

THE ROLE OF ELECTRONIC MEDICAL RECORDS IN OPTOMETRIC CARE:
A SURVEY OF MICHIGAN OPTOMETRISTS

by

Angela Olmstead

Lindsey Wynkoop

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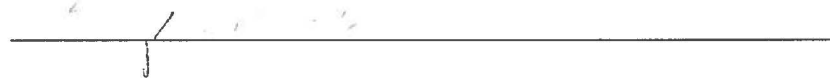
Angela Olmstead

Lindsey Wynkoop

Has been approved

May, 2009

APPROVED:

 _____, Faculty Advisor

ACCEPTED:



Faculty Course Supervisor

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I, Angela Olmstead, hereby release this Paper as described above to Ferris State University with the understanding that it will be accessible to the general public. This release is required under the provisions of the Federal Privacy Act.

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ABSTRACT

Background: Electronic medical records (EMRs) are the center of discussion among health care practitioners and the government. Optometrists are faced with significant financial burdens, time commitments, and stress on the staff to implement the new system in their offices. The government, however, is currently offering a stimulus plan to help reduce the costs of EMR implementation into medical practices. The purpose of this research was to review and compile information regarding EMRs for optometric practices, how offices are implementing them, and how EMRs affect the daily activities of running a successful practice. *Methods:* All data for this study was collected by surveying optometrists throughout Michigan via an online 16 item survey. From the initial 373 email requests, 111 responses were obtained. *Results:* One hundred and eleven survey responses from a group of randomly selected optometrists throughout Michigan revealed that 37.3% of practices responding had electronic medical records in place. There were evident trends in the data that became apparent based upon the location, mode of practice and age of the doctor responding to the survey. Seventy-eight percent of the responders were aware of the “American Recovery & Reinvestment Act of 2009” which entitles practitioners financial compensation for earlier EMR implementation. *Conclusions:* After evaluating the results, it was concluded that EMRs in optometric practice in Michigan are on the rise, and the overall satisfaction with implementation has been positive.

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INTRODUCTION

Up to \$40,000 can be rewarded by the Federal government to health care providers (including optometrists) for implementing an electronic medical record (EMR) system as part of an intensive push for nationwide EMRs by 2014. Under the Health Information Technology for Economic and Clinical Health (HITECH) provisions of the American Reinvestment and Recovery Act (ARRA) of 2009, the Federal government has authorized \$19 billion to be used for health care providers to adopt health information technology (HIT), specifically implement EMRs.^{1,2} If doctors follow the guidelines, much of the costs can potentially be covered by federal incentives of up to \$44,000 over a five year period beginning in 2011.¹ If optometrists do not implement an EMR system by 2015 they will be penalized by Medicare with a 1% fee-for-service payment reduction.¹

In order to qualify, optometrists must participate in the Medicare Part- B fee-for service program and have 30% of their patient volume using Medicare. In addition their EMR system must meet a specific “criteria” set by the Federal government. Although the final “criteria” list has yet to be completed, some of the requirements include: EMR system must use electronic pharmaceutical prescribing and be a “certified system³.” A major problem is that no optometric EMR system is considered a “certified system” yet because “meaningful use” has not been defined for optometry⁴. So will providers who have already implemented an EMR system be penalized or be able to cash in on the federal incentives? For those optometrists who do not meet the Medicare requirements

but see a “high volume” of Medicaid patients, these providers could qualify for up to \$63,750 in incentives over a six year period through state Medicaid programs.¹

HIT impacts optometry in several ways. Specifically, EMRs and electronic prescribing improves efficiency for patients, minimizing human errors. EMRs allow doctors to keep patient information in a safe, secure, accessible location, improve communication/co-management with other physicians and submit insurance claims in an accurate timelier manner.²

METHODS

The purpose of this study is to inform Michigan optometrists about EMRs in optometric care. Providing them with insight on how to implement a system; provide suggestions about software, and educate them about the governmental stimulus plan to help reduce the costs of EMRs. In addition, we surveyed how EMRs affect the daily activities of running a successful practice. As of December 2008, there were approximately 700 practicing members of the Michigan Optometric Association (MOA). This study randomly selected 373 email addresses of MOA members from the 2008 MOA Membership Guide.

Survey monkey (an online survey tool) was used to generate the survey, deliver the survey to doctors via email and tabulate data. The survey focused primarily to inform optometrists about current types of EMR software systems, the financial costs and rewards provided through the American Recovery and Reinvestment Act of 2009, and to

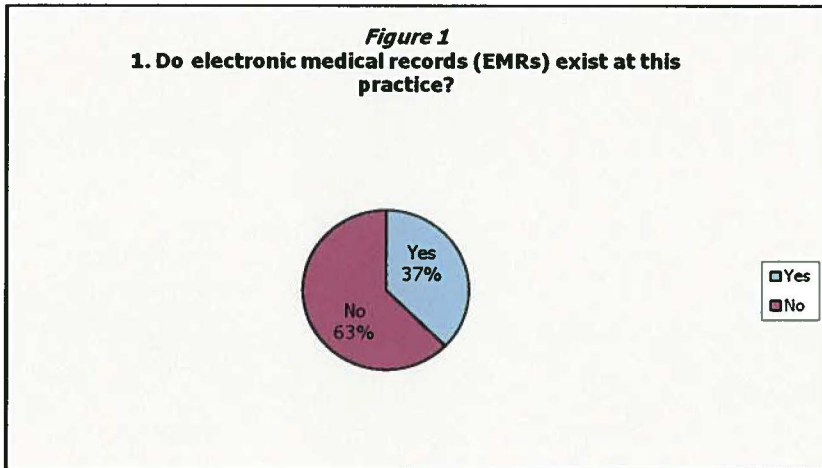
inform doctors how to effectively implement an EMR system into optometric care. Questions also addressed demographic topics such as: what mode of practice and location of practice to determine a correlation, if any, to current EMR implementation.

RESULTS

After reviewing 111 survey responses electronically from a group of randomly selected optometrists throughout Michigan, results revealed that 37.3% of practices had some form of electronic medical records in place. There were evident trends in the data that became apparent based upon the location, mode of practice and age of the doctor responding to the survey. For example, of the 37% of surveyed optometrists with EMRs, about 57% percent of those doctors have been practicing for greater than 15 years. Therefore, it is not correct to assume all young / new optometrists will have EMRs right out of school, likely attributed to the extensive financial commitment with implementing EMRs.

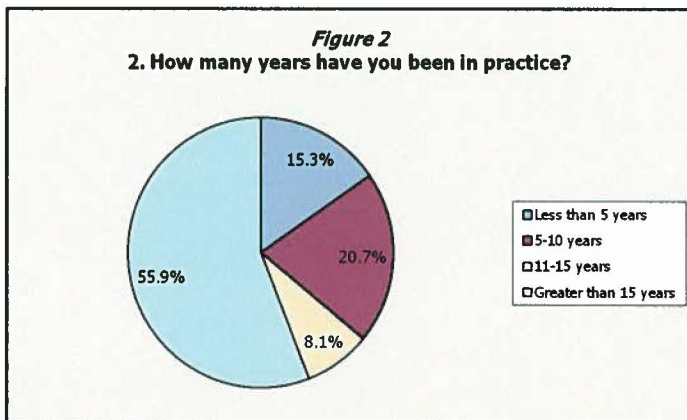
Surveys questioning electronic medical records and the financial rewards from the government were emailed to 373 random optometrists throughout Michigan, with 12 surveys bounced due to incorrect email addresses, 111 responded out of a total of 361 emailed surveys for a 31% response rate. The first question asked optometrists, “Do electronic medical records (EMRs) exist at this practice?” Over half of the surveyed optometrists (63%) do not have EMRs, whereas 37% of optometrists had EMRs. Results are shown in the Figure 1 below.

Figure 1: Electronic Medical Records in an optometric practice



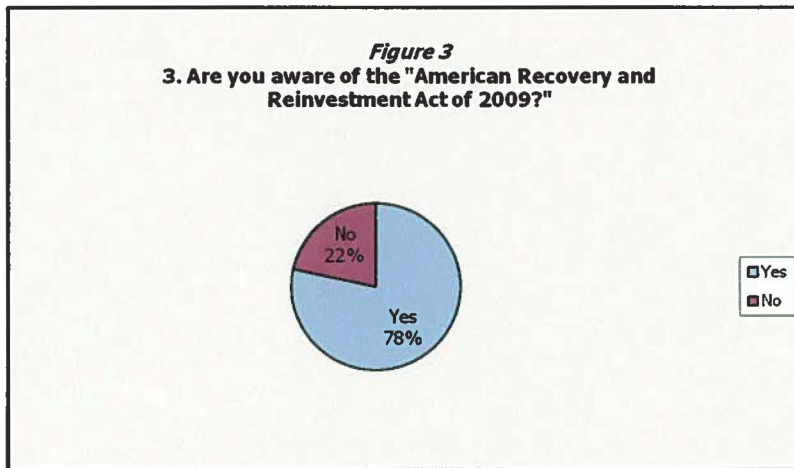
Question two asked optometrists, “How many years have you been in practice.” Fifty-six percent (62 doctors) doctors responded that they have been in practice for greater than 15 years, 21% responded that they have been in practice for 5-10 years, 15 % of the doctors responded that they have been in practices for less than 5 years whereas 8% of the doctors have been in practice for 11-15 years. Results are shown in Figure 2 below.

Figure 2: Years practicing optometry



Question three asked the optometrists, “Are you aware of the “American Recovery and Reinvestment Act of 2009” which provides financial incentives and potential reductions beginning in 2011- 2018? Each optometric practice is eligible for up to \$18k the first year and \$12k, \$8k, \$4k and \$2k the remaining years?” A majority of optometrists (78%) were aware of the financial incentives from the government in the upcoming years, whereas 22% had not read or been informed about these financial incentives. Figure 3 shows the results.

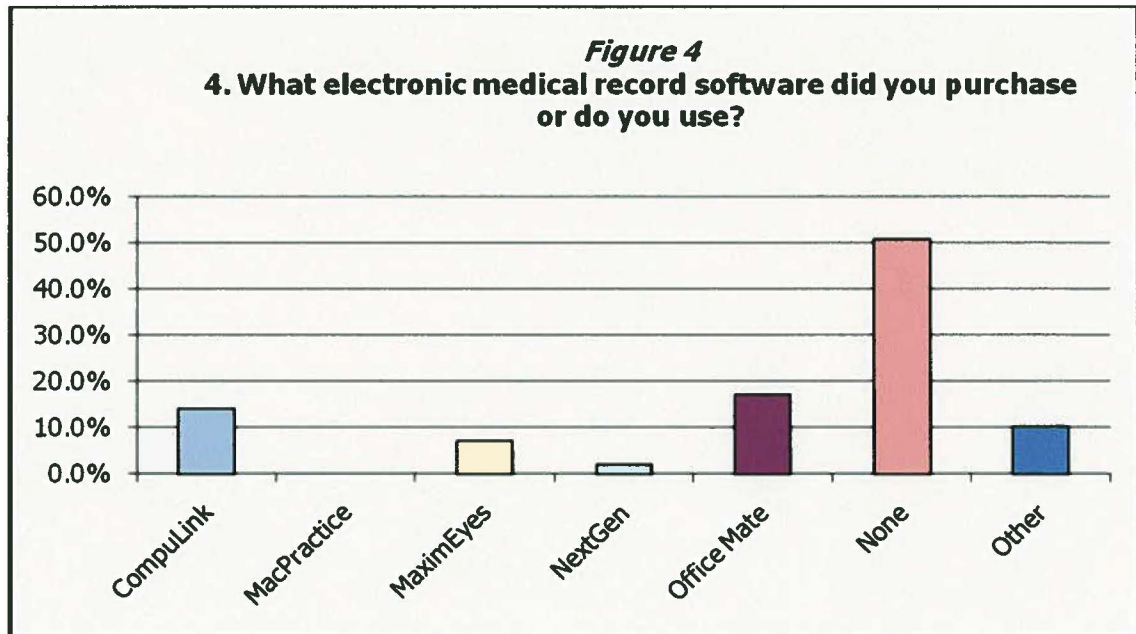
Figure 3: Optometric Awareness of the “American Recovery and Reinvestment Act of 2009”



Question four asked optometrists “What electronic record software did you purchase or do you use?” The most common software used in optometric practices was Officemate with 17% of doctors reported using this software. Compulink (14%) was the second most commonly used electronic medical software. Fifty-one percent of responses did not use any EMR system. Fifteen percent of optometrists reported using software other than the software listed on the survey (Office Mate, Compulink, MaximEyes, MacPractice) and included the following: Practice Doctor, Medflow, Key medical,

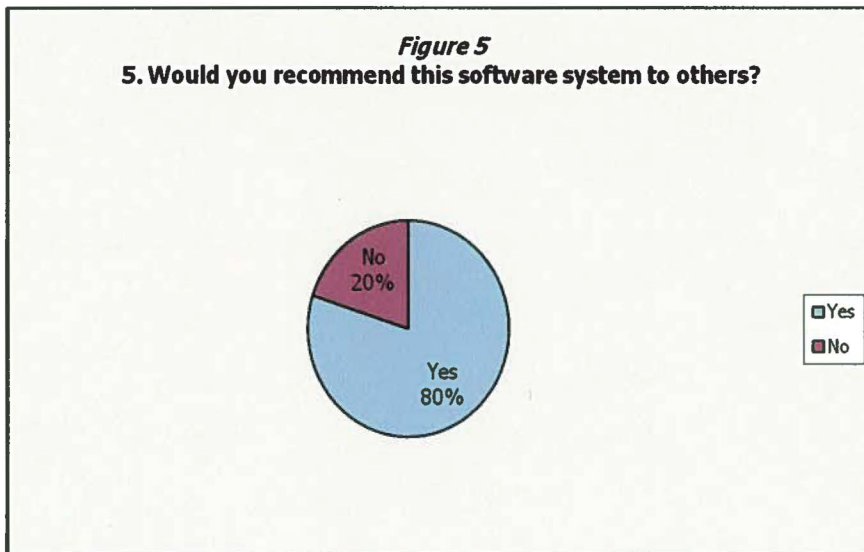
medical, Revolution EMR (formerly eyedocright), HealthPac Practice Management Software, IncrediPower, MS group (2), and VA CPRS. Two optometrists reported using Goal practice management software since the EMR portion has yet to be released. Results are shown below in Figure 4.

Figure 4: Electronic medical record software used by Michigan optometrists



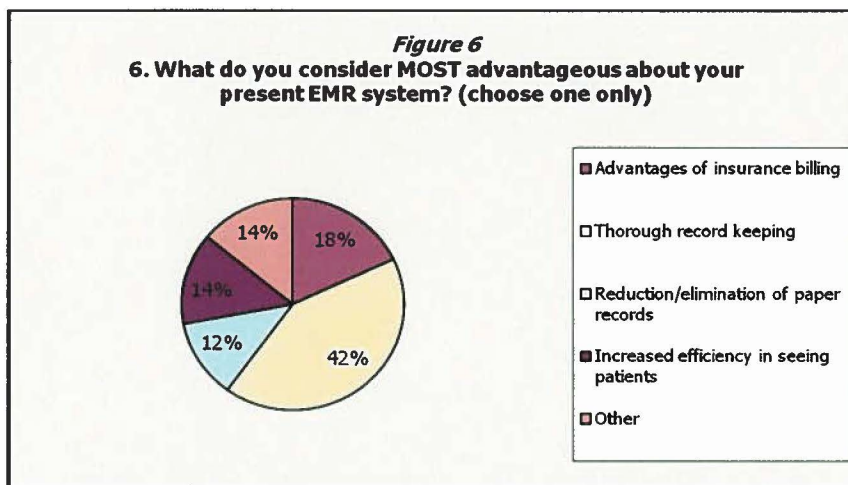
Question five asked optometrists “Would you recommend this software system to others?” Eighty percent of optometrists liked their electronic medical record software, whereas 20% of optometrists did not like their software. This questions was a highly skipped question, 51 optometrists skipped this question due to the lack of EMRs in their practice. Results are shown below in Figure 5.

Figure 5: Recommend EMR software to fellow optometrists?



Question six asked optometrists “What would you consider most advantageous about your present EMR system?” Most optometrists (42%) preferred the thorough record keeping that electronic medical records provide. The second most common advantage of EMRs was the ease, improved turn around time of insurance billing/claims (18%). Additionally optometrists enjoyed the increased exam efficiency (14%), reduction/elimination of paper records (12%). The 14% of “other” specifications regarding the advantages EMRs bring to optometric practice were solely comments about how their practice did not have EMRs. Figure 6 shows the results.

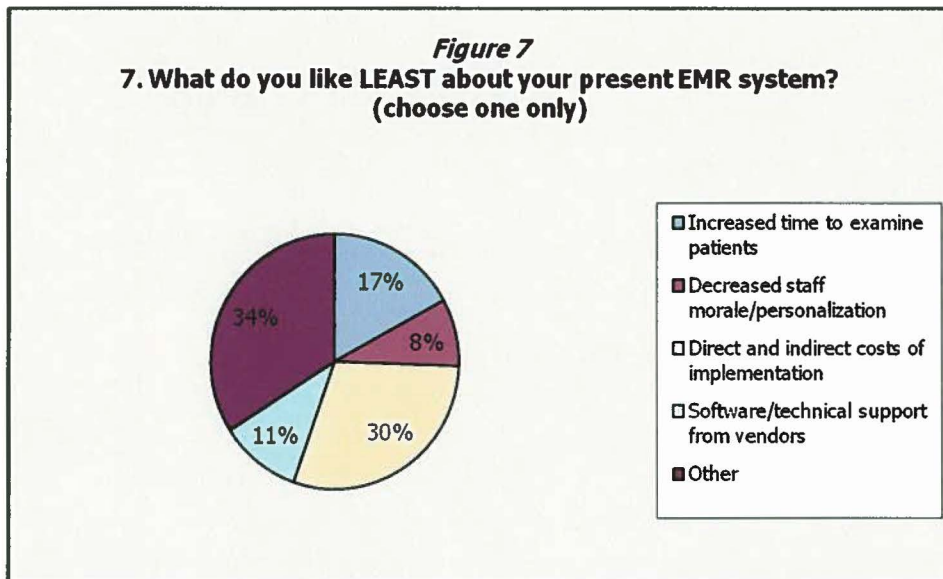
Figure 6: Advantages of EMR systems



Question seven asked optometrists “What do you least like about your current EMR system?” The most common complaint of EMR systems was the extensive costs of implementing and training staff to use the system (30%). Although, 33% of specific comments covered a variety of issues from poor accounting reports, problems getting local support to troubleshoot software problems, unexpected costs to troubleshoot the system, ease of looking back at previous records, reduced doctor- patient interaction,

inability to customize records (i.e. fundus drawings), security issues and trouble communicating with staff members for various tasks (CL orders/trial lens orders, referral letters). Three optometrists did not have any complaints about the system, whereas 6 optometrists said this question was not applicable to their practice. Results are shown below in Figure 7.

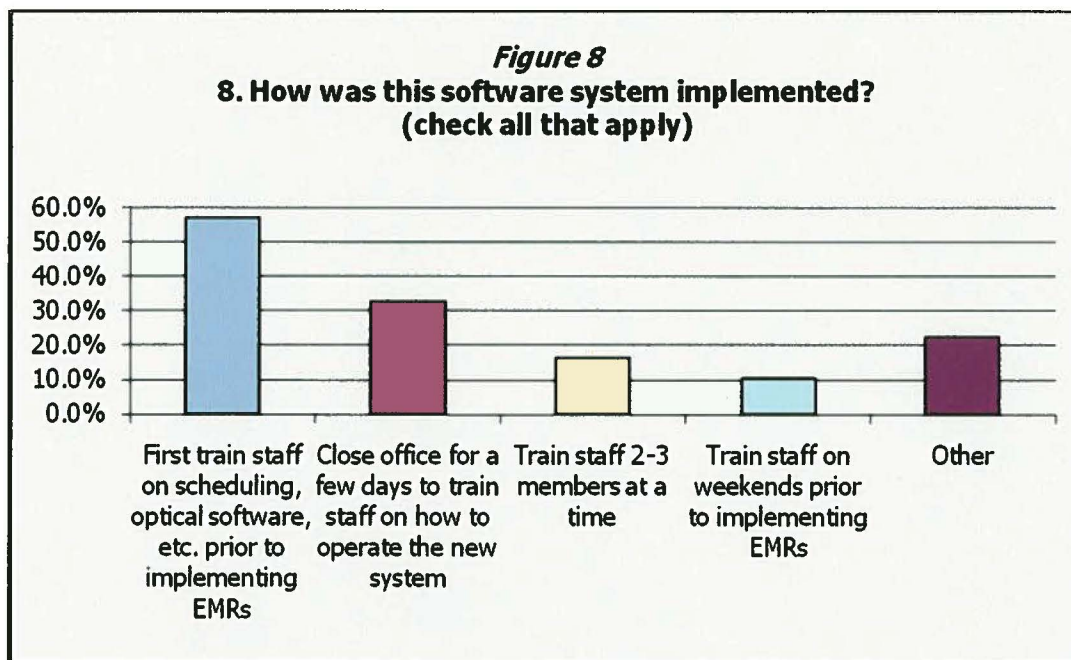
Figure 7: Disadvantages of EMR systems



Question 8 asked optometrist “How was the EMR software system implemented?” The majority (57%) of optometrists chose to first train staff on scheduling and optical software prior to implementing the EMR portion of the software to help ease the transition. Thirty- three percent of optometrists chose to close their office for a few days to train staff as a group on how to use the entire EMR system both for scheduling and creating health records. Other optometrists reported they trained two to three staff members at a time (16%) while others trained staff on the weekends prior to

implementing the EMR system (10%). Some other recorded methods for implementing an EMR system in optometric practice included: decreasing the workload initially, online training/practice period, brought one optometrist on board at a time, implemented in stages, trained staff with a half day staff meeting since majority of staff already familiar with scheduling and optical portions of software. A few optometrists were not working at the specific practice when the EMR system was installed or EMRs were implemented from the day the practice first opened. This question was skipped by 62 optometrists. The figure 8 below represents the results from this question.

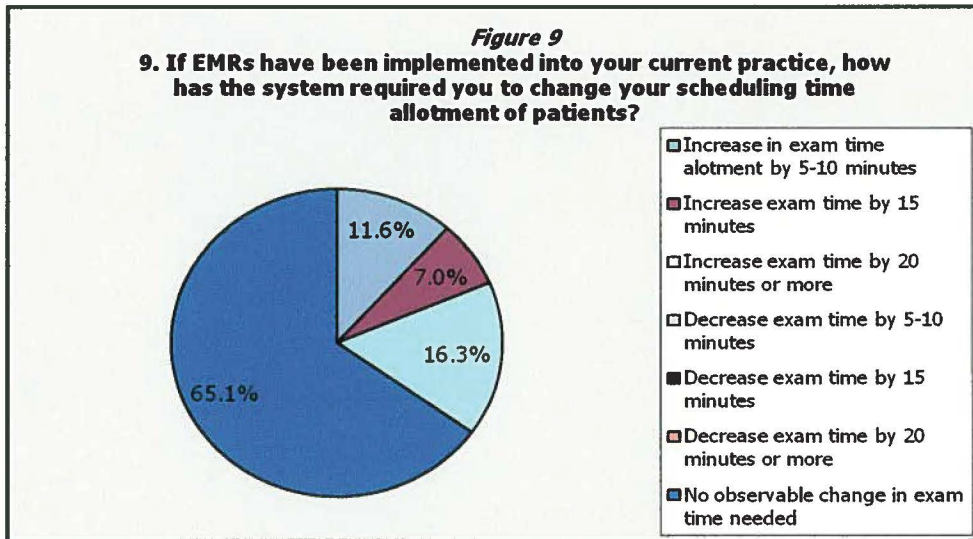
Figure 8: Implementation of EMR software



Question nine asked optometrists “After implementing EMRs how did you have to change scheduling time allotment per patient?” About 65% of doctors reported they did not have to change their time allotment for a comprehensive eye exam, whereas 16 %

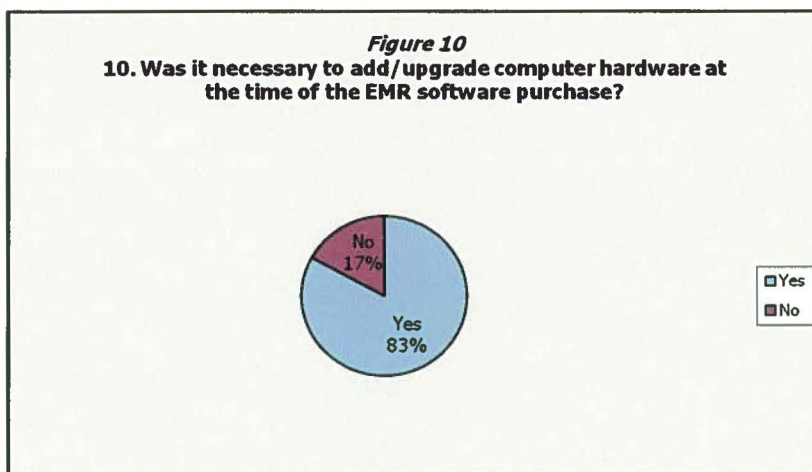
had to reduce their exam time allotment by 5-10 minutes. Sixty-five percent of surveyed optometrists reported they did not have to increase or decrease their exam time by 15 minutes or more. The data collected from this question are recorded in Figure 9 below.

Figure 9: Changing scheduling time per patient



Question ten asked optometrists “Was it necessary to add or upgrade computer hardware at the time of EMR software purchase?” Eighty- three percent of optometrists reported having to change their computer hardware in some way while implementing EMR software. Only 17% of optometrists did not have to make any computer hardware changes. Figure 10 shows the results.

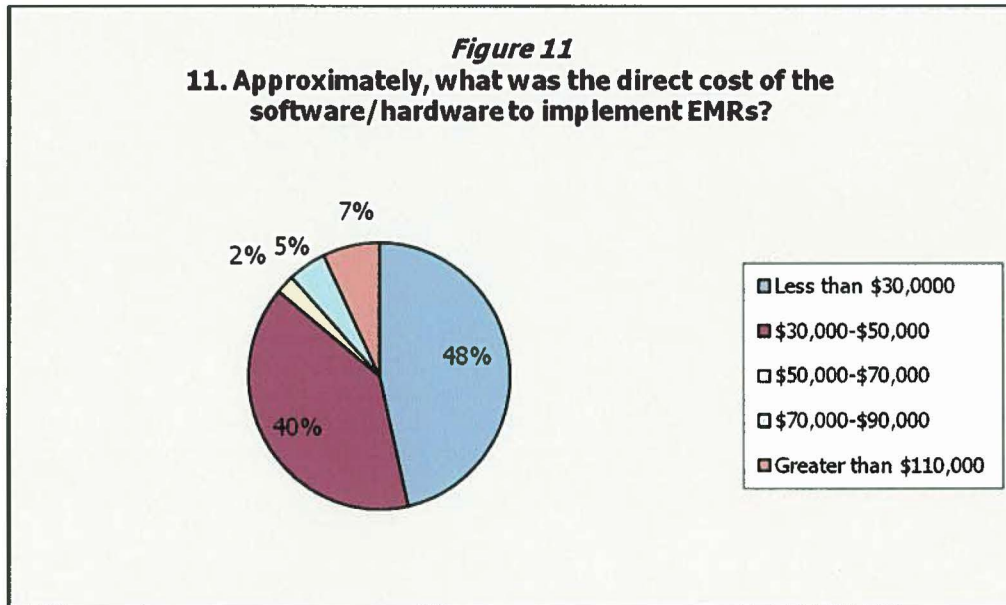
Figure 10: Upgrade computer hardware at time of EMR software purchase?



Question eleven asked optometrist “Approximately, what was the direct cost of the software/ hardware to implement the EMR software?” Overall the average cost of implementing EMRs into optometric practices throughout Michigan was less than \$50,000 with 87 % of optometrists reported spending \$50,000 or less. Of that 87 %, 47% (20 optometrists) spent \$50,000 - \$30,000. Forty percent of optometrists reported spending less than \$30,000. Only 7 % (3 optometrists) reported spending greater than \$110,000, 5 % (2 optometrists) reported spending \$70,000 - \$90,000. Lastly, 2% (1

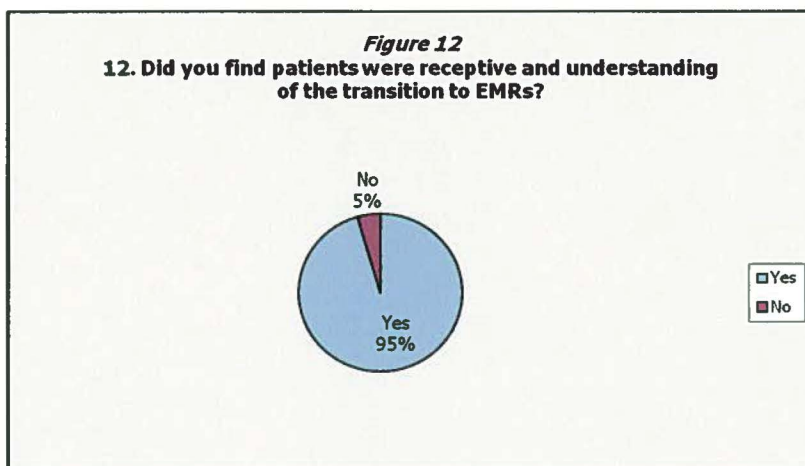
optometrist) reported spending \$50,000 – \$70,000 on EMR implementation. Results are shown below in Figure 11.

Figure 11: Approximate costs endured with implementing EMRs



Question twelve asked optometrists “Did you find patients receptive and understanding of the transition to EMRs?” An overwhelmingly 95% of doctors reported patients were understanding of the adjustments/ learning period among staff members in order to provide a higher level of optometric care to the patients. Only 5% of optometrists reported patients’ opposed to the EMR transition. Results are shown below in Figure 12.

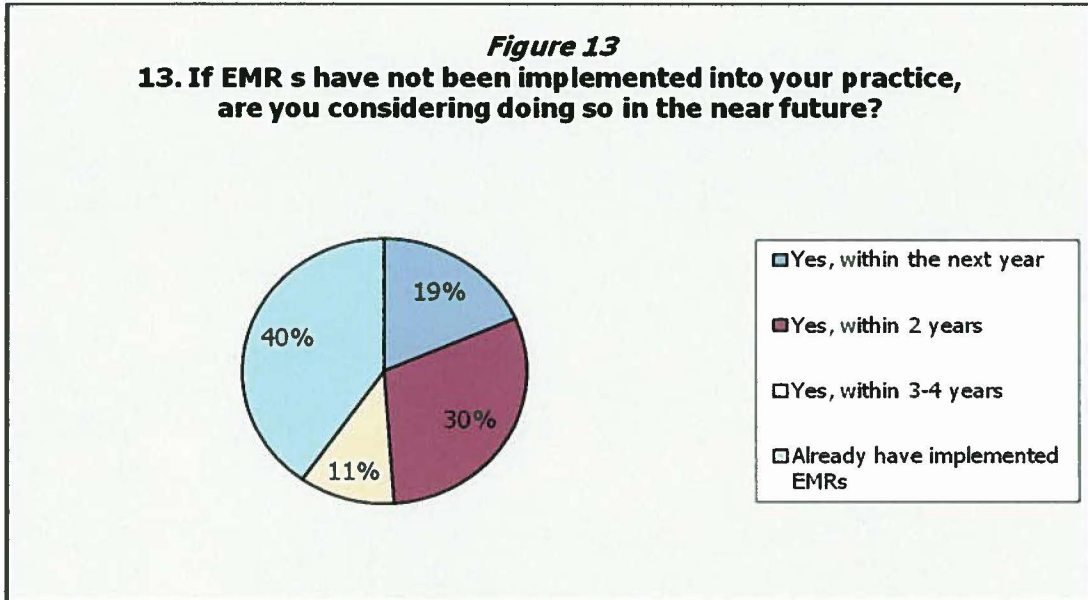
Figure 12: Patient thoughts during transition to EMRs



Question thirteen asked optometrists “If EMRs are not implemented into your practice, are you considering doing so in the near future?” Forty percent (37 doctors) of optometrists surveyed reported already implementing EMRs. Thirty percent responded that within 2 years they hoped to have EMRs implemented in their clinical setting. Whereas, 19% hoped to introduce EMRs within the next year and 11% of optometrists hoped to do so within the next 3-4 years. Surprisingly this question was one of the most answered questions within the survey of 16 questions, having 92 of the surveyed

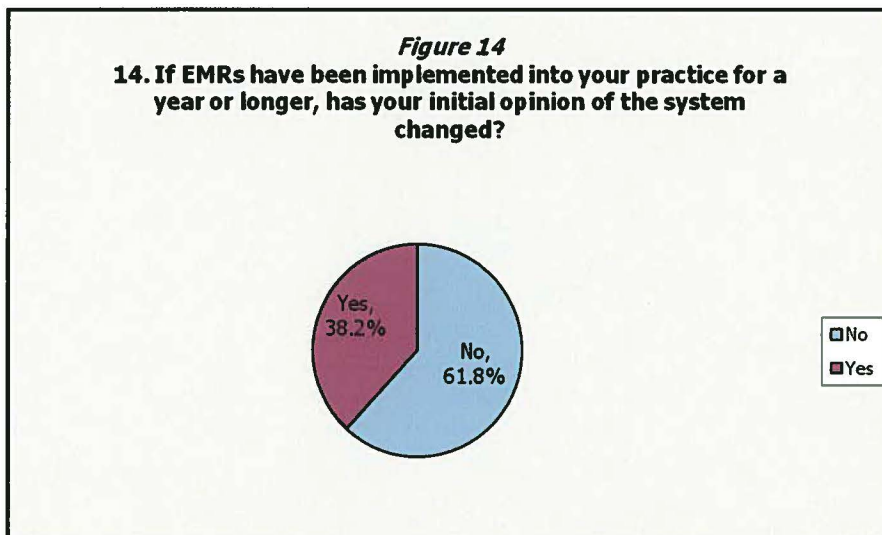
participants answer this question and 19 optometrists omitting the question. Figure 13 below represents the results from this question.

Figure 13: When will you implement EMRs if you have not already done so?



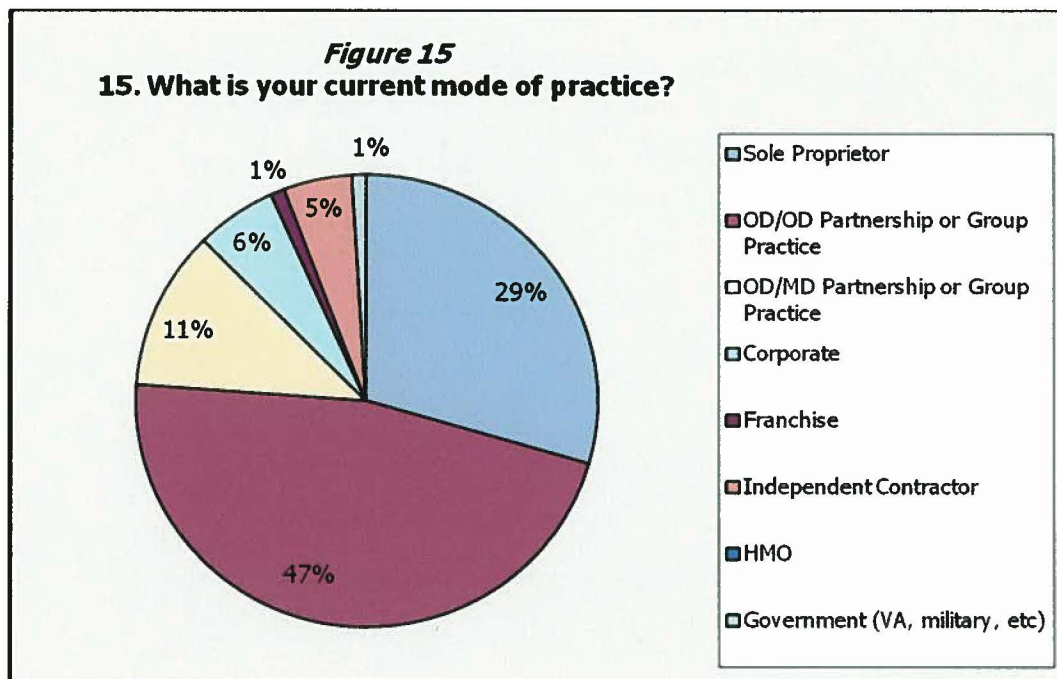
Question fourteen specifically targeted the 92 optometrists who reported already having EMRs in place by asking “Has your initial opinion of the system changed over time?” About 62% of optometrists reported that their judgment of the system chosen did not change with time. Thirty-eight percent of surveyed optometrists reported that their feelings/opinions of the EMR system chosen did change. Of the optometrists reporting a change towards their EMR system, the majority were positive change of thoughts. For example, most optometrists reported liking the system even more with time because they became more familiar with the templates, took time to appreciate the benefits of EMRs and overcome the initial implementing challenges. Figure 14 shows the results.

Figure 14: Initial opinion of the EMR system vs. Change in opinion over first year



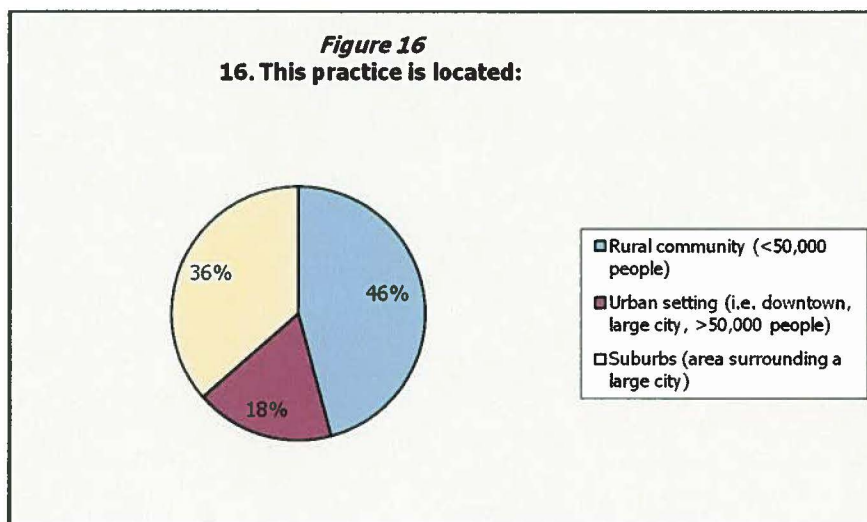
Question fifteen asked optometrists “What is your current mode of practice?” The majority of surveyed optometrists (47%) were in an OD/ OD partnership or group practice. Twenty- nine percent of optometrists were practicing as a sole proprietor and 11% were practicing in an OD/MD partnership or group. A small amount of surveyed optometrists 6% were in corporate, 5% were working as an independent contractor, 1% were working in a franchise and another 1% were working in a governmental setting. Although there was not a section of the pie chart for “Other” modes of practice, some other clinical settings from the surveyed optometrists included: education (6 doctors), hospital based (3 doctors) and associate optometrist (1 doctor). The results of this question are depicted in Figure 15 below.

Figure 15: Mode of Optometric Practice



The final question asked optometrists “What type of community is your practice in?” A majority of surveyed optometrists were either in a rural community (46%) or in a suburb surrounding a large city (36%). Only 18% of surveyed optometrists practiced in an urban setting comprised of greater than 50,000 citizens. The results of this question are depicted in Figure 16 below.

Figure 16: Location of optometric practice



DISCUSSION

Although 37% of the surveyed Michigan optometrists reported having EMRs, 63% did not have EMRs implemented into their practices. This statistic brings up an important question of why EMRs have yet to be implemented into current practices. As might be expected, the financial commitment is an important issue affecting implementation. However, a surprising result of the survey (question #11) revealed that 46% of respondents reported spending less than \$30,000. It may be useful for

optometrists considering EMR implementation to act sooner than later with the benefits of reimbursement higher in the near future opposed to later when reimbursement is lower. Most practitioners (83%) had to update computer hardware at the time of the EMR purchase. This may also be a long-standing cost that will not likely be a one-time purchase since technology is ever changing.

There was a wide-variety of EMR software used by optometrists with Officemate and CompuLink being at the top of the list. Eighty percent of optometrists would recommend their current software to fellow practitioners. While many software options are available some important things to consider when purchasing the most appropriate software include: duration of software on the market, ease of software support/updates, and establishing a working relationship with the software company.

Thorough record keeping was the main advantage of EMRs among optometrists, while the major disadvantage was financial cost. EMRs are extremely advantageous once implemented, but often cause some ups and downs in the conversion process. The ultimate goal of EMRs is to broaden the connection between healthcare providers with a more universal system. While EMRs in optometry have yet to reach that point, the goal could be in the near future.

A key component to running a successful practice is to have satisfied, loyal patients. Patient morale seems unaffected throughout the EMR transition period. Ninety - five percent of doctors report patients being receptive to changes through the transition.

Most patients appreciate the most up-to-date technology providing the highest level of cost effective care and EMR systems will help improve this area in optometric practices.

About half of the surveyed optometric population comes from a group or partnership OD/OD practice, and about half the locations practicing in rural communities (population less than 50,000). This suggests that even smaller, rural practices can accommodate EMR systems. There was no direct correlation with the number of years optometrists had been practicing optometry and implementation of EMRs in practice. Technology will continue to change and improve, and the optometrists of Michigan will adapt to this process. About 30% of responding optometrists plan to implement EMRs in the next two years if they have not already done so.

CONCLUSION

EMRs remain a regular topic among legislators with additional grants being passed. On February 12, 2010 the U.S. Department of Health and Human Services (HHS) announced grants worth more than \$761 million to assist with development of health information exchanges (HIE) and support meaningful use of electronic health records.⁵ The Michigan Department of Health was awarded \$15 million under the HIE grants. Recently, the U.S Department of Labor announced an additional \$225 million in grants for HIT job training. Dr Gross, O.D., chair of the AOA Health Information Technology and Telemedicine Committee said “Optometry must have access to the nation’s new HIT infrastructure if it is to remain America’s primary eye care profession.” States will play a

pivotal role in facilitating meaningful use of this government funding.⁵ Michigan optometrists must support their local legislators and stay current with the requirements/incentives regarding EMRs to provide patients with the best standard of care.

The question remains whether the American Recovery and Reinvestment Act of 2009 will be enough of a stimulus to spark Michigan optometrists to implement EMRs sooner rather than later. With survey results proving financial commitment being the primary reason behind the lack of EMR implementation and 83% of optometrist having to upgrade computer hardware, should computer manufactures offer rewards or reimbursements? Since 19% of Michigan optometrists hope to implement EMRs within the next year and 11% within the next 2-3 years, a possible follow up study could examine how many optometric practices implemented EMRs by 2014 and quantify the financial reimbursements received from the Federal government.

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APPENDIX A

ELECTRONIC MEDICAL RECORDS IN THE OPTOMETRIC PRACTICE IN
MICHIGAN: ONLINE SURVEY

ONLINE SURVEY

1. Do electronic medical records (EMRs) exist at this practice?

- Yes
- No

2. How many years have you been in practice?

- Less than 5 years
- 5-10 years
- 11-15 years
- Greater than 15 years

3. Are you aware of the "American Recovery and Reinvestment Act of 2009" which provides financial incentives and potential reductions beginning in 2011-2018? As stated in the Act, each optometrist in a practice with EMR implementation is eligible for up to \$18,000 the first year, and \$12k, \$8k, \$4k, and \$2k the remaining years following.

- Yes
- No

4. What electronic medical record software did you purchase or do you use?

- CompuLink
- MacPractice
- MaximEyes
- NextGen
- Office Mate
- None
- Other (please specify) _____

5. Would you recommend this software system to others?

- Yes
- No

6. What do you consider MOST advantageous about your present EMR system? (choose one only)

- Recall system
 - Advantages of insurance billing
 - Thorough record keeping
 - Reduction/elimination of paper records
 - Increased efficiency in seeing patients
 - Other (please specify)_____
-

7. What do you like LEAST about your present EMR system? (choose one only)

- Decreased staff morale/personalization
 - Direct and indirect costs of implementation
 - Software/technical support from vendors
 - Other (please specify)_____
-

8. How was this software system implemented? (check all that apply)

- First train staff on scheduling, optical software, etc. prior to implementing EMRs
 - Close office for a few days to train staff on how to operate the new system
 - Train staff 2-3 members at a time
 - Train staff on weekends prior to implementing EMRs
 - Other (please specify)_____
-

9. If EMRs have been implemented into your current practice, how has the system required you to change your scheduling time allotment of patients?

- Increase exam time by 15 minutes
- Increase exam time by 20 minutes or more
- Decrease exam time by 5-10 minutes
- Decrease exam time by 15 minutes
- Decrease exam time by 20 minutes or more
- No observable change in exam time needed

10. Was it necessary to add/upgrade computer hardware at the time of the EMR software purchase?

- Yes
- No

11. Approximately, what was the direct cost of the software/hardware to implement EMRs?

- Less than \$30,000
- \$30,000-\$50,000
- \$50,000-\$70,000
- \$70,000-\$90,000
- \$90,000-\$110,000
- Greater than \$110,000

12. Did you find patients were receptive and understanding of the transition to EMRs?

- Yes
- No

13. If EMRs have not been implemented into your practice, are you considering doing so in the near future?

- Yes, within the next year
- Yes, within 2 years
- Yes, within 3-4 years
- Already have implemented EMRs

14. If EMRs have been implemented into your practice for a year or longer, has your initial opinion of the system changed?

- No
- Yes
- If Yes, How so? _____

15. What is your current mode of practice?

- Sole Proprietor
- OD/OD Partnership or Group Practice
- OD/MD Partnership or Group Practice
- Corporate
- Franchise
- Independent Contractor
- HMO
- Government (VA, military, etc)
- Other (please specify)_____

16. This practice is located:

- Rural community (<50,000 people)
- Urban setting (i.e. downtown, large city, >50,000 people)
- Suburbs (area surrounding a large city)