intermediate adoption rate of 61.4%.

Of particular concern are those practices that have no plans or plan not to implement an EHR. Solo practices comprise 75.9% of this group. Practices in this group self-classified as 40.7% rural, 29.6% suburban, and 29.6% urban. Available capital resources were described as limited or no resources by 84%.

Discussion

Summary of findings

These results demonstrate a high degree of EHR adoption in the study group at 57.9%. This higher rate than previous studies may indicate more rapid adoption in this group or simply that over time adoption has been increasing. It is interesting to note there was no difference in adoption rate across practice settings from rural, suburban, and urban. This would appear to indicate that for this group, practice location did not significantly impact the interest in or the barriers to implementing an EHR. The 100% adoption rate for practices with mixed sites appears to be primarily related to those practices being larger. EHR adoption did vary by practice size, but even solo practices had a high EHR adoption rate of 43.5%. It is also interesting to note the number of different EHRs being used in this group and that no one EHR had a very large market share. This limits the potential for vendor specific local or state-wide collaboration via user groups to enhance usability and usefulness of a particular EHR.

The primary barriers to implementation identified by this group were the initial and ongoing expenses of implementing an EHR and loss of productivity during implementation and training. The rating of privacy and security concerns as a barrier is lower than in previous studies and may indicate a greater level of comfort with this issue as EHRs are more widely used. Although a minority, some respondents related very great concerns about this issue, as do some consumer and privacy groups.

With the EHR implementation barriers identified being largely financial, it is not surprising that the identified means to overcome those barriers were also financial. Respondents describe their financial resources as limited and their ability to afford EHRs as challenged. Grants to assist with initial implementation costs and increased payment for using an EHR were identified as the means which would best assist practices. Unfortunately, of those with EHRs, only a small number of practices report receiving such payments. From this information it would appear that programs that provide such grants and increased reimbursements will be necessary to encourage and enable EHR implementations in these remaining practices. Technical assistance was also identified as important. Programs such as DOC-IT do provide some assistance but it is unclear if the scope of this program is enough to meet this need. For some practices, collaboration with local hospitals, health plans, or government to collectively implement an EHR may assist in overcoming both financial and technical barriers. It is also possible some competitive advantage demonstrated by those practices with EHRs may create market pressure for remaining practices to implement. One such competitive advantage may be the influence of patients seeking practices with EHRs.

In looking at the adoption in this group back to 1990 and the implementation plans of those currently not having EHRs, it would appear that a peak is being reached in the adoption curve for this group. Those practices in the later phase of the adoption curve are likely to require more assistance. This survey confirms the findings of other studies that physicians describe professional societies, government, and health plans having little influence on a practice's decision to implement an EHR. This is certainly a subjective question and it is possible that such groups have exerted an influence not recognized or admitted by physicians. A greater outreach effort is necessary to engage those practices not yet having an EHR, especially the large number who responded that they have no plans to implement or specifically plan not to implement an EHR.

Limitations

A designed limitation of this study was specifically focusing on family physicians in Washington. It is unclear how these results may extend to physicians in other specialties in Washington or family physicians in other states. Selection of the physician to respond on behalf of their practice was non-random and could possibly have introduced bias, but this choice was made with the goal to increase response to the survey. The scope of the survey was limited by the availability of contact information for practices. Email or mailing addresses were available for 291 of the 464 possible practice respondents, or 62.7%. Those without an available email or mailing address may differ in EHR adoption and attitudes about EHRs. Not all of the family physicians included in the data from WSMA are WAFP members which is another limitation on contact information and possible selection bias. Establishing and maintaining a more complete

database would require significant resources and was not feasible for purposes of the current study.

Three unanticipated limitations were identified. First, for those completing the survey electronically, most of the questions required a response before proceeding to the next question, resulting in more complete survey responses as compared to those responding via paper survey. Second, the initial WSMA supplied data included only family physicians but the survey question about practice size asked for the total number of physicians in the practice. And third, the higher email versus mail response rate may introduce bias into the survey results.

Next steps

The goal of family medicine, government, patient advocacy groups, and health plans is to promote the adoption of EHRs. Practices face many barriers to pursuing the implementation of EHRs. This study has identified the perceived barriers within this specific group and those means by which this group feels those barriers can be overcome. It is in the best interests of all stakeholders to compare these to current programs promoting EHR adoption to identify whether the programs specifically address these barriers. If not, it will be worthwhile to reevaluate these programs, as well as any new initiatives, to align the programs with the identified barriers and hopefully thereby increase their success. The WAFP can use these results to advocate on behalf of family physicians in Washington for programs that assist them with EHR adoption.

Some of the respondents identified significant doubts about the value versus the cost of implementing EHRs. Further studies to address these concerns, followed by an educational effort directed at practices that have not yet implemented an EHR, may help

overcome this resistance. This study has also established a baseline for the current rate of EHR adoption and attitudes about EHRs in this group. Interval follow up surveys will be useful to track progress over time.

Conclusion

Washington family physicians demonstrate a high rate of current EHR use that does not vary from rural to urban locations but did vary by practice size. Identified barriers to practices implementing an EHR are largely financial and the identified means to overcome these barriers include grants and a guaranteed increased revenue stream from higher payments for using an EHR. The group may be at the peak of the adoption rate for new practices per year implementing EHRs and a plateau of approximately 68% adoption projected based on current trends. Progress in achieving further adoption by the remaining practices will be challenging and require programs to educate them about the benefits of EHR and to specifically address the barriers of cost and need for technical assistance, especially for solo practices. The data obtained in this study may serve as a basis for development and promotion of such programs.

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Appendix A

Glossary of Terms

AAFP	American Academy of Family Physicians
CHIT	Center for Health Information Technology, a part of the AAFP
CCHIT	Certification Commission for Healthcare Information Technology
DOQ-IT	Doctors Office Quality-Information Technology, a Medicare sponsored initiative to promote EHR adoption
EHR	Electronic health record
IOM	Institute of Medicine
IT	Information technology
Leapfrog Group	An employer group promoting healthcare quality
Likert scale	A type of psychometric response scale often used in questionnaires where respondents specify their level of agreement to a statement. (Wikipedia)
New Model	A model of health care delivery proposed by the AAFP
SurveyMonkey	An Web-based survey tool, www.surveymonkey.com
TransforMed	An initiative of the AAFP to assist practices in transitioning to the New Model of care
WAFP	Washington Academy of Family Physicians
WSMA	Washington State Medical Association

Institutional Review Board - Spokane

Protecting Human Subjects from Research Risks

December 21, 2006

Glen Stream, MD
14408 East Sprague Ave.
Spokane, WA 99216

RE: IRB 1349 -- "Washington Family Physicians Survey of Computer Technology"
Approval Expiration Date: 11/30/07

Dear Dr. Stream:

Your research study referenced above has been reviewed and granted expedited review and approval by the Institutional Review Board - Spokane on December 21, 2006. Review and approval was expedited because this study poses minimal risk to subjects. Waiver of consent and HIPAA authorization are approved. Items reviewed and approved include:

Name of Document:	Version Date:
Application, protocol, and physicians survey	Rec'd 12/20/06

Approval for conduct of this study expires November 30, 2007.

The following conditions apply to this project:

- The study will be subject to continuing review. Your first progress report is due in October, 2007, for review at the November, 2007, IRB meeting. If your study continues to be active beyond the approval period, submit a request for continuation in the progress report. Please note that continuation of research after expiration of IRB approval is a violation of the FDA regulations [21 CFR 56.103 (a)]. Studies will be suspended if the progress report is not received by the expiration date.
- Procedural changes or amendments must be approved by the IRB (see enclosed form, which is also accessible on the web site). No changes may be made without IRB approval except to eliminate apparent immediate hazards.
- Periodic site visits may be made by the IRB. You will be requested to provide the pertinent information if your project should be reviewed.

If your project has been significantly altered as a result of the IRB review and recommendations, it is your responsibility to notify the study sponsor of the changes.

Sincerely,



Katherine R. Tuttle, MD
Co-Chair

Institutional Review Board - Spokane

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Appendix C

Washington Family Physicians Survey of Computer Technology

The WAFP will be conducting a survey regarding use of computer technology and electronic health records (EHRs) in particular. EHRs have been identified as a core component of the New Model of health care in the Future of Family Medicine. The survey will focus on the current status of EHR adoption, what barriers exist to adoption, and what measures might help overcome these barriers. This data will enable the WAFP to advocate for its members regarding initiatives to promote implementation of EHRs.

Because the decision regarding implementing an EHR is made as a practice, the survey will be conducted at the practice rather than individual level. If you are chosen to participate on behalf of your practice I would greatly appreciate you taking the time to complete the survey. The survey is web-based and easily completed in about 15 minutes. Those who complete the survey will be entered in a drawing for prizes including....?

It is important that the survey be as inclusive as possible of all family medicine practices in Washington. If you are contacted and are unable to complete the survey, please forward it to another member of your group who has the information to respond.

YOUR CONTRIBUTION AND PARTICIPATION IS CRUCIAL.

Thank you.

Glen Stream, MD

Appendix D

WAFP Survey of Computer Technology

The WAFP is conducting a survey regarding use of computer technology and electronic health records (EHRs) in particular. EHRs have been identified as a core component of the New Model of health care in the Future of Family Medicine. The survey will focus on the current status of EHR adoption, what barriers exist to adoption, and what measures might help overcome these barriers. This data will enable the WAFP to advocate for its members regarding initiatives to promote implementation and maintenance of EHRs.

Because the decision regarding implementing an EHR is made as a practice, the survey will be conducted at the practice rather than individual level. You have been selected to participate on behalf of your practice. I would greatly appreciate you taking the time to complete the survey. The survey is web-based and easily completed in about 10 minutes. The survey can be accessed by clicking this link,

<http://www.surveymonkey.com/s.asp?u=712703092694>

or pasting this link into your web browser. A paper copy of the survey is attached if you wish to use this to collect your responses prior to completing it online. If you are unable to complete the survey online you may return a completed copy of the paper survey in the enclosed envelop. Those who complete the survey will be entered in a drawing for a new video iPod.

It is important that the survey be as inclusive as possible of all family medicine practices in Washington. If you are contacted and are unable to complete the survey, please forward it to another member of your group who has the information to respond. If you feel the survey does not apply to your practice situation, please email me with a brief description of your practice situation.

Completeness is essential to the validity of this survey. Your contribution and participation is crucial and greatly appreciated.

Thank you.

Glen Stream, MD
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Appendix E

Washington Family Physicians Survey of Computer Technology

This survey asks about your medical practice and factors related to the use of certain computer technology, particularly electronic health records (EHRs; also called electronic medical records). It will take about 10 minutes to complete.

All responses are private and confidential. Results will be analyzed only in aggregate and individual responses will not be reported. One individual is being surveyed on behalf of each practice, so your responses should reflect your entire organization and not just yourself.

Section A. Practice Characteristics

In this section, we ask you questions about your outpatient practice.

1. What is the name of the clinic or organization where your outpatient practice is located?

2. How would you classify your practice location?

- Rural
 Suburban
 Urban

3. How would you best characterize your practice? (Please check only one)

- Solo family medicine practice
 Family medicine group or partnership
 Primary care group or partnership (family medicine plus other primary care providers)
 Multi-specialty group, partnership, or network
 HMO
 Community Health Center
 Residency
 Other: _____

4. Considering all full- and part-time clinicians in your practice (all sites), including yourself, how many are

Physicians (MD or DO): _____

Nurse practitioners or physician assistants: _____

5. Have any residents or students been present in your practice within the past year?

- Yes
 No

6. With your current medical record system (paper or electronic), how easy would it be for you or your staff to generate the following information about your patients?

	Very Difficult	Somewhat Difficult	Somewhat Easy	Very Easy	Cannot Generate
a) List of patients by diagnosis or health risk (e.g., diabetes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) List of patients by laboratory results (e.g., patients with abnormal hemoglobin levels)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) List of patients by medications they currently take (e.g., patients on warfarin)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section B: Health Information Technology

The next set of questions will ask about the computers and health information technology in your practice. Please select the answer that best describes your practice.

7. Does your practice use a computerized scheduling system?

- Yes
- No

8. Upon completing a typical office visit, how do you generate medication prescriptions?

- Computerized, with decision support (e.g., drug interaction alerts)
- Computerized, with no decision support
- Handwritten
- Other (Describe: _____)

9. Does your practice have components of any electronic health record (EHR), that is, an integrated clinical information system that tracks patient health data, and may include such functions as visit notes, prescriptions, lab orders, etc?

- Yes → Skip to question 11
- No → (If “No”, please answer question 10))

10. When do you plan to implement an EHR?

- Have purchased but not yet implemented
- Implementation in process
- Within the next 12 months
- Within the next 1-2 years
- Within the next 3-5 years
- No specific plans
- Do not plan to implement EHR
- Have attempted and abandoned EHR adoption
(please explain: _____
_____)

Skip to question 13.

11. What is the name of your EHR system? _____ (pick list)
Other: _____

12. Please indicate when your practice first began using an EHR:
____ (year)

13. How much of a barrier is each of the following to beginning or expanding the use of computer technology in your practice?

	<u>Not a barrier</u>	<u>Minor barrier</u>	<u>Major barrier</u>
a) Computer skills of your providers/staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Computer technical support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Lack of time to acquire knowledge about system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Start-up financial costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Ongoing financial costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Training and productivity loss	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Physician skepticism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Privacy or security concerns	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Lack of uniform standards within industry (e.g., having to use multiple systems used by different providers and plans)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j) Technical limitations of systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. How much of a role do/did each of the following organizations play in deciding whether to adopt a new electronic health record system in your practice?

	Not at all	Very little	Some what	Very much	N/A or don't know
a) Your practice group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Physician Hospital Organization(s) (PHOs) or Independent Practice Association(s) (IPAs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Integrated Delivery Systems(s) (IDS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Managed care plans you work with	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) AMA/WSMA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) AAFP/WAFP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) DOQ-IT (Doctor's Office Quality-IT)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) The Leapfrog Group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. Is broadband Internet access available at your practice site(s)?

- Yes
 No

16. What type of Internet connection do you have at your practice? (Please check only one)

- Do not have Internet connection at work
 Dial-up modem connection
 Broadband (i.e., DSL or cable modem) or faster connection (e.g., T1, T3, or fiber)
 Don't know

Section C: Computers and Health Care

17. For each outcome listed below, indicate whether you think the effect of computers is, or would be, very positive, somewhat positive, no effect, somewhat negative, or very negative:

	Very Negative	Somewhat Negative	No Effect	Somewhat Positive	Very Positive
Effect of computers on...					
a) Controlling costs of health care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Quality of health care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Interactions within the health care team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Patient-physician communication.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Patient privacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Clinicians access to up-to-date knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Efficiency of providing care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Medication errors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section D: Financial Considerations

18. Please indicate below whether the following factors (through bonuses, returned withholds, or other incentive payments) contribute to your practice's income.

	Yes	No	Don't know
a) Types of electronic information systems you have (e.g., EHRs, e-prescribing)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) The amount you use electronic information systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Patient survey results (e.g., satisfaction)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Clinical quality (e.g., "pay for performance")	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. Practices vary with respect to the capital they have available for expansion and improvement. What financial resources does your practice have for expansion and improvements of any kind?

- Extensive resources
- Moderate resources
- Limited resources
- No resources

20. If you decided that a new computer system would improve health care quality and was worth the financial investment, how difficult would it be for your practice to purchase such a system if the cost was...

	Not at all Difficult	Somewhat Difficult	Very Difficult	Impossible
a) Less than \$10,000 per physician	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) \$10,000 - \$25,000 per physician	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Greater than \$25,000 per physician	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. How much do you feel each of the following would assist your practice in implementing a new computer system such as an EHR?

	Not at all	Very little	Some what	Very much
a) Technical support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Interest free loans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Grants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Increased reimbursement for utilizing an EHR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Pay for performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. Some practices have associated with other organizations in order to implement an EHR. Is this something your practice would consider?

- Yes. → Go to Question 23
 No. → Why? _____
 Skip to question 24

23. Who would you consider as a potential partner to implement an EHR (check all that apply)?

- Local hospital
 Other practices in my community
 Health plan
 Government (state or federal)
 Other (specify: _____)

Section E: The Office Practice Environment

24. Please indicate your agreement or disagreement with the following statements, considering your office practice:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a) The office staff are innovative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) The physician(s) are innovative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) We are actively doing things to improve quality of care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) After we make changes to improve quality, we evaluate their effectiveness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) We have quality problems in our practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Our procedures and systems are good at preventing errors from occurring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section F: Comments

25. Other comments regarding the benefits of EHR adoption: _____

26. Other comments regarding barriers to EHR adoption: _____

Thank you for completing this survey. Your time is very valuable and your participation is greatly appreciated.

27. Your name (Optional. Only to be used for purposes of entering you in the drawing for the survey participation prizes.):

Appendix F

Data Figures and Tables

Figures:

Figure 1: Practice Size Distribution of the Identified Practices

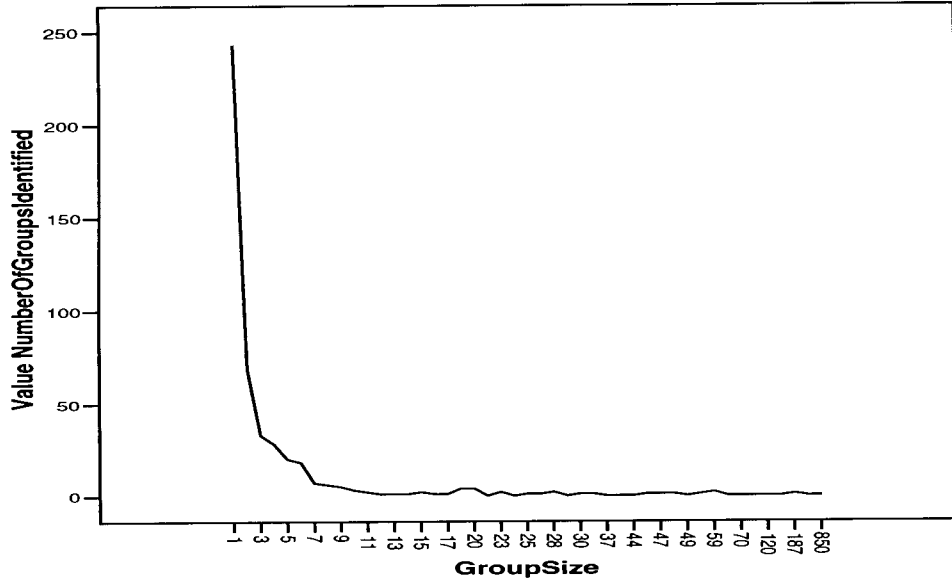


Figure 2: Practice Size Distribution of Survey Respondents

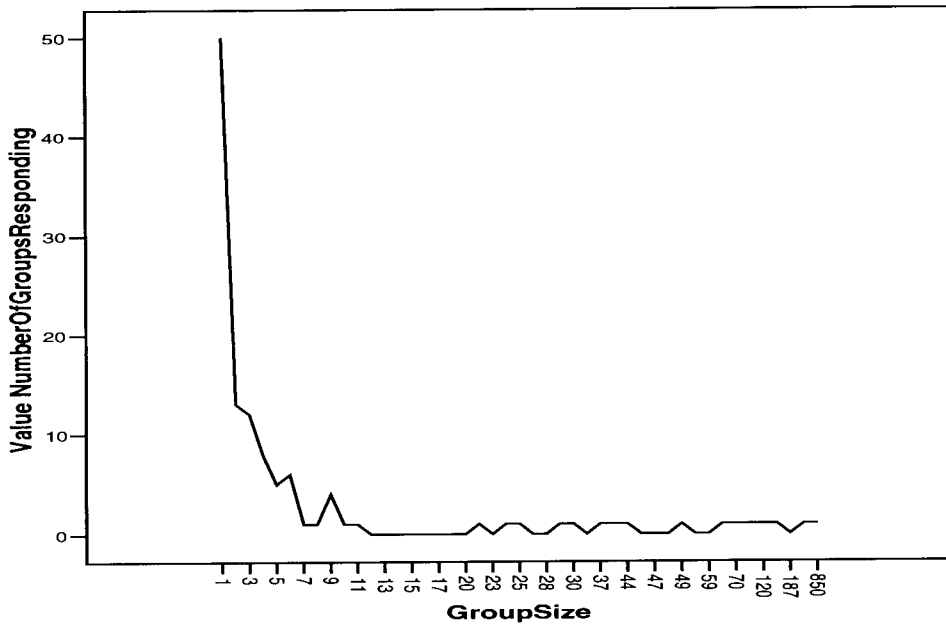


Figure 3: EHR Adoption by Year

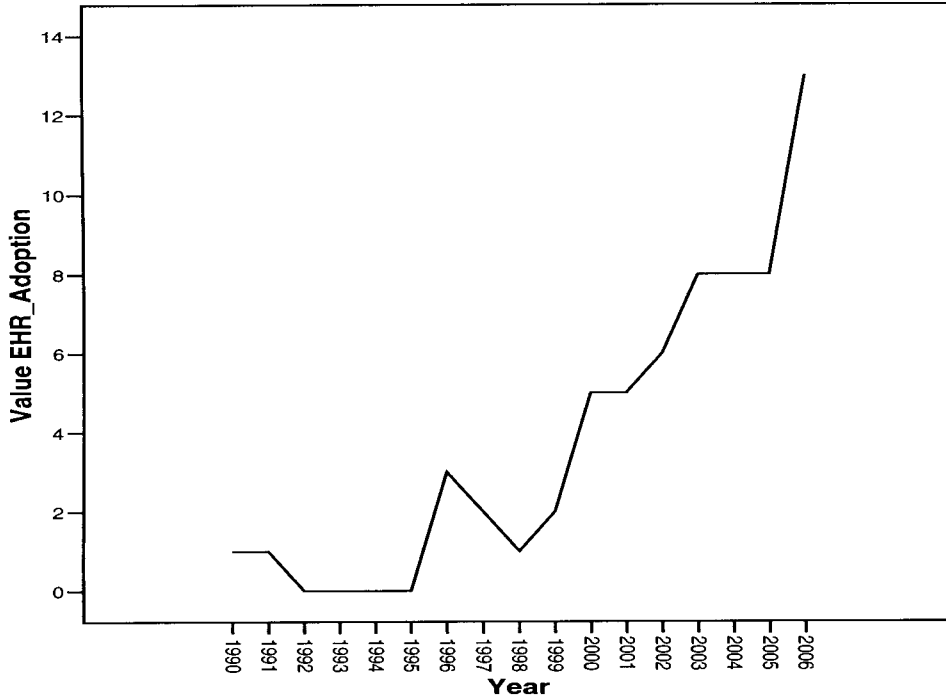


Figure 4: EHR Adoption by Year with Future Forecast

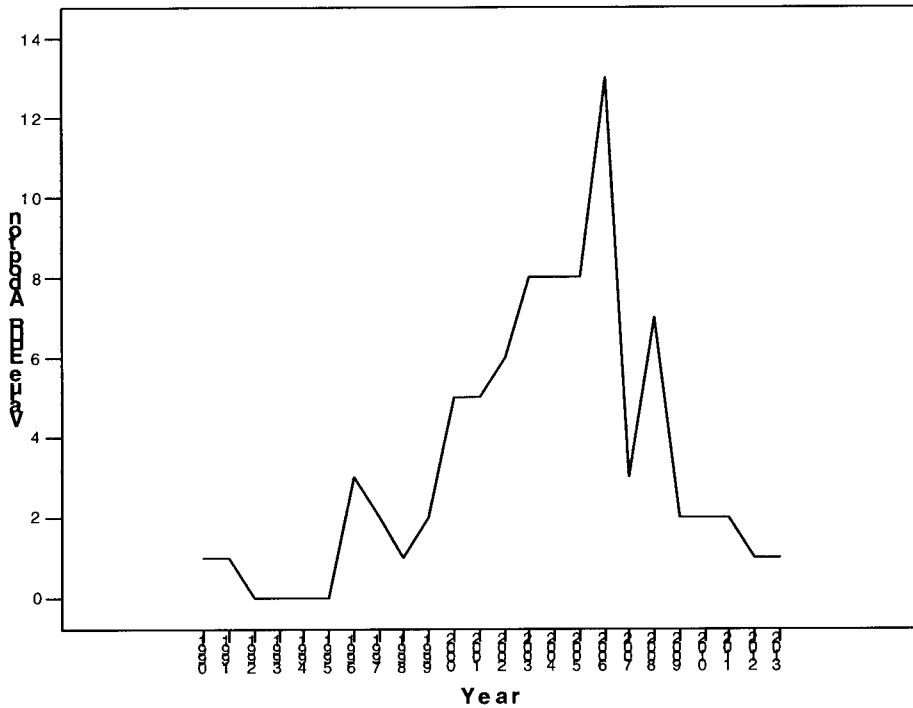
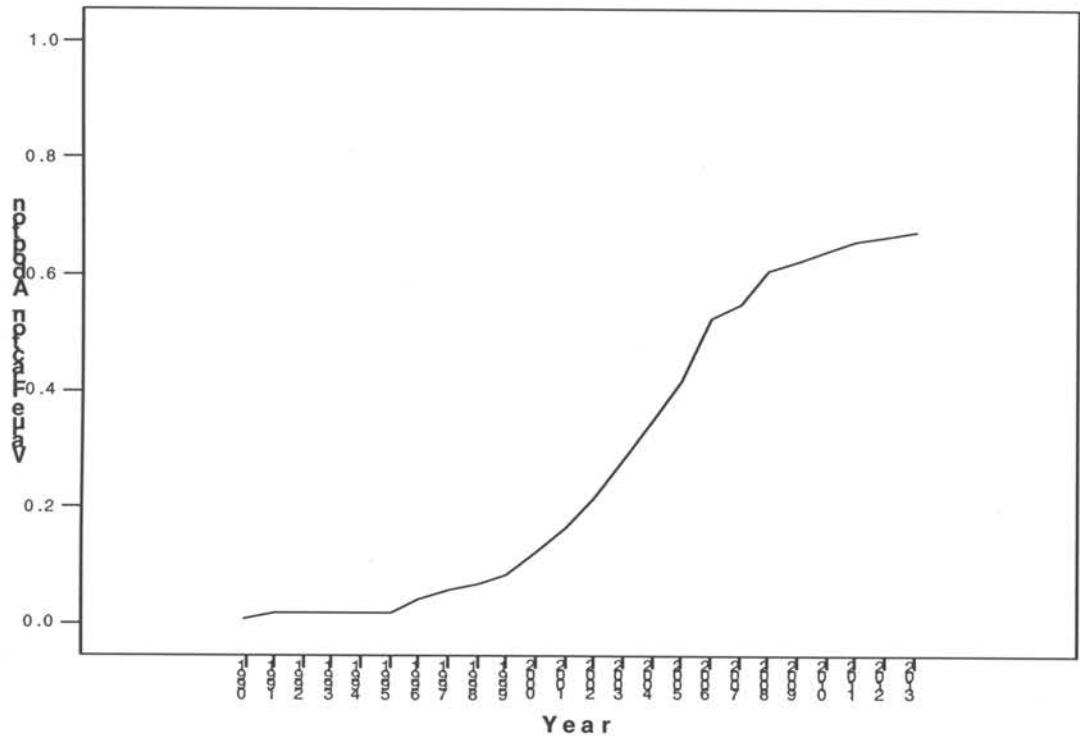


Figure 5: Projected Cumulative EHR Adoption



Tables:

Table 2: Barriers to EHR Adoption for All Respondents

How much of a barrier is each of the following to beginning or expanding the use of computer technology in your practice?				
	Not a barrier	Minor barrier	Major barrier	Response Average
Computer skills of your providers/staff	40% (46)	45% (52)	16% (18)	1.76
Computer technical support	38% (44)	37% (43)	24% (28)	1.86
Lack of time to acquire knowledge about system	29% (33)	43% (49)	29% (33)	2.00
Start-up financial costs	15% (17)	25% (29)	60% (69)	2.45
Ongoing financial costs	14% (16)	46% (53)	39% (45)	2.25
Training and productivity loss	17% (19)	48% (55)	36% (41)	2.19
Physician skepticism	43% (50)	36% (42)	21% (24)	1.78
Privacy or security concerns	71% (80)	22% (25)	7% (8)	1.36
Lack of uniform standards within industry	27% (31)	43% (49)	29% (33)	2.02
Technical limitations of systems	30% (32)	52% (56)	19% (20)	1.89
Total Respondents				116

Table 3: Barriers to EHR Adoption for Those Already Having an EHR

How much of a barrier is each of the following to beginning or expanding the use of computer technology in your practice?				
	Not a barrier	Minor barrier	Major barrier	Response Average
Computer skills of your providers/staff	38% (25)	52% (34)	11% (7)	1.73
Computer technical support	46% (30)	32% (21)	22% (14)	1.75
Lack of time to acquire knowledge about system	35% (23)	48% (31)	17% (11)	1.82
Start-up financial costs	18% (12)	36% (24)	45% (30)	2.27
Ongoing financial costs	17% (11)	58% (38)	26% (17)	2.09
Training and productivity loss	25% (16)	51% (33)	25% (16)	2.00
Physician skepticism	44% (29)	44% (29)	12% (8)	1.68
Privacy or security concerns	80% (51)	19% (12)	2% (1)	1.22
Lack of uniform standards within industry	32% (21)	50% (33)	18% (12)	1.86
Technical limitations of systems	30% (19)	61% (39)	9% (6)	1.80
Total Respondents				66

Table 4: Barriers to EHR Adoption for Those Not Already Having an EHR

How much of a barrier is each of the following to beginning or expanding the use of computer technology in your practice?				
	Not a barrier	Minor barrier	Major barrier	Response Average
Computer skills of your providers/staff	43% (20)	36% (17)	21% (10)	1.79
Computer technical support	28% (13)	47% (22)	26% (12)	1.98
Lack of time to acquire knowledge about system	21% (10)	38% (18)	40% (19)	2.19
Start-up financial costs	11% (5)	11% (5)	78% (36)	2.67
Ongoing financial costs	11% (5)	31% (14)	58% (26)	2.47
Training and productivity loss	6% (3)	40% (19)	53% (25)	2.47
Physician skepticism	45% (21)	21% (10)	34% (16)	1.89
Privacy or security concerns	63% (29)	26% (12)	11% (5)	1.48
Lack of uniform standards within industry	23% (10)	36% (16)	41% (18)	2.18
Technical limitations of systems	29% (12)	40% (17)	31% (13)	2.02
Total Respondents				47

Table 5: Overcoming barriers (All respondents)

How much do you feel each of the following would assist your practice in implementing a new computer system such as an EHR?					
	Not at all	Very little	Somewhat	Very Much	Response Average
Technical support	7% (7)	10% (11)	22% (23)	61% (64)	3.37
Interest free loans	19% (19)	19% (19)	33% (33)	29% (29)	2.72
Grants	10% (10)	3% (3)	25% (25)	63% (64)	3.40
Increased reimbursement for utilizing an EHR	5% (5)	8% (8)	30% (31)	57% (58)	3.39
Pay for performance	16% (16)	24% (23)	38% (37)	22% (21)	2.65
Total Respondents					105

Table 6: Overcoming barriers (those with EHRs)

How much do you feel each of the following would assist your practice in implementing a new computer system such as an EHR?					
	Not at all	Very little	Somewhat	Very Much	Response Average
Technical support	6% (4)	10% (6)	24% (15)	60% (38)	3.38
Interest free loans	16% (10)	15% (9)	36% (22)	33% (20)	2.85
Grants	8% (5)	5% (3)	23% (14)	65% (40)	3.44
Increased reimbursement for utilizing an EHR	3% (2)	2% (1)	33% (20)	62% (38)	3.54
Pay for performance	13% (8)	20% (12)	43% (26)	23% (14)	2.77
Total Respondents					63

Table 7: Overcoming barriers (those without EHRs)

How much do you feel each of the following would assist your practice in implementing a new computer system such as an EHR?					
	Not at all	Very little	Somewhat	Very Much	Response Average
Technical support	7% (3)	12% (5)	20% (8)	61% (25)	3.34
Interest free loans	24% (9)	24% (9)	29% (11)	24% (9)	2.53
Grants	13% (5)	0% (0)	26% (10)	62% (24)	3.36
Increased reimbursement for utilizing an EHR	8% (3)	15% (6)	28% (11)	50% (20)	3.20
Pay for performance	19% (7)	31% (11)	31% (11)	19% (7)	2.50
Total Respondents					41

Table 8: Payment for use of IT and other factors

Please indicate below whether the following factors (through bonuses, returned withholds, or other incentive payments) contribute to your practice's income.				
	Yes	No	Don't know	Response Total
Types of electronic information systems you have (e.g., EHRs, e-prescribing)	18% (12)	71% (46)	11% (7)	65
The amount you use electronic information systems	23% (15)	69% (45)	8% (5)	65
Patient survey results (e.g., satisfaction)	17% (11)	74% (48)	9% (6)	65
Clinical quality (e.g., "pay for performance")	23% (15)	72% (47)	5% (3)	65
Total Respondents				65

Table 9: Resources of practices without EHR





Practices vary with respect to the capital they have available for expansion and improvement. What financial resources does your practice have for expansion and improvements of any kind?			
		Response Percent	Response Total
Extensive resources		7%	3
Moderate resources		16.3%	7
Limited resources		53.5%	23
No resources		23.3%	10
Total Respondents			43

Table 10: Practice ability to afford IT projects

If you decided that a new computer system would improve health care quality and was worth the financial investment, how difficult would it be for your practice to purchase such a system if the cost was					
	Not at all difficult	Somewhat difficult	Very difficult	Impossible	Response Average
Less than \$10,000 per physician	34% (14)	46% (19)	12% (5)	7% (3)	1.93
\$10,000 - \$25,000 per physician	12% (5)	20% (8)	30% (12)	38% (15)	2.93
Greater than \$25,000 per physician	5% (2)	10% (4)	25% (10)	60% (24)	3.40
Total Respondents					41

Table 11: EHR Collaboration consideration for those without EHR

Some practices have associated with other organizations in order to implement an EHR. Is this something your practice would consider?			
		Response Percent	Response Total
Yes		47.6%	20
No		52.4%	22
Total Respondents			42

Table 12: Who would you consider as an EHR project partner?

Who would you consider as a potential partner to implement an EHR (check all that apply)?			
		Response Percent	Response Total
Local hospital		72.7%	16
Other practices in my community		54.5%	12
Health plan		27.3%	6
Government (state or federal)		50%	11
Other		13.6%	3
Total Respondents			22

Table 13: Influences on those with EHR

How much of a role do/did each of the following organizations play in deciding whether to adopt a new electronic health record system in your practice?						
	Not at all	Very little	Somewhat	Very much	N/A or don't know	Response Average
Your practice group	18% (12)	2% (1)	11% (7)	58% (38)	11% (7)	3.22
Physician Hospital Organization(s) (PHOs) or Independent Practice Association(s) (IPAs)	71% (46)	11% (7)	0% (0)	3% (2)	15% (10)	1.24
Integrated Delivery Systems(s) (IDS)	67% (44)	5% (3)	2% (1)	9% (6)	18% (12)	1.43
Managed care plans you work with	64% (42)	8% (5)	8% (5)	6% (4)	15% (10)	1.48
AMA/WSMA	80% (52)	5% (3)	2% (1)	2% (1)	12% (8)	1.14
AAFP/WAFP	67% (43)	8% (5)	12% (8)	3% (2)	9% (6)	1.47
DOQ-IT (Doctor's Office Quality-IT)	67% (44)	9% (6)	6% (4)	3% (2)	15% (10)	1.36
The Leapfrog Group	73% (47)	6% (4)	3% (2)	0% (0)	17% (11)	1.15
Total Respondents						66

Table 14: Influences on those without EHR

How much of a role do/did each of the following organizations play in deciding whether to adopt a new electronic health record system in your practice?						
	Not at all	Very little	Somewhat	Very much	N/A or don't know	Response Average
Your practice group	9% (4)	4% (2)	7% (3)	46% (21)	35% (16)	3.37
Physician Hospital Organization(s) (PHOs) or Independent Practice Association(s) (IPAs)	51% (23)	7% (3)	7% (3)	4% (2)	31% (14)	1.48
Integrated Delivery Systems(s) (IDS)	53% (23)	0% (0)	2% (1)	9% (4)	35% (15)	1.50
Managed care plans you work with	56% (24)	5% (2)	7% (3)	0% (0)	33% (14)	1.28
AMA/WSMA	56% (24)	12% (5)	0% (0)	0% (0)	33% (14)	1.17
AAFP/WAFP	47% (20)	9% (4)	9% (4)	5% (2)	30% (13)	1.60
DOQ-IT (Doctor's Office Quality-IT)	47% (20)	7% (3)	7% (3)	2% (1)	37% (16)	1.44
The Leapfrog Group	47% (20)	5% (2)	2% (1)	2% (1)	44% (19)	1.29
Total Respondents						46

Table 15: Implementation plans of practices without EHR

When do you plan to implement an EHR?		
	Response Percent	Response Total
Have purchased but not yet implemented	0%	0
Implementation in process	6.2%	3
Within the next 12 months	14.6%	7
Within the next 1-2 years	8.3%	4
Within the next 3-5 years	8.3%	4
No specific plans	18.8%	9
Do not plan to implement EHR	37.5%	18
Have attempted and abandoned EHR adoption	6.2%	3
Total Respondents		48

Appendix G

EHR Vendors Identified by Survey Respondents

What is the name of your EHR system?			
		Response Percent	Response Total
Alteer		1.6%	1
AmazingCharts		3.2%	2
CDEMS		1.6%	1
Chart Connect		11.1%	7
CPSI		1.6%	1
Dairyland		1.6%	1
Don't know		1.6%	1
eClinicalWorks		3.2%	2
e-MDs Chart		4.8%	3
Epic		6.3%	4
GE Centricity (Logician)		19%	12
Intergy		1.6%	1
InteGreat - IC-Chart		1.6%	1
McKesson		1.6%	1
Misys EMR		4.8%	3
NextGen		4.8%	3
Practice Partner EMR		14.3%	9
PRAXIS EMR		1.6%	1
Purkinje		1.6%	1
SOAPware		7.9%	5
SRS Software - Easy EMR		1.6%	1
Stat! Systems - Q.D. Clinical		1.6%	1
Suncoast		1.6%	1
Total Respondents			63