Considerations for Choosing an Electronic Medical Record for an Ophthalmology Practice

Peter W. DeBry, MD

Objectives: To give a brief overview of issues pertinent to selecting an ophthalmic electronic medical record (EMR) program and to outline the company demographics and software capabilities of the major vendors in this area.

Methods: Software companies shipping an EMR package were contacted to obtain information on their software and company demographics. The focus was on companies selectively marketing to ophthalmology practices, and, therefore, most were selected based on their representation at the 1998 and/or 1999 American Academy of Ophthalmology meeting. Software companies that responded to repeated inquiries in a timely fashion were included.

Results: Sixteen companies were evaluated. Electronic medical records packages ranged from $3000 to $80000 (mean, approximately $30000). Company demographics revealed a range from 1 to 1600 employees (mean, 204). Most of these companies have been in business for 6 years or less (range, 1-15 years; mean, 6 years). My opinions concerning various aspects of the EMR are presented.

Conclusions: There is a wide range of EMR products available for the ophthalmology practice. Computer technology has matured to a point at which the graphical demands of the ophthalmology EMR can be satisfied. Weaknesses do exist in the inherent difficulty of recording an ophthalmology encounter, the relative adolescence of software companies, and the lack of standards in the industry.

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Ophthalmologists have been reluctant to embrace an electronic medical record (EMR) for many reasons. Much of the way the examination is recorded is via drawings and photographs, items that were difficult to capture and store with older technology. During the past several years, however, advances in computer speed and storage media, along with other technical advances such as digital cameras, have moved the EMR closer to fulfilling the broad needs of the ophthalmology practice. This article is meant to briefly touch on the state of the computerized medical record in ophthalmology. It is not meant to be a complete representation and is by no means comprehensive. Software that deals only with scheduling and billing will not be considered. The companies mentioned (Table 1) do not represent all of the companies that provide software for use in ophthalmology; they serve mainly as examples and are useful for comparing some general categories. Every effort has been made to ensure that the information is accurate and up-to-date, but with the rapidly changing nature of this industry, no guarantees can be made.

WHY PURCHASE AN EMR

The first question that needs to be addressed is why an ophthalmology practice might be interested in purchasing a computerized medical record. The 2 main issues are cost and time savings. If one or both of these items are not satisfied, all the other positive aspects of a program probably will not carry enough weight to result in a purchase. Consider each of these individually. First, there is the issue of cost savings. Many software companies suggest in their advertising literature that there will be some amount of cost savings associated with their product. These cost savings could come through decreasing medical records’ room personnel, paper and medical record supplies, and the need for dictation or transcription services. Although each of these are realistic areas of

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Table 1. Selection of Companies Providing an Ophthalmology Electronic Medical Record

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Product Name</th>
<th>Headquarters</th>
<th>Internet Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>AllMeds, Inc</td>
<td>EyeMeds</td>
<td>Oak Ridge, Tenn</td>
<td><a href="http://www.allmeds.com">http://www.allmeds.com</a></td>
</tr>
<tr>
<td>CareLinc Corp*</td>
<td>ClinicalLinc</td>
<td>Irvine, Calif</td>
<td><a href="http://www.carelinc.com">http://www.carelinc.com</a></td>
</tr>
<tr>
<td>Datamedic†</td>
<td>EYEstation</td>
<td>Waltham, Mass</td>
<td>N/A</td>
</tr>
<tr>
<td>First Insight Corp</td>
<td>MaximEyes</td>
<td>Portland, Ore</td>
<td><a href="http://www.first-insight.com">http://www.first-insight.com</a></td>
</tr>
<tr>
<td>The Hoehne Group</td>
<td>Management +</td>
<td>Park City, Utah</td>
<td><a href="http://www.hoehne.com">http://www.hoehne.com</a></td>
</tr>
<tr>
<td>Ita Systems, LLC</td>
<td>Ita Systems Software</td>
<td>Mildord, Mass</td>
<td><a href="http://www.ita-systems.com">http://www.ita-systems.com</a></td>
</tr>
<tr>
<td>Intuitive Database Solutions</td>
<td>PatientManager</td>
<td>Teaneck, NJ</td>
<td><a href="http://www.patientmanager.com">http://www.patientmanager.com</a></td>
</tr>
<tr>
<td>Medici Computer Systems, Inc</td>
<td>AutoChart</td>
<td>Raleigh, NC</td>
<td><a href="http://www.mediccomp.com">http://www.mediccomp.com</a></td>
</tr>
<tr>
<td>MediInformatix</td>
<td>Eye Works</td>
<td>Los Angeles, Calif</td>
<td><a href="http://www.mediinformatix.com">http://www.mediinformatix.com</a></td>
</tr>
<tr>
<td>MediNotes Corp</td>
<td>Charting Plus</td>
<td>West Des Moines, Iowa</td>
<td><a href="http://www.medinotes.com">http://www.medinotes.com</a></td>
</tr>
<tr>
<td>OPIS Software</td>
<td>OPIS-CPR</td>
<td>West Harwich, Mass</td>
<td><a href="http://www.opiscpr.com">http://www.opiscpr.com</a></td>
</tr>
<tr>
<td>Penn Medical Informatics Systems Inc</td>
<td>EyeDoc</td>
<td>Altoona, Pa</td>
<td><a href="http://www.pennmedic.com">http://www.pennmedic.com</a></td>
</tr>
<tr>
<td>Prism Data Systems†</td>
<td>Chart Writer</td>
<td>Lebanon, Ind</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* No longer in business.
† Web pages for Datamedic and Prism Data Systems now forward to VitalWorks (www.vitalworks.com), Richfield, Conn. Their ophthalmology electronic medical record component is due out this year.

savings, the costs of the hardware, software, upgrades, and technical support need to also be considered. Because of the large initial investment, any true savings would likely only occur over 5 to 10 years, as the decreases in the previously mentioned areas are realized.

Time savings is the next element that should be considered. The question to address is, “Will you or your office staff work more efficiently as a result of purchasing a computerized medical record program?” This question depends greatly on the type of practice involved. The particular strength of the EMR is the ability to enter normal examination findings or bring forward past examination findings that may not have changed. Encounters such as routine refractions, intraocular pressure checks, refractive surgery data, and preoperative and uncomplicated postoperative visits would all be relatively easy to enter into the system. If a practice includes many patients with complicated histories and examinations, the effort to get this information into the EMR will likely be greater than or equal to that required with a paper record.

Although it may take more time to enter certain patient data into an EMR, this does not mean that in the end an office will not run more efficiently with a net time savings. The time benefit begins after all of the data entry work is done. Each time an existing record is accessed, there will be an incremental savings in time and effort. Patient records can be viewed and edited from the office or remotely with the click of a button. Office personnel will not be spending their time trying to find medical records in the medical record room, surgery center, or stacks on the physician’s desk. Telephone calls can be triaged immediately without waiting to get paper medical records, and the conversation can be documented as it is occurring. Dictation will eventually be replaced as computerized templates are developed to cover standard referral letters or other patient reports. Photographs and fluorescein angiograms will be able to be accessed immediately. Prescriptions can be faxed to pharmacies, and billing can be generated from the encounter and seamlessly passed to billing programs and to various insurance companies electronically, avoiding reentering this information. Each of these areas has the potential to increase efficiency, save time, and make the effort of recording the encounter as an EMR worthwhile.

WHEN TO PURCHASE AN EMR

The true impact of an EMR on cost savings and office productivity is difficult to establish. Although it is possible to make estimations, no study will ever be conducted that could control for all of the variables involved and prove that the EMR improves efficiency or saves money. Assuming that a particular practice has made the decision to implement an EMR, the next question to explore is when to make the purchase. Anyone who has bought a computer recognizes the feeling of remorse when they see a better system for less money advertised just a few months later. The nature of the computer industry is that hardware gets better and cheaper at an astounding rate. Software companies are also in a constant state of refining their product with each new release. With these realities, it is difficult to make the decision as to when to spend thousands of dollars and a significant time investment to make the change to an EMR. Some specific items that could influence a practice to make a purchase sooner rather than later include the following: (1) starting a new office; (2) remodeling an old office; (3) adding a remote office; (4) the availability of funds (deciding where to invest current capital); (5) the current billing or scheduling software needs updating; and (6) concerns about the practice’s ability to meet the Health Care Financing Administration’s billing guidelines and to provide appropriate legible documentation.

Consider software and hardware individually concerning their impact on the decision of when to purchase an EMR system. Hardware has reached a point at which...
processing speeds are sufficient to run complicated networks without difficulty. Storage capacity with media such as writable compact discs has grown to a point at which even photographs can be stored quickly and easily without filling up hard drives in a short period. Although equipment will continue to become more compact, faster, and cheaper, one can likely be confident that what is purchased today will work effectively in an office for the next 5 years. The ability to network multiple desktop personal computers together allows for individual pieces of equipment to be upgraded so that when it becomes necessary to upgrade, the costs could be spread out over several years as new equipment is purchased a few units at a time.

Although computer hardware will likely meet the demands of a practice for several years to come, software companies, unfortunately, are not able to offer similar guarantees. If a purchase is made with a successful software company, there will be long-term availability of technical support and frequent updates. However, there is no way to know which companies will be in business 10 years in the future to offer these services, as few companies marketing an EMR have a track record of more than 4 to 5 years. Software development tools have become so powerful that a good programmer can develop a database (the backbone of an EMR) with a nice Windows interface quickly and easily. These start-up companies may grow to be the next Microsoft or IBM in the future, or they may be pushed out of the market by the competition in months or years to come. Many ophthalmologists bought the IVY system from Alcon Laboratories, Inc, Ft Worth, Tex, with the thought that this large corporation would always be able to support their software. Alcon Laboratories, Inc, announced in 1998 its plans not to market the Windows version of IVY and is no longer selling or supporting the DOS version. This serves as an example of the instability of the software market—that even large companies may not be around to support their software in the future.

Recent consolidation in the software industry has affected 2 companies mentioned later in this article. Prism Data Systems and Datamedic have been acquired by InfoCure Corp. The EMR products previously distributed by these 2 companies are being supported but no longer marketed. InfoCure Corp (InfoCure.com) expects to be marketing their own ophthalmology EMR in the third quarter of this year through Vital Works (vitalworks.com), their medical division. Another company mentioned later in this article has recently gone out of business. CareLinc Corp was advertising their EMR product with CIBA Vision as a marketing partner at the American Academy of Ophthalmology meeting in 1998 and 1999. Their Web address (www.carelinc.com) states “Unfortunately, despite heroic efforts, CareLinc Corporation has not been able to raise the capital needed to deploy its internet ASP product. As a consequence CareLinc ceased normal business operation on December 1, 2000. The management are attempting to settle with creditors in order to avoid a formal bankruptcy filing.” The EMR products from these 3 companies (19% of the initial collection of providers) are no longer available as the software packages that were sold since 1998. These recent events serve as further examples of the changes that are abundant in the EMR industry.

The question of whether a particular EMR supplier will be in business 5 years in the future would not be so important if there were more rigorous standards in the industry. Despite efforts that have been made to create and define basic standards, there is little ability for programs to share information with one another. Some companies use a standard database format such as FileMaker Pro, but the names of the various data fields would not be standard from company to company. Other companies use their own proprietary database format, which may or may not meet standards within the EMR industry. Therefore, if a practice decides to switch programs, either because its provider goes out of business or because the EMR is not meeting its needs, a difficult conversion process will need to be done. If conversion is impractical or impossible because of software limitations, the database would be available as archived storage only and all future encounters would have to start from scratch with the new system. This makes the initial decision about which system to purchase even more crucial as years of patient records could be lost with any change. The purchase needs to be done right the first time, but no one has a crystal ball to determine which software company will be successful and able to continue to provide support for many years in the future.

HOW TO CHOOSE AN EMR

There are many factors to consider when evaluating EMR programs. The time requirement to do a thorough job gathering data and evaluating each system is significant. One must plan on spending many months and literally hundreds of hours of work during the process of finding and implementing an EMR. Having an organized and specific plan in place during the process is crucial. Steps in this plan might include:

1. Decide on the needs of the office. Categories to consider would include needs such as transcription, digital imaging, scheduling, billing, etc. Deciding in advance on the amount of money available for making a purchase will also help narrow the field of EMR providers. Once this is done, there will be a framework to allow comparison of all the different software packages available.

2. Gather data. This can be difficult as only a few EMR providers market directly to ophthalmologists through professional journals and newsletters. This article can serve as a guide to many of the EMR providers marketing to ophthalmologists. However, there are literally hundreds of companies that make an EMR product for use in general medical fields that could be useful in an ophthalmology office setting.

3. See the software in use. Little information can be gleaned from reading the marketing material supplied by an EMR vendor; to get a feel for what an EMR product can do, it needs to be used. Some vendors provide a working demonstration disc and others have Internet-based information and example screens. Some EMR providers are willing to
bring their software to you for an on-
site demonstration.

4. On-site visits. The final
stages in the process should in-
clude site visits to clinics actually us-
ing the software. This allows for see-
ing how a program functions in daily
use, as well as opportunities to in-
terview the users (physicians and of-
fice staff) and get their input about
the program.

No software should be pur-
based without completing all 4 of
these steps in great detail. The fol-
lowing section will give a brief over-
view of several major areas to con-
sider when evaluating EMR software.

Graphics

The graphics capabilities of an EMR
program will likely be its greatest
strength or greatest weakness. Many
aspects of the ophthalmology ex-
amination are best recorded with a
drawing. These areas include gonio-
scopic examination results, confronta-
tional visual fields, abnormalities of
the anterior segment, and fundus-
scopic examination results. Most pro-
grams enable the user to create some
 type of drawing. The simplest ap-
proach is to start with a picture and
annotate text with an arrow or num-
ber pointing to the location the text
refers to. Most companies are at an in-
termediate level of complexity at
which their software pulls up a stan-
dard drawing program like Micro-
soft Paint and allows the user to draw
on a blank page or on different tem-
plates of eye structures. The most so-
phticated graphics capabilities al-
low drawings to be made right on
the examination form without chang-
ing to different software. Drawing
with the mouse is difficult, but per-
ipheral equipment like a drawing pad
or light-pen mouse (to draw right on
the monitor) makes drawing as easy as
doing it on paper. Of course get-
ting the drawing into the computer
is not the only aspect to consider.
How are the drawings linked to the
examination, and if a hard copy is
needed, how are the graphics incor-
porated into the paper record? There
is wide variation in the way these is-
ues are addressed between the pro-
grams. Fortunately, this important
part of the ophthalmology EMR is ad-
dressed by most EMR providers.

Dictation

This area has the potential of saving
the most amount of time for those
physicians who send referral letters
or other correspondence regularly.
Since the examination information
is already entered into the system, it
can easily be formatted and placed
with prewritten text templates to form a
ready-to-send letter. Some systems
can also send these letters via fax or
E-mail, which saves mail time and
postage. Most programs have some
mechanism to create reports and let-
ters, although they vary in their abil-
ty to personalize the templates. Win-
dows-based systems have the ability
to interact with voice dictation soft-
ware. These programs can be trained
to a physician’s voice and can cor-
correctly interpret greater than 95% of
dictation correctly. They init-
ially come with a standard large vo-
cabulary, but any word or phrase
commonly used can be added. Two
companies, Vistech Consultants, Inc
(vistechconsultants.com) and Zy-
doc (zydoc.com), currently market
add-on packages of ophthalmology-
specific word lists and macros to
be used with standard voice recogni-
tion software. With any of these Win-
dows-based dictation programs, the
cursor can be placed in any text box
text and text entered via voice rather
than typing. These programs can be used
in word processing programs to cre-
te referral letters or they poten-
tially could be used as an add-on to
most of the common EMR packages
to enter data into the various data
fields.

Reporting and Outcomes

Analysis

Measuring quality of care and sur-
gical outcomes may be one of the
most useful areas in the future of
medical software. All of the infor-
mation that is entered as discrete
data is available to generate de-
tailed reports. Clinical informa-
tion, such as postsurgical visual acu-
ties, surgical complication rates, and
postoperative examination fre-
quency, can be evaluated. This in-
formation could be important to
have in several circumstances, such
as determining the financial ben-
efit of a capitated contract offer.

Tracking outcomes with monetary
and quality assurance factors could
even be necessary in the future to
maintain ongoing contracts with
health insurance companies or even
a job in a health maintenance orga-
nization. Academic institutions and
private practice physicians could use
the information to find patients eli-
gible for certain studies (eg, all pa-
tients aged 50-65 years with mild
nonproliferative diabetic retinopa-
thy who are not taking insulin) or
even to conduct retrospective medi-
cal record reviews and put together
case series for publication.

Data Format

Some mention needs to be made
about how data are stored in an EMR.
Information can be entered in 1 of 2
formats, either free text or struc-
tured data. Text fields allow entry of
sentences and paragraphs of infor-
mation. For those with some typing
skills, it is much easier to record
detailed descriptions of patient his-
tories or examination findings; how-
ever, searching for specific informa-
tion in past examinations can be slow
when data are stored with this
method. Structured data fields usu-
ally allow entry of a number, a word,
or a short sentence. Examination vari-
ables, such as visual acuity, intraocu-
lar pressure, and refractions, are best
recorded as structured data fields.
Information can be entered with a few
short keyboard strokes or with the
mouse, choosing from various en-
tries on a list or table. These ele-
ments can be searched quickly and
represented graphically or in a tabu-
lar form. Various EMR providers
typically have both types of data for-
mats in their programs, but the per-
centage of each type varies greatly.
With one extreme, most of the infor-
mation would be collected as free
text and only a few variables, such as
visual acuity and intraocular pres-
sure, would be stored in structured
data fields. With the opposite ex-
treme, almost every data piece would
be stored as a structured data field,
leaving little flexibility in entering
verbose histories or descriptions.
There is no perfect way to enter data.
The needs of an individual practice
should dictate which method is most
desirable.
but precise means of coding. However, there may be some difficulties associated with this aspect of EMR programs. For example, if the program suggests ways to get to a higher code, and allows the user to go back to the encounter and add or edit data to get to this higher level, this could be treated suspiciously by the Health Care Financing Administration. Coding rules may vary among Medicare, Medicaid, and private insurance payors and are frequently changing. Maintaining an accurate system that is applicable to all users will be a significant challenge to any EMR vendor who includes coding resources with their EMR program. This aspect of EMR software would require yearly updates as new codes are added and rules regarding coding are changed. While an evaluation and management code calculator could be a useful tool to have, evaluation and management coding is a delicate subject and the government's acceptance of this method should be watched closely over the next few years.

Software Format

The most common computer operating system 20 years ago was DOS. DOS programs did not have the graphical interface that Windows systems offer. They typically ran at a fast speed, but were not as easy to manipulate because most commands were via keystrokes rather than the point-and-click technique used today. Some software vendors continue to offer a DOS product (eg, MS Group, Davie, Fla), but most others are completely Windows-based. There is variation even among the Windows group as to whether the programming takes full advantage of the 32-bit processing available in the latest Windows versions. The benefits of a Windows-based program come from the user-friendly graphical interface; however, a well-designed DOS can do similar tasks.

Associated Programs

This article has touched on only the EMR area. However, in reality most programs are either bundled together with billing and scheduling or offer other modules, such as billing and scheduling, that can be purchased separately. Finding the perfect product may be difficult, as each portion of a program will have strengths and weaknesses of its own. A company that makes an excellent EMR product may have weak scheduling and vice versa. Installing a program with modules that are designed to work together has a distinct advantage over linking together several programs from different companies with regard to maintenance and ease of use. For example, if there was a problem with communication between programs (a scheduling program causing an error when passing patient demographic information to the EMR), the potential exists that neither company would claim responsibility for fixing the error, blaming the problem on the other company's software. The EMR area has been approached from many different angles. Some companies started with a scheduling program and then added an EMR component, while others started with billing. Many companies started with an EMR program designed for general medicine and then moved into subspecialty areas, and some started in optometric practices and gradually moved into the ophthalmic area (Table 2). Each of these approaches brought a certain mix of strengths and weaknesses. For example, a company that started with a general medical EMR may have strong handling of medications, laboratory tests, and radiological reports, but be lacking in the area of drawings and other graphics. A company that started in the optometric area may have a great design for handling refractions, frame styles, and inventories, but be poor in allowing the detailed descriptions of ocular pathological features needed in some subspecialty environments.

Cost

The cost of the software varies greatly between companies. Table 3 lists the self-reported cost estimate for software installation and maintenance for 3 years in a small office with 6 examination rooms, a physician office, and a technician area (8 workstations). These are rough estimates only and will vary depending on the details of a purchase, including type of network, number of worksta-
What is the right size for a company? This is another question that may not have one right answer and will vary depending on the needs of a practice. There must be a critical mass of employees to be able to install new systems and train office staff, be in the home office to work on programming regular upgrades, and provide technical support when it is needed. A company with a successful product will grow, but there is no way to predict which small companies will become large rather than the passage of time. Many EMR providers in this survey (10/16) are small companies, having 50 or fewer employees. The 2 large companies, Datamedic (acquired by InfoCure, Corp) and Medic Computer Systems, Inc, which each reported more than 1000 employees, significantly raised the average number of employees per company to 204 (Table 4). In general, the smaller companies have ophthalmology-specific products and the larger companies make general EMR programs with subspecialty templates. Small companies, therefore, may better be able to offer ophthalmologists exactly what they need for recording the ophthalmology examination, but could have difficulty offering services such as extensive 24-hour technical support and field training and repair. Larger companies may not be interested in spending resources refining ophthalmology-specific templates because of the relatively small contribution of ophthalmology to the EMR industry as a whole. However, a larger company would have enough employees to fulfill all the needs of support and development required in this rapidly changing industry.

The number of years in operation is an indicator of the time that a company has had to grow and refine its software product. The average number of years with an EMR product in this sample of software companies was 6 (range, 1-12 years). Most companies (10/16) have had an EMR product for at least 5 years. This is a reasonable period to show stability in the company and to allow for several years of upgrades in their software. However, compared with the EMR industry marketing to general medical practices, the ophthalmology area is much smaller and has been active for a relatively short period.

Finally, the number of installations a company has is an important number to consider. Taken in context with the number of years in operation, the number of installations can give information on the rate of growth of the company. An EMR provider who has been around for a short time but has many installations probably has great marketing, an excellent product, or both. Some caution should be observed when interpreting the number of installations reported by a company. Is the number representative of the number of users, number of workstations, or the number of offices? Table 4 lists the self-reported number of ophthalmology installations (offices served by the software) by each EMR provider. The average number of United States installations in the sample was 38 (range, 1-2500). The company with the most installation, ifa Systems, LLC, Milford, Mass, has marketed its software in Europe for many years. Many of its installations are there (about 2500), with only about 40 in the United States. Many providers (12/16) have 50 or fewer installations, confirming the relative adolescence of these companies and of the ophthalmic computerized medical record in general. In fact, adding up all of the US installations from these companies, which likely represent
most of the current EMR users, there are about 550 installations, representing a small percentage of ophthalmology practices.

**SUMMARY**

Ophthalmology as a specialty is well suited for a multimedia-based EMR. The ability to quickly access examination data, slitlamp digital images, fluorescein angiograms, and patient demographics, along with the possibility of computerized transcription and electronic billing, make an ophthalmology EMR sound appealing. Computer hardware is capable of running an office network, with processing speeds able to handle the most demanding tasks. Associated technology, such as the ability to link visual field machines, digital cameras, and automated refractors to the network, simplifies the process of inputting patient data into the EMR. Handheld computers, drawing pads, light-pen mice, and voice transcription software also enable easier entry of graphical data or text into the system.

The difficulty lies in making a perfect software package to capture the ophthalmology examination. It is almost impossible to make a computerized form that provides a place for every examination element with the flexibility of entering that information in any number of different formats. Forms that allow even rarely used elements of the examination (eg, Worth four-dot test, optokinetic nystagmus, and corneal pachymetry results) to be entered individually become too complex, while forms that focus only on the basic examination elements do not allow for the ability to fully describe some necessary components. Despite these limitations, many companies have done an excellent job at producing useful and well-designed EMR products.

Most of the companies in the ophthalmic area are small and relatively young. In a competitive and rapidly changing industry, there are no guarantees that a company will be viable and able to provide long-term support for its product. In other nonmedical software areas, this is not a problem, but because of the substantial investment of time and effort to set up the equipment, train staff, and record each patient encounter, the long-term stability of an EMR provider is crucial. The relative lack of standards in the industry makes this even more important, as transferring data from one format to another could be costly or even impossible should a switch from one program to another become necessary in the future.

Only a small percentage of ophthalmology practices have incorporated an EMR program at this time. The continued refinement of the ophthalmology EMR over the next several years will undoubtedly resolve many of the previously mentioned weaknesses. As the software is perfected and the stability of the major providers assured, the EMR will eventually become an integral part of the ophthalmology practice.

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**REFERENCES**