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ABSTRACT

Although healthcare professionals are generally aware of the transition to electronic medical records (EMR), pursuant to the American Recovery and Restoration Act of 2009, which mandated the transition in 2014, many healthcare professionals and organizations seem to have little, if any, knowledge about the significant financial and medico-legal risks they face associated with the use of EMR and electronically stored information (ESI). Nor do they seem to realize the scope and magnitude of these exposure risks until *after* they have been named party to a lawsuit. Following the old adage, "an ounce of prevention is worth a pound of cure," healthcare professionals and healthcare organizations should *not* treat this matter lightly and instead adopt a "proactive preventative" medico-legal approach in order to fill the knowledge gap regarding electronic discovery (e-Discovery).

INTRODUCTION

Nine years ago, defense healthcare attorney Chad Brouillard (2007) wrote an article discussing the embodiment of e-Discovery rules into the "then-new Federal Rules of Civil Procedure" and their effect upon the healthcare industry. A year later, Brady et al. (2008) wrote about e-Discovery involving the healthcare industry and pharmaceutical litigation. They also put forth an equally compelling argument and made the foreboding statement that, "the [e]merging legal issues related to ESI and e-PHI in the healthcare industry (the largest industry the United States) (8) [were] not being addressed and [were] not even 'on the radar' as an issue of importance in most healthcare organizations and their regulatory agencies" (Introduction, p. 6).

Brouillard published a more extensive article focusing exclusively on the "emerging trends" (2010) and potential medico-legal risks and EMR liabilities already affecting the healthcare industry. Though these articles appear to have been written primarily by attorneys for the legal industry and legal professionals, they represented clear and convincing evidence that the healthcare industry needed to "wake up and take note."

Despite these warnings and another six years gone by, the healthcare industry has still largely failed to recognize and adapt to the implications of e-Discovery. The constant recurring theme is that the interaction among e-Discovery, healthcare law, and EMR liabilities represents a "fundamental shift in how...electronic medical evidence...collect[ed] and use[d] by healthcare litigants" (Brouillard, 2010, p. 39) would usher in a brave new world. Furthermore, Brouillard argued that "what we must [now] think about when anticipating healthcare litigation" requires that a new and different perspective be adopted as a result of this fundamental shift. It would be a naive assumption for anyone to believe that his comment regarding "what we must think about

when anticipating healthcare litigation" (emphasis added) only pertains to the legal community. Healthcare professionals and the healthcare industry would have made insufficient progress in furthering their own knowledge and understanding about e-Discovery during the past decade.

BACKGROUND

Since the federal mandate requiring the entire healthcare industry and all healthcare professionals to implement and use electronic medical records by the year 2014, there has been a major convergence of technology and law on the practice of medicine. Indeed, the dominant theme captivating healthcare professionals and executives these past two years have been directed towards the implementation of ICD-10 codes, meaningful use of EMR, the issue of Medicare/Medicaid/private payer insurance reimbursement, and/or the Affordable Care Act. What has been noticeably missing from the discussion is the more subtle but pervasive issue related to the medico-legal risks associated with EMR and electronically stored information. In particular, the topic of e-Discovery related to EMRs is an important subject that the healthcare industry professional cannot and should not ignore because this new "ESI world" is where the EMR now exists.

Even though the EMR occupies an increasingly smaller fraction within it, ESI is already having a significant impact on their daily professional and personal life. Healthcare professionals have not paid attention to and therefore have little if any knowledge or information about e-Discovery and the significant financial and medico-legal risks they face associated with the use of EMR and ESI, unless they have been personally involved with recent litigation that involved e-Discovery matters.

There are many reasons for healthcare industry professionals to purchase professional liability insurance, including business survival and contract requirements. One of the primary reasons why professionals and healthcare organizations purchase insurance is in case of the inevitable medical malpractice dispute. The legal expenses alone related to a malpractice lawsuit

can cost hundreds of thousands of dollars, while settlements and verdicts can multiply that expense. Research reveals, "roughly 1 in 14 U.S. doctors face a malpractice suit every year" (Corapi, 2014). Malpractice insurance pricing in a number of states has been stable and even declining for the past several years, but the possibility of litigation remains high and professional liability coverage is a must.

WHAT IS E-DISCOVERY?

In the article *To Avoid Malpractice, Radiologists Must Communicate*, the author cautions the reader about the risk of potential medical malpractice litigation due to the "failure [of] communication" (Howell, 2014). This article is particularly noteworthy for two statements attributed to Dr. Graham Billingham (Chief Medical Officer for The Medical Protective Company, Inc.), "...patients' attorneys can now subpoena personal, hand-held devices, such as iPads and smartphones" and "Everything within and outside the electronic health record (EHR) is time-stamped."

It is likely that Dr. Billingham is referring to the relatively new paradigm known as "electronic discovery" or e-Discovery. His additional remarks that "everything within and outside the electronic health record (EHR) is time-stamped" further amplifies his admonition and should be taken literally, because e-Discovery is part of a much larger universe of "electronically stored information." E-Discovery is a relatively new but very powerful litigation tool useful for identifying, collecting, preserving, processing, and producing ESI, including, but not limited to EMRs. This is in response to a request for production that a healthcare provider or a hospital may have received from a law firm as part of the discovery phase of a lawsuit or an investigation. It is based upon an Electronic Discovery Reference Model (EDRM). (Figure 1)

Electronic Discovery Reference Model

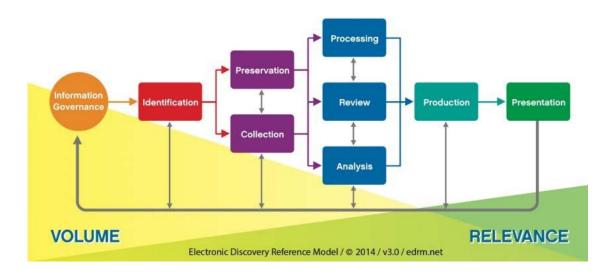


Figure 1. Electronic Discovery Reference Model. Reprinted from E.D.R.M., 2014. , Retrieved from http://www.edrm.net/archives/23174. Copyright 2014 by E.D.R.M. Reprinted with permission.

With respect to medical malpractice lawsuits, another person interviewed for the article, Dr. Jonathan W. Berlin, a radiologist with the North Shore University Health System located in Chicago, IL, said, "[t]o truly protect themselves, providers must proactively seek out all information available to them." These remarks must be understood in a bigger and broader context.

The Electronic Discovery Reference Model was initially conceived by George Socha, Jr., founder of Socha Consulting, LLC, in St. Paul, MN, and Tom Gelbmann, managing director of Gelbmann & Associates, in Roseville, MN. The reference model (EDRM, 2016) divides the e-Discovery process into six areas:

Information Governance

- Identification
- Preservation / Collection
- Processing / Review / Analysis
- Production
- Presentation

Simply appreciating that e-Discovery tools exist and realizing that they can (and will) be used to find discoverable information that could be used as evidence (for or against a healthcare professional or organization) in a legal matter is an important, but insufficient, first step forward. It is insufficient because healthcare professionals and organizations cannot afford to (nor should they) blindly depend upon their attorney for advice and counsel regarding this subject.

Hospitals and individual healthcare professionals who have attorneys who represent them would be wise to further their own understanding about e-Discovery as it relates to EMRs and to learn from the mistakes of others. There are several important "do's and don'ts" to consider. First, healthcare professionals need to remember that, historically, attorneys have always been more comfortable with and had more control over traditional paper-based aspects of litigation matters. Many attorneys and legal professionals have become very adept at "handling" paper and would probably "prefer" to continue practicing law in that type of environment. But, those days are rapidly fading thanks to technology. Second, many lawyers, especially those more seasoned, are somewhat apprehensive and even a little concerned about e-Discovery, because it requires them to understand and become familiar with new technology. To make matters worse and at the risk of their pride and embarrassment, many older lawyers will have to learn (or have had to learn) how to more efficiently and effectively best use this technology, while striving to minimize the overall legal expenses of their clients and still delivering winning results.

And therein lies an important problem: the majority of practicing attorneys and legal professionals were neither formally taught anything about the subject matter of e-Discovery in law school, nor have they been formally educated since completing their law degree. In support of this ongoing concern, the number of U.S. law schools that offer a formal e-Discovery course as part of their three-year school curriculum is still remarkably quite small. In a recent article (Hamilton & Lange, 2015), reference is made to a survey that was conducted by the leading e-Discovery software provider (Kroll Ontrack), which evaluated the public websites of 193 law

schools. The purpose of the survey was to understand which ones offered e-Discovery education and to rank these law schools into one of four levels:

- 1. Offered no e-Discovery courses,
- 2. Offered a basic e-Discovery course on e-Discovery law,
- 3. Offered courses that contained a significant practical lawyering component, such as the actual drafting of litigation hold notices and mock Rule 26 (f) conferences (*Federal Rules of Civil Procedure* discovery requirements), or
- 4. Offered courses that contained data handling, processing, and analytical work with actual e-Discovery software.

In the words of one of its co-authors, Attorney William Hamilton (Executive Director of the E-Discovery Project at the University of Florida Levin College of Law and Dean of Graduate Studies, Bryan University, e-Discovery Project Management),

[A]stonishingly, 15 years into the e-discovery epoch, 125 law schools offer no e-discovery courses. Most of the 69 schools with e-discovery courses followed the traditional case law teaching methods. A small percentage of the 69 schools, offered courses with practical lawyering exercises. And only eight schools were at level four, offering hands on experience with actual e-discovery tools (Hamilton & Lange, 2015).

He further asks, "[w]hy are law schools paying minimal attention to e-discovery when e-discovery expenses are often half or more of the total cost of litigation?"

The Typical Litigation Lifecycle serves to illustrate his point. (Figure 2)

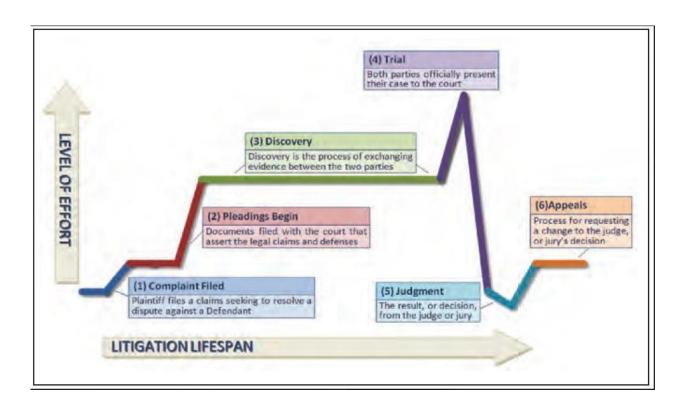


Figure 2. Typical Litigation Lifecycle. Reprinted from *Drafting a Dream Team to Prevent E-Discovery Nightmares*, by A. Dove, 2010, *Information Management, Nov/Dec*, p.19. Copyright 2010 by ARMA International, www.arma.org. Reprinted with permission.

At first glance, many healthcare professionals would immediately recognize the similarity of Figure 2 to that of an abnormal ECG cardiac rhythm (Dove, 2010) with a depressed ST segment. In reality, this figure depicts the six (6) different phases of a litigation matter as it goes through the judicial process. Of particular note is the very long "PR" interval or pre-trial discovery phase of the lawsuit, which often generates the most legal expenses. Three additional comments from two other attorneys familiar with the e-Discovery knowledge gap further underscore this issue. Attorney Dominic Jaar stated,

Many cases that should involve electronic documents, and therefore e-discovery, end up in courtrooms with nothing but boxes of paper and binders. Here is the scary reason

behind that reality: Most lawyers, even those who use a range of technology every day, are still uncomfortable dealing with electronic documents in discovery. Hence, there is often a tacit or even an explicit agreement between opposing counsels of the "don't ask for e-documents and I won't either" type. The worst part is that generally these lawyers are convinced they are helping their clients by saving them money and hassle. In most cases, the opposite is the truth (2009).

Attorney Ralph Losey¹ made the following two statements about e-Discovery.

"Some trial attorneys, with or without the permission of their clients, go so far as to enter into secret agreements with each other to ignore the [ESI] world" (2009).

[e-Discovery is] so new that virtually no one knows how to do it. As a result most lawyers do their best to avoid it, and when they cannot, they hire outside experts to tell them what to do. Alternatively, worse yet, they blunder through blindly on their own and mess up at their client's expense (2011).

Finally, and perhaps most importantly, is the "BIG" data problem as portrayed by Jason Baron and Ralph Losey in their YouTube video entitled, "E-Discovery: Did You Know" (Baron & Losey, 2016) and the related graphic. (Figure 3) With this almost exponential daily growth of ESI, it can be difficult to find the crucial relevant information needed for resolving a legal dispute. Given all of the excess "white noise" and clutter that must be sifted through, an individual law firm or attorney cannot physically keep up with or manage this ever-increasing amount of data.

¹ "Mr. Losey reports the situation has improved somewhat since he first made these comments, but still remains a problem." Personal email communication with Attorney Ralph Losey on 24 May 2016

THE BIG DATA PROBLEM

Over the years, the laws surrounding healthcare data retention have increased only slightly behind the skyrocketing rate at which data is being created. What remains constant is that in many professional negligence actions against a hospital or healthcare provider, the institution or professional must show that the care it provided was consistent with acceptable medical practice at the time and that the care was reasonable under the circumstances. The hospital's and or healthcare provider's paper and electronic medical records are essential to the defense of such actions.



Figure 3. One Zettabyte. Reprinted from New York Academy of Sciences Presentation, Session IV: Implications of a Data Driven Built Environment, given by J. O'Conner (Cisco Systems), 2012, Retrieved

from http://www.nyas.org/MediaPlayer.aspx?mid=0592774e-e301-42e4-bfde-949db727ab4f. Copyright 2012, Cisco Systems. Reprinted with permission.

As healthcare-related information continues to grow, successful healthcare data management today relies on a collaborative, enterprise-wide approach for data retention and mitigating the medico-legal risks and issues associated with EMRs and e-Discovery. (Table 1)

Table 1 *Major Risks and Issues Associated with E-Discovery*

	Individual	TT '4 1	Hospital Organization	Association	eDiscovery Vendor	Attorney Law Firm	
	Provider	Hospitai					
Avoidable and Known Consequences						'	
Resultant from eDiscovery							
Sanctions	X	X	X	X	X	X	
Spoliation	X	X	X	X	X	X	
Adverse Inference	X	X	X	X	X	X	
Lose The Case	X	X	X	X		X	
Increased Legal Costs and Expenses Incurred	X	X	X	X		X	
Failure of the Process							
Failure to inform the client about the rules						X	
Failure to Cooperate	X	X	X	X		X	
Failure to Know and Use the eDiscovery Rules	X	X	X	X		X	
Failure to hold the Attorney of record responsible for obeying the rules	X	X	X	X		X	
Failure to Use TAR / Predictive Coding	X	X	X	X		X	
Failure to Obtain Scheduling Order	X	X	X	X		X	
Failure Due to User							
Technology-phobia						X	
Lack of Competence / Knowledge / Training						X	
Over-Collection / Under-Collection						X	
Production Error / Preservation Failure						X	
Improper or Ineffective Search Skills / Techniques						X	

An example of current technology solutions to address these risks and meet the ongoing and future needs is the Gem Health network using blockchain technology as a means of providing "identity schemes, data storage, and smart contracts applications that execute against shared data infrastructure" while preserving the balance between patient privacy and security.

Healthcare organizations need to be prepared for an audit and possible litigation. For many organizations, it is difficult to determine what is being stored, where their data is stored, and perhaps even more troubling, if the information stored should be retained at all. The legal implications for a

data retention center underscore the need to access historical records quickly and efficiently for years to come. There are also concerns with the failure to establish and adhere to a data retention policy. Since the regulations vary by record type, state laws, and other conditions that make it difficult to maintain a consistent retention schedule, some healthcare organizations over-save in an effort to be safe. However, depending on how the data is stored, over-saving can create its own issues in terms of cost, storage capacity, and non-essential records that must be considered and waded through during times of litigation. Although many software applications, like a Customer Relationship Management (CRM), can move ESI to the Cloud without impediment, there may be some overarching legal and discovery concerns that are large enough to force companies to think twice before completely moving information management to the Cloud.

For example, one of the biggest concerns in data retention from a legal perspective is the escalating cost of storage and e-Discovery. High discovery costs are due in part to large portions of irrelevant data being brought into litigation. Duke University estimated, in major cases going to trial in 2008, that the ratio of pages discovered to pages entered as exhibits was 1000 to 1. The expense of e-Discovery alone (Ward, 2015) includes collection, preservation, processing, culling, review, production, and hosting. (Figure 4)



Figure 4. Costs. Reprinted from Legal Focus: eDiscovery and Healthcare Records Retention White Paper, by D. Ward, 2015. Retrieved from http://www.healthdataarchiver.com/legal-focus. Copyright 2010, Harmony Healthcare IT. Reprinted with permission.

These costs can be staggering. Experts estimate that e-Discovery costs range anywhere from \$5,000 to "upwards of \$30,000 per gigabyte" (Degnan, 2011). It is imperative for the healthcare profession to adopt a proactive stance and develop a preventive medico-legal mindset to appreciate the benefits of e-Discovery. One recently published white paper provides some insight (Kidder, 2015) into these legal risks, costs, and benefits.

BENEFITS OF BEING PROACTIVE AND ADOPTING A PREVENTIVE MEDICO-LEGAL STANCE

- Cost Reduction: Streamlining the long-term storage of historical PHI now will save money in the long run. Not only will it reduce costs paid for the support and technical maintenance of an antiquated system, but it will also save on training new staff on how to access information over the next 7 to 25 years.
- **Eliminating Risk:** The archiving of patient data to a simplified and more stable storage solution ensures long-term access to the right information when it is needed for an audit or legal inquiry. Incorporating a data archive avoids the costly and cumbersome task of a full data conversion.
- **Compliance:** Providers are required to preserve data for at least six years (if not longer) beyond the date of service. Clients can check with legal counsel, the Health Information Management Director, medical society, or American Health Information Management Association on medical record retention requirements that affect the facility type or practice specialty in by state.
- **Simplified Access to Data:** By scanning and archiving medical documents, data, and images, the information becomes immediately accessible to those who need it.
- Merging Data Silos: Decades worth of data from disparate legacy software applications is archived for immediate access via any browser-based workstation or device. Medical document scanning and archiving provide access to patient paper charts.

HYPOTHETICAL SCENARIO FACING HEALTHCARE IT PROFESSIONALS

Assume that a hospital imaging center or tele-radiology service provider receives a certified letter along with a court order or subpoena from a plaintiff attorney demanding the production of all MRI hip imaging studies performed and/or interpreted by their entity during the past six years. Specifically, those dictated reports where the radiologist advised the ordering physician to obtain a follow-up imaging study. Furthermore, assume that the court mandates that the healthcare entity provide a complete accurate response to the subpoena according to a courtapproved e-Discovery protocol based upon criteria defined by the plaintiff and that the fulfilled request and results must be provided to the opposing counsel within the next thirty days. Given the cost per gigabyte and available resources that the healthcare entity must expend in terms of money, time, manpower, and other constraints, it is likely that many healthcare entities and providers would have difficulty handling this type of request without expending a significant amount of capital that ultimately ends up as fees paid to the legal team handling this legal matter. If the above hypothetical situation were to actually occur, how many hospitals, imaging centers, and tele-radiology service providers would be able to avoid receiving sanctions, spoliation charges, or an adverse inference due to either their attorney representing them and/or their own action(s) or failure(s) to act related to this e-Discovery matter? To add to their frustration, even if the healthcare professional or organization were to retain an attorney or law firm, that person or firm may not have the necessary expertise, skills, knowledge, training, competence, or understanding about healthcare that would be needed to most efficiently and cost-effectively handle the e-Discovery request for production order by the court.

CONCLUSION

The healthcare profession must educate itself about e-discovery. In light of e-Discovery, it must also prepare to initiate and implement its own healthcare litigation readiness program. To accomplish this, it must begin to acquire and train its members in the use of e-Discovery tools so that in the event of potential litigation, many costly mistakes can be avoided by them and their legal representative. It will be very helpful when an EMR vendor integrates its EMR platform with the platform of an e-Discovery software vendor so that more efficient and cost-effective search capabilities and features supportive of the e-Discovery needs of a healthcare entity can be easily performed.

SUMMARY

The vast majority of healthcare professionals are well aware of the transition to EMR pursuant to the 2014 implementation of the federal mandate. However, in the event of litigation, many healthcare organizations, hospitals, medical practices, and individual healthcare providers seem to have little, if any, knowledge or information about the significant financial and medicolegal risks they face associated with the use of EMR and ESI. For healthcare professionals and their office practice managers, it is important for them (as well as the attorneys who represent them) to know "what to do and what not to do" any time they are dealing with EMR, wherever those records may be found.

Thus, e-Discovery can and does represent a major fundamental change in how litigation and law will be practiced in the future. For many attorneys, e-Discovery is a brave new world where they must make a choice either to embrace it and to learn about the technology or run the risk of becoming a relic of the past.

Healthcare professionals and organizations should pay close attention to this topic if they want to best prepare themselves (and their attorney) for winning and minimize their chances of losing a medical malpractice lawsuit and any other professional or personal matter, whether it pertains to a civil or criminal legal matter.

Now is the time for healthcare organizations, industry professionals, healthcare providers, and their office practice managers to start learning about e-Discovery. Now is the time to bridge the knowledge gap between EMR, ESI, and the potential medico-legal problems associated with an EMR, *before* they are named as a party to a lawsuit.

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