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Publisher's Note

Welcome to Volume 18 of *The Sedona Conference Journal* (ISSN 1530-4981), published by The Sedona Conference, a nonprofit 501(c)(3) research and educational institute dedicated to the advanced study of law and policy in the areas of antitrust law, complex litigation, and intellectual property rights. The mission of The Sedona Conference is to move the law forward in a reasoned and just way through the creation and publication of nonpartisan consensus commentaries and through advanced legal education for the bench and bar.

The various Working Groups in The Sedona Conference Working Group Series (WGS) pursue in-depth study of tipping point issues with the goal of producing high-quality, nonpartisan consensus commentaries that provide guidance of immediate and practical benefit to the bench and bar. The Sedona Conference conducts a "regular season" of limited attendance conferences that are dialogue based mini-sabbaticals for the nation's leading jurists, lawyers, academics, and experts to examine cutting edge issues of law and policy. The Sedona Conference also conducts continuing legal education programs under The Sedona Conference Institute (TSCI) banner, an annual International Programme on Cross-Border Discovery and Data Protection Laws, and webinars on a variety of topics.

Volume 18 of the *Journal* contains two nonpartisan consensus commentaries from The Sedona Conference Working Group 1 on Electronic Document Retention and Production (WG1), one commentary from The Sedona Conference Technology Resource Panel, one article from the 11th Annual Sedona Conference Institute Program on eDiscovery, one article from the 16th Annual Patent Litigation Conference, and one original article written specifically for the *Journal*. I hope you find these articles to be thought-provoking pieces that may stimulate further dialogue and ultimately serve to move the law forward.

For more information about The Sedona Conference and its activities, please visit the website at www.thesedonaconference.org.

Craig Weinlein
Executive Director
The Sedona Conference
July 2017

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THE SEDONA CONFERENCE TAR CASE LAW PRIMER*

A Project of The Sedona Conference Working Group on Electronic Document Retention and Production (WG1)

Author:	The Sedona Conference
Editor-in-Chief:	Maura R. Grossman
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PREFACE

Welcome to the Final Version of The Sedona Conference *TAR Case Law Primer*, a project of The Sedona Conference Working Group on Electronic Document Retention and Production (WG1). The Sedona Conference is a 501(c)(3) research and educational institute that exists to allow leading jurists, lawyers, experts, academics, and others, at the cutting edge of issues in the areas of antitrust law, complex litigation, and intellectual property rights, to come together in conferences and mini-think tanks called Working Groups to engage in true dialogue—not debate—in an effort to move the law forward in a reasoned and just way.

In just a few short years, the use of technology-assisted review (TAR) for the exploration and classification of large document collections in civil litigation has evolved from a theoretical possibility to an essential tool in the litigator's toolbox. However, its widespread application—and the realization of its potential benefits—has been impeded by uncertainty about its acceptance by the courts as a legitimate alternative to costly, time-consuming manual review of documents in discovery. This *Primer* analyzes decisions from those courts that have been required to opine on the efficacy of TAR in a variety of circumstances and explores the evolution in the courts' thinking from 2012 through the end of 2016.

The *Primer* is the product of more than a year of development and dialogue within WG1. It was originally conceived as a chapter of a larger Commentary on the use of TAR in civil litigation, but the rapid development of the case law, the volume of court decisions, and the importance of those decisions in shaping legal practice in real time required that an exposition of the case law be made available on a faster timetable than WG1's usual dialogue and consensus-building process allowed. For

that reason, the *Primer* strives to present the case law in as neutral a fashion as possible. It avoids making recommendations regarding particular TAR methodologies, nor does it propose principles, guidelines, or best practices for TAR application, independent of those suggested by the courts themselves.

As the title suggests, the *Primer* is a starting point. The evolution in the case law is far from complete, nor is the analysis. The Sedona Conference hopes that the *Primer*, as all of the output of its Working Groups, will evolve into an authoritative statement of the law. We welcome your input on the *Primer* as we continue to receive new decisions that present novel facts, issues, and arguments. Your comments and suggestions may be sent to comments@sedonaconference.org.

I want to thank all the drafting team members for their dedication and contribution to this project, including team leaders Lea Malani Bays and Sandra Rampersaud; senior contributing editor Gareth Evans; drafting team members Abigail Dodd, Maureen O'Neill, and J. Michael Showalter; and WG1 Steering Committee Liaisons Joseph R. Guglielmo and John J. Rosenthal. Special thanks go to Hon. Andrew J. Peck, who as Judicial Observer contributed his all-important view from the bench; and to Editor-in-Chief and Steering Committee Liaison Maura R. Grossman, without whose determination, hard work, and willingness to devote countless hours, this publication would not have been possible.

Kenneth J. Withers
Deputy Executive Director
The Sedona Conference
January 2017

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I. INTRODUCTION

The jurisprudence regarding technology-assisted review (TAR)[1] is not yet well developed, and the case law reflects a number of inconsistencies and unresolved issues. This *Primer* represents our best efforts to synthesize and summarize the current state of the law (and the open questions), in a neutral fashion, as of the end of 2016. It does not reflect an exhaustive compendium of all TAR issues that may have come before the courts, nor does it cover TAR protocols that parties have negotiated and the courts have so ordered.

As discussed in Section II, below, *Da Silva Moore v. Publicis Groupe*, decided in 2012, was the first published opinion recognizing TAR as an "acceptable way to search for relevant ESI in appropriate cases."[2] Since then, as discussed in Section III, a number of courts have encouraged the use of TAR, or commented on its availability to reduce cost and burden. Some parties have stipulated to the use of TAR without disputes requiring court intervention. And some requesting parties have used TAR to review large volumes of documents produced by responding parties (or third parties). As discussed in Section IV,

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1. Technology-Assisted Review, or TAR, is a "process for prioritizing or coding a collection of Electronically Stored Information using a computerized system that harnesses human judgments of subject matter expert(s) on a smaller set of documents and then extrapolates those judgments to the remaining documents in the collection." The Sedona Conference, *The Sedona Conference Glossary: E-Discovery and Digital Information Management*, Fourth Edition, 15 SEDONA CONF. J. 305 (2014) (definition adopted from Maura R. Grossman & Gordon V. Cormack, *The Grossman-Cormack Glossary of Technology-Assisted Review with Foreword by John M. Facciola, U.S. Magistrate Judge*, 7 FED. CTS. L. REV. 1, 32 (2013)). The terms "predictive coding" and "computer-assisted review" are often used interchangeably with TAR, to describe this process. This *Primer* will use the term "TAR," unless quoting a case that uses another term.

2. Da Silva Moore v. Publicis Groupe, 287 F.R.D. 182, 183 (S.D.N.Y. 2012).

several cases reflect the parties' use of TAR without otherwise addressing its use.

As discussed in Section V, a number of decisions have addressed substantive disputes regarding the use of TAR. These issues include, among others, whether the use of TAR can be compelled by motion (Section V.A.); whether a responding party can switch to TAR after commencing search and review with another methodology (Section V.B.); whether TAR may be preceded by keyword or other culling methods (Section V.C.); whether a party using TAR can be required to share with opposing counsel coding decisions rendered on the seed, training, or validation sets (including providing access to irrelevant documents in those sets) (Section V.D.); and whether court approval is necessary before using TAR (Section V.E.). Many, if not all, of these issues remain unresolved.

As discussed in Section V.F., courts have addressed a variety of other issues, such as recall thresholds (Section V.F.1.); post-production challenges to the use of TAR (Section V.F.2.); retraining the TAR tool for subsequent document requests (Section V.F.3.); and manual review following TAR (Section V.F.4.). As discussed in Section V.F.5., some government agencies have accepted the use of TAR as a search methodology for the production of documents in response to regulatory investigations. The Federal Trade Commission, for example, issued an update in August 2015 to its Model Second Request for merger antitrust investigations, which now asks parties using TAR to provide certain information at the end of the process.[3] Similarly, counsel

3. Fed. Trade Comm'n, *Model Request for Additional Information and Documentary Material (Second Request),* at 15–16 (revised Aug. 2015), https://www.ftc.gov/system/files/attachments/merger-review/guide3.pdf.

for the Antitrust Division of the Department of Justice has provided guidance regarding TAR protocols that should be negotiated at the outset in response to Division investigations.[4]

As discussed in Section VI, courts in Ireland, England, and Australia have approved the use of TAR.

Finally, as discussed in Section VII, there has been an evolution in thinking about TAR in the years since *Da Silva Moore*. There appears to be growing comfort within the legal community with the reliability of TAR, as reflected in *Rio Tinto PLC v. Vale S.A.*, decided in early 2015.[5] In *Rio Tinto*, which carries the subtitle "*Da Silva Moore* Revisited," and which was decided by the same judge as *Da Silva Moore*, the court wrote that TAR can no longer be considered an "unproven technology," and that, "the case law has developed to the point that it is now black letter law that where the producing party wants to utilize TAR for document review, courts will permit it."[6] Moreover, TAR technologies are evolving in ways that may impact concerns about the composition of seed or training sets. For example, the court wrote in *Rio Tinto* that with TAR tools using continuous active learning, seed sets may have relatively little impact on results and, as a practical matter, there may be no discrete training sets to share.[7]

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4. U.S. Dep't of Justice, *Request for Additional Information and Documentary Material (Model Second Request*), at 13 (June 2015), https://www.justice.gov/atr/request-additional-information-and-documentary-material-issued-weebyewe-corporation.

5. Rio Tinto PLC v. Vale S.A., 306 F.R.D. 125 (S.D.N.Y. 2015).

6. *Id.* at 127.

7. *Id.* at 128 (citing Gordon V. Cormack & Maura R. Grossman, *Evaluation of Machine Learning Protocols for Technology-Assisted Review in Electronic Discovery*, in Proceedings of the 37th Int'l ACM SIGIR Conf. on Research & Dev. in Info. Retrieval (SIGIR '14), at 153–62 (ACM New York, N.Y. 2014), http://dx.doi.org/10.1145/2600428.2609601; Maura R. Grossman & Gordon V.

Cormack, *Comments On "The Implications of Rule 26(g) on the Use of Technology–Assisted Review,"* 7 FED. CTS. L. REV. 285, 298 (2014) ("Disclosure of the seed or training set offers false comfort to the requesting party . . . .")).

II. THE BEGINNING: *DA SILVA MOORE*

As noted above, *Da Silva Moore v. Publicis Groupe*, decided in 2012, reflects the first published opinion recognizing TAR as an "acceptable way to search for relevant ESI in appropriate cases."[8] Before *Da Silva Moore* was decided, TAR had been available for some time, but it was not being widely used in practice. The court observed that many attorneys knowledgeable about TAR and its potential benefits were reluctant to use it because no court had yet approved its use. "While anecdotally it appears that some lawyers are using predictive coding technology, it also appears that many lawyers (and their clients) are waiting for a judicial decision approving of computer-assisted review."[9]

The court in *Da Silva Moore* approved a party-negotiated TAR protocol, which had set forth the manner of selection and review of the seed and training sets, and addressed those aspects of the protocol about which the parties disagreed.[10] According to the court, its approval of TAR meant that "[c]ounsel no longer have to worry about being the 'first' or 'guinea pig' for judicial acceptance of [TAR]."[11] The court added that, "[w]hat the Bar should take away from this Opinion is that [TAR] is an available tool and should be seriously considered for use in large-data-volume cases where it may save the producing party (or both parties) significant amounts of legal fees in document review."[12] The court stated, however, "[t]hat does not mean computer-assisted review must be used in all cases, or

8. 287 F.R.D. 182, 183 (S.D.N.Y. 2012).

9. *Id.* at 182–83 (quoting Andrew Peck, *Search, Forward*, L. TECH. NEWS, Oct. 11, 2011, at 25).

10. *See id*. at 182–83, 190–93.

11. *See id*. at 193.

12. *Id*.

that the exact ESI protocol approved here will be appropriate in all future cases that utilize computer-assisted review."[13]

A. Advantages of TAR

The court described a number of the advantages of TAR over linear manual (i.e., human) review. It observed that exhaustive manual review is "simply too expensive," where millions of documents are involved, and cited a study demonstrating substantial savings for TAR—on average, a fifty-fold savings in the number of documents requiring review.[14] Additionally, the court stated that, "while some lawyers still consider manual review the 'gold standard,' that is a myth," and cited studies showing that TAR "'can (and does) yield more accurate results than exhaustive manual review, with much lower effort.'"[15]

B. Emphasis on Process

The court in *Da Silva Moore* suggested that "the best approach" when a party wishes to use TAR is to "follow the Sedona Cooperation Proclamation model" and "[a]dvise opposing counsel that you plan to use [TAR] and seek agreement."[16] If the parties are unable to reach agreement, then the court

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13. *See id*.

14. *Id*. at 190 (citing Maura R. Grossman & Gordon V. Cormack, *Technology-Assisted Review in E-Discovery Can Be More Effective and More Efficient Than Exhaustive Manual Review*, 17 RICH. J.L. & TECH. 43 (2011)).

15. *See id*. at 190 (quoting Maura R. Grossman & Gordon V. Cormack, *Technology-Assisted Review in E-Discovery Can Be More Effective and More Efficient Than Exhaustive Manual Review*, 17 RICH. J.L. & TECH. 43, 48 (2011)); *see also id*. (citing Herbert L. Roitblat, Anne Kershaw & Patrick Oot, *Document Categorization in Legal Electronic Discovery: Computer Classification v. Manual Review*, 61 J. AM. SOC'Y FOR INFO. SCI. & TECH. 70, 79 (2010)).

16. *Id*. at 184 (quoting Andrew Peck, *Search, Forward*, L. TECH. NEWS, Oct. 11, 2011, at 29).

stated that parties should "consider whether to either abandon [TAR] for that case or go to the court for advance approval."[17]

With respect to court approval, the court stated that it "recognizes that [TAR] is not a magic, Staples-Easy-Button, solution appropriate for all cases."[18] While the technology should be used where appropriate, courts should consider the particular protocol that is proposed. "[I]t is not a case of machine replacing humans: it is the process used and the interaction of man and machine that the courts need to examine."[19] The court emphasized that in doing so, perfection is not required of TAR. "While this Court recognizes that [TAR] is not perfect, the Federal Rules of Civil Procedure do not require perfection."[20]

C. The Dispute and the Court's Decision

Although the parties in *Da Silva Moore* agreed in principle to the defendant's use of TAR, they disagreed about aspects of the protocol that the defendant would follow—in particular, whether training would consist solely of seven "iterative rounds," and whether the quality-control process would be adequate. Plaintiffs expressed concerns about whether the protocol would work.[21] The parties agreed to some aspects of the protocol, including the composition of the seed set and that the defendant would share the training and quality-control sets (except for privileged documents).[22]

The court observed that plaintiffs' concerns about the reliability of the TAR process were premature until the process was

17. *Id*.

18. *Id.* at 189.

19. *Id*.

20. *Id.* at 192.

21. *Id.* at 187–88.

22. *Id.* at 191–92 (citing FED. R. CIV. P. 1 & 26(b)(2)(C)).

underway or complete. It accepted defendant's proposal for seven iterative rounds of training, with the caveat that additional rounds might be required if the parties did not agree that the predictive model was "stabilized" after seven rounds.[23]

The court concluded that defendant's use of TAR was appropriate, considering the following factors: (1) the parties' agreement to use TAR (even though they disagreed on certain aspects of its implementation), (2) "the vast amount of ESI to be reviewed (over three million documents)," (3) "the superiority of [TAR] to the available alternatives (i.e., linear manual review or keyword searches)," (4) "the need for cost effectiveness and proportionality" under Federal Rule of Civil Procedure 26(b)(2)(C), and (5) "the transparent process proposed by [defendant]."[24]

The court added that defendant's "transparency in its proposed ESI search protocol made it easier for the Court to approve the use of [TAR]" because "such transparency allows the opposing counsel (and the Court) to be more comfortable with [TAR], reducing fears about the so-called 'black box' of the technology," and addressing concerns about "garbage in, garbage out" in training the tool. While the court encouraged parties to provide such transparency in future cases, it also indicated that it is not necessarily required for the use of TAR.[25]

23. *Id.* at 187.

24. *Id.* at 191–92.

25. *Id.* at 192.

III. SINCE *DA SILVA MOORE*, MANY OTHER COURTS HAVE ENCOURAGED THE USE OF TAR

After *Da Silva Moore* recognized TAR as an acceptable search methodology, many other courts have encouraged its use, or commented on its availability to potentially reduce cost and burden. However, most of these cases have not involved substantive discussions or approval of its use in the particular case.

For example, shortly after *Da Silva Moore* was decided, the court in *National Day Laborer Organizing Network v. U.S. Immigration & Customs Enforcement Agency*[26] wrote:

> [P]arties can (and frequently should) rely on latent semantic indexing, statistical probability models, and machine learning tools to find responsive documents. Through iterative learning, these methods (known as 'computer-assisted' or 'predictive' coding) allow humans to teach computers what documents are and are not responsive to a particular FOIA or discovery request and they can significantly increase the effectiveness and efficiency of searches.[27]

Similarly, in *In re Domestic Drywall Antitrust Litigation*,[28] the court referred to the availability of TAR for searching large volumes of documents produced by the opposing party. And in *Malone v. Kantner Ingredients, Inc.*,[29] the court noted that, "[p]redictive coding is now promoted (and gaining acceptance) as not

26. 877 F. Supp. 2d 87, 109 (S.D.N.Y. 2012).

27. *Id*.

28. 300 F.R.D. 228, 233 (E.D. Pa. 2014).

29. Case No. 4:12-CV-3190, 2015 WL 1470334, at *3 n.7 (D. Neb. Mar. 31, 2015).

only a more efficient and cost effective method of ESI review, but a more accurate one."

The courts in *Harris v. Subcontracting Concepts, LLC*,[30] and *Chevron Corporation v. Donziger*[31] commented on TAR as a means to reduce cost and burden. In *Harris*, the court rejected a burden argument on the grounds that "[w]ith the advent of software, predictive coding, spreadsheets and similar advances, the time and cost to produce large reams of documents can be dramatically reduced."[32] Similarly, in *Chevron*, the court pointed to the availability of TAR in rejecting a burden argument, observing that "predictive coding is an automated method that credible sources say has been demonstrated to result in more accurate searches at a fraction of the cost of human reviewers."[33]

Courts have encouraged the parties to consider the use of TAR in a number of other cases. In *FDIC v. Bowden*,[34] the court ordered the parties to "consider the use of predictive coding." In *Deutsche Bank National Trust Co. v. Decision One Mortgage Co., LLC*,[35] the court stated that, "if the parties agree that predictive coding would be appropriate in this case, they are encouraged to use that tool."

Some courts have gone beyond encouragement and have ordered parties to consider using TAR. In *Aurora Cooperative Elevator Co. v. Aventine Renewable Energy*,[36] the court ordered the parties to "consult with a computer forensic expert to create

30. Case No. 1:12-MC-82, 2013 WL 951336, at *5 (S.D.N.Y. Mar. 11, 2013).

31. Case No. 11-Civ.-0691, 2013 WL 1087236, at *32 n.255 (S.D.N.Y. Mar. 15, 2013).

32. *Harris*, 2013 WL 951336, at *5.

33. *Chevron*, 2013 WL 1087236, at *32 n.255.

34. No. 4:13-cv-245, 2014 WL 2548137, at *13 (S.D. Ga. June 6, 2014).

35. No. 13 L 5823, 2014 WL 764707, at *1 (Ill. Cir. Ct. Jan. 28, 2014).

36. No. 4:12-civ-230, slip op. at 1–2 (D. Neb. Mar. 10, 2014).

search protocols, including predictive coding as needed, for a computerized review of the parties' electronic records." Similarly, in *Johnson v. Ford Motor Co.*,[37] the court ordered the parties to "involve their IT experts and to consider other methods of searching such as predictive coding."[38]

37. No. 3:13-cv-06529, 2015 WL 4137707 (S.D. W. Va. July 8, 2015).

38. *Id.* at *11. *See also* Section V.A.2., *infra*.

IV. ADDITIONAL CASES REFLECTING THE PARTIES' USE OF TAR

Several cases reflect the parties' use of TAR, without otherwise addressing its use. Some cases have reflected that counsel for plaintiffs have used TAR in analyzing and reviewing documents they had received in document productions from defendants or third parties. In *New Mexico State Investment Council v. Bland*,[39] for example, the court, in approving settlements, noted that, "[i]n reviewing documents, [plaintiff's counsel] implemented various advanced machine learning tools such as predictive coding, concept grouping, near-duplication detection and e-mail threading."[40] The court further stated that, "[t]hese tools . . . enabled the reviewers on the document analysis teams to work more efficiently with the documents and identify potentially relevant information with greater accuracy than the standard linear review."[41] Additionally, in approving a settlement and an award of attorney's fees in *Arnett v. Bank of America*,[42] the court noted that plaintiff's counsel reviewed the more than 1.1 million documents produced in the case using "search terms, predictive coding, and manual review methods."[43]

In *Gabriel Technologies Corporation v. Qualcomm Inc.*,[44] the court awarded more than $2.8 million in fees incurred for the use of "computer assisted, algorithm-driven document review" for almost 12 million documents. The court awarded the defendant attorney's fees and TAR-related costs under federal patent law and for misappropriation claims under California's Uniform Trade Secrets Act based on its finding that the plaintiff

39. No. D-101-cv-2011-01434, 2014 WL 772860 (D.N.M. Feb. 12, 2014).

40. *Id.* at *6.

41. *Id*.

42. No. 3:11-cv-1372, 2014 WL 4672458 (D. Or. Sept. 18, 2014).

43. *Id.* at *9.

44. Case No. 09-cv-1992, 2013 WL 410103, at *10 (S.D. Cal. Feb. 1, 2013).

acted in bad faith by bringing "objectively baseless claims." The court further found that the defendant's use of TAR was "reasonable under the circumstances" of the case.[45]

45. *Id*.

V. DISPUTED ISSUES REGARDING TAR

A number of decisions have addressed various disputed issues regarding the use of TAR. Many or all of these issues remain open, either because of a lack of consensus among the decisions, an absence of in-depth analysis in the decisions, the fact-specific nature of certain decisions, or the paucity of decisions addressing an issue.

A. Requiring the Use of TAR

Several cases have involved attempts to require a responding party to use TAR, either at the behest of the requesting party or at the behest of the court.

1. Motion by The Requesting Party

In *Kleen Products LLC v. Packaging Corporation of America*,[46] a consolidated antitrust action alleging that defendants conspired to fix prices in the containerboard industry, plaintiffs sought to require defendants to use "content-based advanced analytics"—a form of TAR—rather than (according to plaintiffs) the "antiquated Boolean search of [defendants'] self-selected custodians' ESI and certain central files." Defendants already had used a keyword-based search to produce documents, at a cost of more than $1 million.[47] Defendants objected to plaintiffs' pro-

46. Case No. 10-cv-5711, 2012 WL 4498465 (N.D. Ill. Sept. 28, 2012).

47. Pls.' Statement of Position with Respect to Disputed Items for Dec. 15, 2011 Status Conference at 4–5 & n.6, Kleen Prods. LLC v. Packaging Corp. of Am., Case No. 1:10-cv-05711 (N.D. Ill. Dec. 13, 2011).

posal, arguing that it would require them to "jettison their previous work product and adopt [a] new, untested document gathering and production protocol."[48]

The dispute in *Kleen* led to two days of evidentiary hearings, during which plaintiffs' consultants testified regarding the efficacy of their proposed TAR protocol, and defendants' consultants testified regarding the discovery protocol already in place, including the development, testing, revision, and validation of defendants' search terms.[49] The court ultimately declined to require defendants to adopt one technology over another; instead the court ordered the parties to meet and confer regarding modifications to the existing search methodology.[50] That defendants had already substantially completed their review and plaintiffs were seeking to have them start over using a TAR methodology likely factored significantly in this outcome. The court also cited Principle 6 of *The Sedona Principles*, which states, "[r]esponding parties are best situated to evaluate the procedures, methodologies, and technologies appropriate for preserving and producing their own electronically stored information."[51]

The parties ultimately reached a stipulation by which plaintiffs withdrew their demand that defendants apply TAR for the first corpus of documents, but reserved the right to raise objec-

48. *See* Defs.' Statement of Position with Respect to Disputed Items for Dec. 15, 2011 Status Conference at 4–16, *Kleen Prods.*, Case No. 1:10-cv-05711 (N.D. Ill. Dec. 13, 2011).

49. *See* Evidentiary Hr'g Tr., *Kleen Prods.*, Case No. 1:10-cv-05711 (Feb. 21, 2012); Evidentiary Hr'g Tr., *Kleen Prods.*, Case No. 1:10-cv-05711 (Mar. 28, 2012).

50. Evidentiary Hr'g Tr. at 297–300, *Kleen Prods.*, Case No. 1:10-cv-05711 (Mar. 28, 2012).

51. *Id.* at 297–98.

tions to defendants' search methodology—including the completeness of defendants' productions—and to propose alternative methodologies for subsequent requests for production.[52]

Similar to *Kleen*, in *In re Bridgepoint Education, Inc. Securities Litigation*,[53] the court denied plaintiffs' request to require the defendants to use TAR on custodians' documents that defendants had previously searched using traditional search terms.[54]

In *Hyles v. New York City*,[55] the court concluded that defendant New York City could not be compelled to use TAR against its will, even though it agreed with the plaintiff that, "in general, TAR is cheaper, more efficient and superior to keyword searching."[56] In contrast with prior cases, where the producing party had already expended significant effort and expense on document review and production,[57] in *Hyles* the producing party had not yet initiated its review, thus raising the issue of whether, on the requesting party's motion at the outset of discovery, a court can order a responding party to use TAR. The court declared

52. Stipulation & Order Relating to ESI Search, *Kleen Prods.*, Case No. 1:10-cv-05711 (Aug. 21, 2012).

53. No. 12-cv-1737, 2014 WL 3867495 (S.D. Cal. Aug. 6, 2014).

54. *Id.* at *4. Based on a review of the cases to date, the court in *Rio Tinto* observed, in dicta, that "where the requesting party has sought to force the producing party to use TAR, the courts have refused." Rio Tinto PLC v. Vale S.A., 306 F.R.D. 125, 127 n.1 (S.D.N.Y. 2015).

55. 10 Civ. 3119, 2016 WL 4077114 (S.D.N.Y. Aug. 1, 2016).

56. *Id*. at *2.

57. The court stated that in prior cases "where the requesting party has sought to force the producing party to use TAR, the courts have refused." *Id*. The court noted, however, that in those cases, the responding party had already "spent over $1 million using keyword search (in *Kleen Products*) or keyword culling followed by TAR (in *Biomet*)." *Id.*

that "[t]he short answer is a decisive 'NO.'"[58] The court suggested that there "may come a time when TAR is so widely used that it might be unreasonable for a party to decline to use TAR," but "[w]e are not there yet."[59]

As in *Kleen Products*, the *Hyles* court reasoned that, "[u]nder Sedona Principle 6, the City as the responding party is best situated to decide how to search for and produce ESI responsive to Hyles' document requests."[60] Although the City might have to redo its search if the plaintiff later demonstrates deficiencies in the City's production, the court nevertheless reasoned "that is not a basis for Court intervention at this stage of the case."[61] The court concluded that "it is not up to the Court, or the requesting party (Hyles), to force the City as the responding party to use TAR when it prefers to use keyword searching. While Hyles may well be correct that production using keywords may not be as complete as it would if TAR were used, the standard is not perfection, or using the 'best' tool, but whether the search results are reasonable and proportional."[62]

Similarly, in *In re Viagra Products Liability Litigation,*[63] the court denied the requesting party's motion to require that the responding party use TAR, and to allow the requesting party's representatives to be involved in the process. The responding

58. *Id.* at *1 (emphasis in original).

59. *Id*. at *3.

60. *Id.*

61. *Id*.

62. *Id.* (internal citations omitted).

63. *In re* Viagra (Sildenafil Citrate) Prods. Liab. Litig., Case No. 16-md-02691-RS (SK), slip. op. at 1–3 (N.D. Cal. Oct. 14, 2016).

party instead planned to employ an iterative search-term process, which it would test and validate through sampling.[64] Relying upon the reasoning of *Hyles*, the court held that it was not up to the court or the requesting party to force the responding party to use TAR when it preferred to use search terms.[65] The court concluded that "[e]ven if predictive coding were a more efficient and better method, which [the responding party] disputes, it is not clear on what basis the Court could compel [the responding party] to use a particular [search method], especially in the absence of any evidence that [the responding party's] preferred method would produce, or has produced, insufficient discovery responses."[66] The court therefore denied the motion, without prejudice to revisiting the issue if the requesting party later contended that the production was deficient.[67]

2. Suggested by the Court

In two cases, a court proposed the use of TAR, which was ultimately adopted by one or more of the parties.

In *EORHB, Inc. v. HOA Holdings LLC*,[68] Vice Chancellor Laster of the Delaware Chancery Court *sua sponte* ordered the parties to use TAR or, alternatively, to show cause why TAR should not be used. The defendant ultimately elected to use TAR. The plaintiff, however, was not required to do so after informing the court that, because of the low volume of documents

64. *Id.*, slip op. at 1.

65. *Id.*, slip op. at 2.

66. *Id.*, slip op. at 2–3.

67. *Id.*, slip op. at 3.

68. Civil Action No. 7409-VCL (Del. Ch. Oct. 15, 2012) (Hr'g Tr. at 66–67).

it expected to review and produce, the cost of using TAR likely would outweigh any practical benefits.[69]

In *Independent Living Center v. City of Los Angeles*,[70] the court ordered (on consent) the use of TAR to search more than two million documents after "little or no discovery was completed" before the discovery cutoff, and the parties had ongoing disputes after "months of haggling" over search terms that yielded large numbers of documents for review.[71]

B. "Switching Horses Midstream": Contradictory Decisions

Two cases—*Progressive Casualty Insurance Company v. Delaney*[72] and *Bridgestone Americas, Inc. v. International Business Machines Corp.*[73]—have reached differing conclusions on whether a responding party may switch to TAR in the middle of discovery after having previously agreed to use search terms and manual review. The differing outcomes appear to result from the unique facts of each case.

In *Progressive*, the court denied the plaintiff's request to use TAR. Factors the court cited included: the plaintiff sought to use TAR extremely late in the discovery period; it had not yet produced a single document; it had previously agreed in the parties' ESI protocol to use search terms and manual review; it was not willing to reveal its coding decisions and irrelevant documents in the seed and training sets; and it made the decision to switch to TAR unilaterally, without informing defendants or the

69. *See* EORHB, Inc. v. HOA Holdings LLC, 2013 WL 1960621 (Del. Ch. May 6, 2013).

70. No. 2:12-cv-00551, slip op. (C.D. Cal. June 26, 2014).

71. *Id.*, slip op. at 1–2.

72. Case No. 2:11-cv-00678, 2014 WL 3563467 (D. Nev. July 18, 2014).

73. Case No. 3:13-1196, 2014 WL 4923014 (M.D. Tenn. July 22, 2014).

court.[74] According to the court, the parties had "spent months narrowing search terms," at the plaintiff's insistence, to reduce its burden.[75] The narrowed search terms that the parties agreed on yielded 565,000 "hit" documents out of a total population of 1.8 million. Although the plaintiff had initially represented that it would begin production in September 2013 and complete it by the end of October 2013, it advised the requesting party on December 20, 2013, that the process of reviewing the documents retrieved by the search terms was unworkable.[76]

As an alternative to manual review, the plaintiff proposed to apply TAR to the 565,000 documents that "hit" on the search terms, and estimated that plaintiff's TAR process would result in a recall of 70–80% (i.e., that it would find 70–80% of the total number of relevant documents in the collection). Plaintiff would then manually review the documents identified by TAR for production.[77]

The court in *Progressive* rejected plaintiff's proposal, on the grounds that it had previously agreed to manually review the search-term hits and it was too late to change course. The court indicated, however, that it likely would have approved the use of TAR had it been proposed earlier in the case. "Had the parties worked with their e-discovery consultants and agreed at the onset of this case to a predictive coding-based ESI protocol, the court would not hesitate to approve a transparent, mutually agreed upon ESI protocol. However, this is not what happened."[78]

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74. *Progressive*, 2014 WL 3563467, at *8.

75. *Id.* at *5.

76. *Id.* at *4, *5.

77. *See id*.

78. *Id.* at *9.

In *Bridgestone*, however, the court permitted the plaintiff to change its search and review methodology to TAR mid-stream, based on plaintiff's determination that it would be a much more efficient process, despite defendant's objections that the request was an "unwarranted change in the original case management order," and that it would be unfair to allow the use of TAR "after an initial screening has been done with search terms."[79] "In the final analysis," the court stated, "the use of predictive coding is a judgment call, hopefully keeping in mind the exhortation of Rule 26 that discovery be tailored by the court to be as efficient and cost-effective as possible." The court added that, "[i]n this case, we are talking about millions of documents to be reviewed with costs likewise in the millions. There is no single, simple, correct solution possible under these circumstances."[80]

The court in *Bridgestone* also wrote that "[t]he Magistrate Judge believes that he is, to some extent, allowing Plaintiff to switch horses in midstream. Consequently, openness and transparency in what Plaintiff is doing will be of critical importance." The plaintiff advised the court that it had agreed to "provide [to defendant] the seed documents they are initially using to set up predictive coding."[81]

C. Using Search-Term Culling Before TAR

Several cases have addressed the appropriateness of using search terms to cull the document population before applying TAR.

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79. *See* Bridgestone Ams., Inc. v. Int'l Bus. Machines Corp., Case No. 3:13-1196, 2014 WL 4923014, at *1 (M.D. Tenn. July 22, 2014).

80. *Id*.

81. *Id*.

In *In re Biomet M2A Magnum Hip Implant Products Liability Litigation*,[82] the court denied plaintiffs' motion to require the defendant to redo their search and review process using TAR on the entire document population that it had collected. The defendant had used keywords to cull the collected document set from 19.5 million documents and attachments down to 3.9 million. After having further de-duplicated the documents, it used TAR on this smaller data set, identifying almost 2 million documents for production.

Plaintiffs argued that keyword search is less accurate than TAR and that defendant's efforts were tainted by using keyword search before TAR. The court rejected plaintiffs' arguments on the basis of proportionality, holding that the defendant's methodology satisfied the standard set forth in Federal Rules 26 and 34, namely, that its efforts must be "reasonable."

The court in *Biomet* reasoned as follows:

> It might well be that predictive coding, instead of a keyword search . . . would unearth additional relevant documents. But it would cost Biomet a million, or millions, of dollars to test the [plaintiffs'] theory that predictive coding would produce a significantly greater number of relevant documents. Even in light of the needs of the hundreds of plaintiffs in this case, the very large amount in controversy, the parties' resources, the importance of the issues at stake, and the importance of this discovery in resolving the issues, I can't find that the likely benefits of the discovery proposed by [plaintiffs] equals or outweighs its

82. Case No. 3:12-MD-2391, 2013 WL 1729682 & 2013 WL 6405156 (N.D. Ind. Apr. 18 & 21, 2013).

> additional burden on, and additional expense to, Biomet.[83]

In *Progressive Casualty Insurance Company v. Delaney*,[84] in denying plaintiff's request late in the process to switch from search terms and manual review to TAR, the court criticized plaintiff's plan to apply TAR not to the entire document population, but only to documents hitting the search terms. According to the court, such a process would be inconsistent with the "best practices" guide of its TAR vendor.[85]

In *Rio Tinto PLC v. Vale S.A.*,[86] the court permitted the use of keyword culling before TAR because it was included in the parties' stipulated protocol. "The Court itself felt bound by the parties' protocol, such as to allow keyword culling before running TAR, even though such pre-culling should not occur in a perfect world." But the court also noted that "the standard for TAR is not perfection," nor "best practices," "but rather what is reasonable and proportional under the circumstances."[87]

Finally, in *Bridgestone Americas, Inc. v. International Business Machines Corp.*,[88] the court permitted plaintiff to undertake a hybrid approach, using TAR on documents initially identified through the use of search terms (but which still resulted in more than two million documents requiring review). The court expressly recognized that using predictive coding "is a judgment call."[89]

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83. *In re Biomet*, 2013 WL 1729682, at *3.

84. Case No. 2:11-cv-00678, 2014 WL 3563467 (D. Nev. July 18, 2014).

85. *Id.* at *11.

86. Case No. 14 Civ. 3042, 2015 WL 4367250, at *1 (S.D.N.Y. July 15, 2015).

87. *See id*.

88. Case No. 3:13-1196, 2014 WL 4923014 (M.D. Tenn. July 22, 2014).

89. *Id*.

D. Disclosure of the Seed, Training, or Validation Sets

Disclosure of seed, training, or validation sets—including irrelevant documents and the responding party's coding decisions—has become one of the most contentious issues related to the use of TAR. The case law reflects a range of outcomes on the issue: courts encouraging—but not requiring—disclosure; responding parties voluntarily making disclosure; parties agreeing not to require disclosure; courts not requiring disclosure; one court requiring disclosure; and one court citing non-disclosure as a factor in its denial of a motion seeking approval to use TAR.[90]

1. Courts Encouraging Disclosure

Some courts have encouraged—but not required—disclosure of seed, training, or validation sets. For example, in *Da Silva Moore*, the defendant had voluntarily agreed to provide plaintiffs' counsel with both the documents in the seed and training sets and counsel's coding of those documents.[91] The court stated that, "[w]hile not all experienced ESI counsel believe it necessary to be as transparent as MSL was willing to be, such transparency allows the opposing counsel (and the Court) to be more comfortable with computer-assisted review."[92] The court further stated that it "highly recommends that counsel in future cases be willing to at least discuss, if not agree to, such transparency in the [TAR] process."[93]

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90. *See, e.g.*, Rio Tinto PLC v. Vale S.A., 306 F.R.D. 125, 128 (S.D.N.Y. 2015) ("[W]here the parties do not agree to transparency, the decisions are split and the debate in the discovery literature is robust.").

91. Da Silva Moore v. Publicis Groupe, 287 F.R.D. 182, 192 (S.D.N.Y. 2012).

92. *Id*.

93. *Id*.

Similarly, in *Bridgestone*, the court advised that because it was allowing a change to the discovery approach midstream, the "Magistrate judge expects full openness in this matter."[94] In *Federal Housing Finance Agency v. JPMorgan Chase & Co.*, the court appeared to encourage disclosure of the training sets by (1) stating that for the TAR process to work, "I think it needs transparency and cooperation of counsel"; and (2) confirming that the responding party would be voluntarily providing access to the training sets.[95] In *Biomet*, while the court expressly held that it could not require such disclosure under the Federal Rules of Civil Procedure, it nevertheless encouraged the responding party to "re-think its refusal" in the "cooperative spirit" encouraged by *The Sedona Conference Cooperation Proclamation*.[96]

Additionally, in *Rio Tinto*, the court expressed its preference for disclosure, but recognized that there are alternative means of evaluating the effectiveness of the TAR process.[97] Although the parties stipulated to share such documents in their TAR protocol, which the court approved, the court chose to expand upon its order by providing guidance to litigants regarding the use of TAR. In so doing, the court observed that sharing training sets—including the irrelevant documents in the training set and counsel's coding decisions on them—is not necessary to ensure appropriate training of the TAR model. The court stated:

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94. Bridgestone Ams., Inc. v. Int'l Bus. Machines Corp., Case No. 3:13-1196, 2014 WL 4923014, at *1 (M.D. Tenn. July 22, 2014).

95. Fed. Hous. Fin. Agency v. JPMorgan Chase & Co., No. 1:11-cv-06188-DLC (S.D.N.Y. July 24, 2012) (transcript at 9, 14).

96. *In re* Biomet M2A Magnum Hip Implant Prods. Liab. Litig., No. 3:12-MD-2391, 2013 WL 6405156, at *2 (N.D. Ind. Aug. 21, 2013).

97. Rio Tinto PLC v. Vale S.A., 306 F.R.D. 125, 128–29 (S.D.N.Y. 2015).

> [W]hile I generally believe in cooperation, requesting parties can insure [sic] that training and review was done appropriately by other means, such as statistical estimation of recall at the conclusion of the review as well as by whether there are gaps in the production, and quality control review of samples from the documents categorized as non-responsive.[98]

Additionally, the court cited studies showing that the contents of the "seed set" are much less significant with tools using "continuous active learning," in which the learning algorithm is continually retrained as reviewers review documents the algorithm identifies as potentially relevant (or potentially not relevant).[99]

2. Responding Parties Disclosing Voluntarily

In some cases, the responding party voluntarily agreed to disclose either a sample (or more) from the seed, training, or validation sets, or agreed to allow the opposing party to have some role in training the software.

In *Da Silva Moore,* for example, the responding party agreed to disclose the non-privileged documents in the seed set.[100] In *Bridgestone*, the plaintiff offered to share the seed documents.[101]

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98. *See id*. (citing Maura R. Grossman & Gordon V. Cormack, *Comments On "The Implications of Rule 26(g) on the Use of Technology-Assisted Review*," 7 FED. CTS. L. REV. 285, 298 (2014)).

99. *See id.* at 127 (citing Maura R. Grossman & Gordon V. Cormack, *Comments On "The Implications of Rule 26(g) on the Use of Technology-Assisted Review,"* 7 FED. CTS. L. REV. 285, 298 (2014) ("Disclosure of the seed or training set offers false comfort to the requesting party . . . .")) (ellipsis in original).

100. Da Silva Moore v. Publicis Groupe, 287 F.R.D. 182, 192 (S.D.N.Y. 2012).

101. Bridgestone Ams., Inc. v. Int'l Bus. Machines Corp., Case No. 3:13-1196, 2014 WL 4923014, at *11 (M.D. Tenn. July 22, 2014).

In *Federal Housing Finance Agency v. JPMorgan Chase & Co.*, the court approved defendant JP Morgan Chase's request to use TAR following its agreement to allow access to the relevant and irrelevant documents, other than privileged documents, in the seed set.[102] And in *Dynamo Holdings II* the responding party agreed to allow the requesting party to code the documents used to train the TAR algorithm.[103]

3. Courts Not Requiring Disclosure

In *Biomet*, the court denied plaintiffs' request for access to the training sets and to participate in training the TAR software.[104] Plaintiffs sought to impose a protocol for TAR similar to the one used in *In re Actos (Pioglitazone) Products Liability Litigation,*[105] in which each side nominated three experts to review the training sets and conduct quality control following TAR. The *Biomet* court rejected plaintiffs' request, observing that Federal Rule of Civil Procedure 26(b)(1) only makes relevant, non-privileged information discoverable, commenting that, "I'm puzzled as to the authority behind [the plaintiffs'] request."[106] The court also stated that although Sedona Conference principles and local discovery rules encourage parties to cooperate in discovery,

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102. Fed. Hous. Fin. Agency v. JPMorgan Chase & Co., Case No. 1:11-cv-06188-DLC (S.D.N.Y. July 24, 2012) (transcript at 14–15, 24); *see also id.* at 8–9 (commenting that the reliability of TAR depends upon the process employed, particularly with respect to training the model using seed sets). *See also* Fed. Hous. Fin. Agency v. HSBC North America Holdings Inc., No. 1:11-cv-06188-DLC, 2014 WL 584300, at *3 (S.D.N.Y. Feb. 14, 2014) (same case).

103. Dynamo Holdings Ltd. P'ship v. Comm'r of Internal Revenue, No. 2685-11, slip op. at 6–7 (T.C. Jul. 7, 2016) (hereinafter *Dynamo Holdings II*).

104. *In re* Biomet M2a Magnum Hip Implant Prods. Liab. Litig., Case No. 3:12-MD-2391, 2013 WL 1729682 & 2013 WL 6405156 (N.D. Ind. Apr. 18 & Aug. 21, 2013).

105. MDL No. 6:11-md-2299, 2012 WL 7861249 (W.D. La. July 27, 2012).

106. *In re Biomet*, 2013 WL 6405156, at *1–2.

such cooperation does not require "counsel from both sides to sit in adjoining seats while rummaging through millions of files that haven't been reviewed for confidentiality or privilege."[107]

4. Case Requiring Disclosure

In *Independent Living Center v. City of Los Angeles*, the court ordered (on consent) the use of TAR to search more than two million documents after "little or no discovery was completed" before the discovery cutoff, and the parties had ongoing disputes after "months of haggling" over search terms that yielded large numbers of documents for review.[108] Although the defendant was initially concerned about the costs of using TAR, it agreed to do so when the court stated that it would only be required to produce the top 10,000 documents identified by the TAR tool. At the defendant's request, and to avoid subsequent disputes, the court also ordered that the plaintiff "be involved in and play an active role" in the training process, including making "relevance determinations" in the training documents.[109] The court held that the defendant was not necessarily required to engage in a quality-assurance process as part of the TAR protocol; however, if the plaintiff insisted upon such a process, then plaintiff would be required to pay for 50% of its costs.[110]

107. *See id*. at *2.

108. No. 2:12-cv-00551, slip op. at 1–2 (C.D. Cal. June 26, 2014).

109. *Id*.

110. *Id.*, slip op. at 2–3.

5. Non-Disclosure as a Factor in Denying the Use of TAR

One court has cited non-disclosure as a factor in denying a party's request to use TAR. In *Progressive*,[111] the court criticized plaintiff's unwillingness in its proposed TAR protocol to share with opposing counsel the irrelevant documents used to train the TAR tool. The court stated that "[i]n the handful of cases that have approved technology assisted review of ESI, the courts have required [sic] the producing party to provide the requesting party with full disclosure about the technology used, the process, and the methodology, including the documents used to 'train' the computer."[112]

E. Advance Court Approval for the Use of TAR

In *Dynamo Holdings I*,[113] the tax court addressed whether the court's advance approval was necessary for a party to use TAR. The court commented that the petitioner's request for advance court approval to use TAR (if the respondent's motion to compel was granted) was "somewhat unusual."[114]

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111. Progressive Casualty Insurance Co. v. Delaney, Case No. 2:11-cv-00678, 2014 WL 3563467 (D. Nev. July 18, 2014).

112. *Id.* at *10 (citing Da Silva Moore v. Publicis Groupe, 287 F.R.D. 182 (S.D.N.Y. Feb. 24, 2012), and *In re* Actos (Pioglitazone) Prods. Liab. Litig., MDL No. 6:11-md-2299, 2012 WL 7861249 (W.D. La. July 27, 2012)). In both of those cases, however, the parties seeking to use TAR had *voluntarily stipulated* to allow access to the irrelevant training documents—the courts had not required it. *See Da Silva Moore*, 287 F.R.D. at 192 (noting that the responding party agreed to produce irrelevant documents in the seed or training sets); *In re Actos*, 2012 WL 7861249, at *4–5 (parties agreed to jointly review and code the documents used to train the predictive coding model).

113. Dynamo Holdings Ltd. P'ship v. Comm'r of Internal Revenue, 143 T.C. No. 9, 2014 WL 4636526 (Sept. 17, 2014) (hereinafter *Dynamo Holdings I*).

114. *Id.* at *3.

The court stated that "although it is a proper role of the court to supervise the discovery process and intervene when it is abused by the parties, the court is not normally in the business of dictating the process that they should use when responding to discovery."[115] "If our focus were on paper discovery," the court continued, "we would not (for example) be dictating to a party the manner in which it should review documents for responsiveness or privilege, such as whether that review should be done by a paralegal, a junior attorney, or a senior attorney."[116]

While stating that if the respondent believes "the ultimate discovery response is incomplete" then it could file a motion to compel "at that time," the court nevertheless took up the issue of whether TAR would be allowed because the court had "not previously addressed the issue of computer-assisted review tools."[117]

> Where, as here, petitioners reasonably request to use predictive coding to conserve time and expense, and represent to the Court that they will retain electronic discovery experts to meet with respondent's counsel or his experts to conduct a search acceptable to respondent, we see no reason

115. *Id*.

116. *Id*.; *cf*. The Sedona Conference, *The Sedona Principles: Best Practices Recommendations & Principles for Addressing Electronic Document Production*, Principle 6 (2nd ed. 2007), *available at* https://thesedonaconference.org/download-pub/81 ("Responding parties are best situated to evaluate the procedures, methodologies, and technologies appropriate for preserving and producing their own electronically stored information.").

117. *Dynamo Holdings I*, 2014 WL 4636526, at *3.

> petitioners should not be allowed to use predictive coding to respond to respondent's discovery request.[118]

F. Miscellaneous Issues

A number of other issues have also arisen in cases discussing TAR. These have included what an acceptable measure of completeness might be; whether a party using TAR must respond to subsequent rounds of document requests that require it to retrain the TAR tool; and whether the party using TAR can manually review documents that TAR has identified as likely responsive before producing them.

1. Recall Thresholds

Few courts have addressed the issue of what the results of a "reasonable" TAR effort should be. Most of the cases that have addressed this issue have focused on recall, a measure of the proportion (or percent) of the responsive documents in the document population that have been correctly identified by the TAR tool or end-to-end review process.

The court in *Global Aerospace Inc. v. Landow Aviation, L.P.*,[119] approved, over the plaintiffs' objections, defendants' proposed TAR protocol targeting at least 75% recall. The case involved a multi-party action arising from the collapse of three hangars at Dulles Jet Center. Defendants moved for a protective order approving the use of TAR to review approximately 250 gigabytes of ESI, which they estimated to equate to more than two million

118. *Id.* at *4.

119. Case No. 61040 (Va. Cir. Ct. Apr. 23, 2012).

documents.[120] Defendants asserted that, "[a]t average cost and rates of review and effectiveness, linear first-pass review would take 20,000 man hours, cost two million dollars, and locate only sixty percent of the potentially relevant documents."[121] By contrast, TAR would—according to defendants—locate "upwards of seventy-five percent of the potentially relevant documents," at a fraction of the cost and in a fraction of the time of a traditional linear review.[122] Defendants proposed a TAR protocol that would ensure recall—i.e., the fraction of relevant documents that are identified by the TAR tool—of at least 75%, and would give opposing counsel access to documents reviewed in the training, stabilization, and validation processes (with the exception of privileged and sensitive irrelevant documents).[123]

Plaintiffs opposed the motion, arguing that defendants' estimate of the potential review population was overstated because they "copied every file from every computer" without any "attempt to separate the files pertaining to the Dulles Jet Center from the files pertaining to [defendants'] many other business and personal ventures" and, thus, traditional linear review of the files generated by the potential custodians "simply is not an unmanageable task."[124] The court overruled plaintiffs' objections and granted defendants' request, but made its order with-

120. *See* Defs.' Mem. in Support of Motion for Protective Order Approving the Use of Predictive Coding, Global Aerospace Inc. v. Landow Aviation, L.P., Case Nos. 61040, 2012 WL 1419842 (Va. Cir. Ct. Apr. 9, 2012).

121. *Id*.

122. *Id*.

123. *Id*.

124. *See* Opp. of Pls.: M.I.C. Indus., et al., to the Landow Defs.' Motion for Protective Order Regarding Elec. Documents and "Predictive Coding," Global Aerospace Inc. v. Landow Aviation, L.P., Case Nos. 61040, 2012 WL 1419842 (Va. Cir. Ct. Apr. 9, 2012).

out prejudice to any party raising an issue as to the completeness or contents of defendants' document production or the continued use of TAR.[125]

Similarly, in *Independent Living Center v. City of Los Angeles*,[126] the court anticipated that quality assurance would establish a recall rate of 75%, and stated that if the percentage was lower than 75%, then it would have to be brought to the court's attention.

2. Post-Production Challenge

In *Dynamo Holdings II*, the tax court addressed a post-production challenge to the sufficiency of a TAR process.[127] The Commissioner of Internal Revenue argued that the responding party's production using TAR was missing a substantial number of documents found through the use of search terms.[128] The requesting party sought to have the court order the responding party to start over with a manual review to remedy the alleged gaps in the production. The court noted that the parties had worked together to develop a TAR protocol, including how to select and review the seed and training sets.

The requesting party (i.e., the Commissioner) had coded the documents used to train the TAR algorithm and, given the option of different recall and associated precision rates, had selected a recall rate of 95%. The court assumed that the TAR process was flawed, but stated that "the question remains whether

125. *See* Order Approving the Use of Predictive Coding For Discovery, *Global Aerospace*, Consol. Case. No. CL 61040 (Va. Cir. Ct. Apr. 23, 2012).

126. No. 2:12-cv-00551, slip op. at 3 (C.D. Cal. June 26, 2014).

127. Dynamo Holdings Ltd. P'ship v. Comm'r of Internal Revenue, No. 2685-11 (T.C. Jul. 7, 2016).

128. *Id.*, slip op. at 6.

any relief should be afforded."[129] It decided that the responding party had made a "reasonable inquiry" using TAR by producing documents "that the algorithm determined [were] responsive."[130]

The court reasoned that the requesting party's motion was "predicated on two myths,"[131] i.e., that manual human review "constitutes the gold standard" and that the rules require a "perfect response."[132] Specifically, in response to discovery requests, Tax Court Rule 70(f)—which is analogous to Federal Rule of Civil Procedure 26(g)—"requires the attorney to certify, to the best of their knowledge formed after a 'reasonable inquiry,' that the response is consistent with our Rules, not made for an improper purpose, and not unreasonable or unduly burdensome given the needs of the case." The court stated that "when the responding party is signing the response to a discovery demand, he is not certifying that he turned over everything, he is certifying that he made a reasonable inquiry and to the best of his knowledge, his response is complete."[133]

The court concluded that "there is no question that petitioners satisfied our Rules when they responded using predictive coding."[134]

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129. *Id.*, slip op. at 7.

130. *Id.*, slip op. at 9.

131. *Id.*, slip op. at 7.

132. *Id.*, slip op. at 7–8.

133. *Id.*, slip op. at 8.

134. *Id.*, slip op. at 9.

3. Retraining the TAR Tool for Subsequent Document Requests

At least one case has dealt with the issue of whether the responding party can be required to respond to additional document requests after it has already used TAR to respond to a prior round of requests. In *Smilovits v. First Solar*,[135] the court held that defendants' use of TAR in response to plaintiffs' first round of document requests did not confine plaintiffs' document discovery to the first round of requests. The court also noted that defendants had not explained why the search for additional documents required the use of TAR, nor had they provided any concrete information about the costs to "retrain" the TAR tool to deal with subsequent requests.[136]

4. Manual Review Following TAR

In *Chen-Oster v. Goldman, Sachs & Co.*,[137] plaintiffs sought to compel Goldman Sachs to produce all documents hitting on agreed-upon search terms without further review. The court observed that with TAR—the court considered the use of search terms to be a form of TAR—parties can agree to produce documents without human review, but the parties had not done so in this case. The court stated that because Goldman Sachs had not agreed to produce the documents without further human review—and the court had not ordered it—Goldman Sachs was not precluded from reviewing the documents before production.[138]

135. No. 2:12-cv-00555, slip op. at 1–2 (D. Ariz. Nov. 20, 2014).

136. *Id*.

137. Case No. 10 Civ. 6950, 2014 WL 716521 (S.D.N.Y. Feb. 18, 2014).

138. *See id*. at *1.

Similarly, in *Good v. American Water Works*,[139] the defendants proposed a privilege review using both TAR and human review, along with a Federal Rule of Evidence 502(d) claw-back order. Plaintiffs argued that to ensure expedited production, and because of the protection afforded by the 502(d) order, defendants should not be permitted to manually review the documents. The court approved defendants' proposed protocol, finding that "their desired approach is a reasonable one."[140] The court stated that it was approving the protocol "with the expectation that the defendants will marshal the resources necessary to assure that the delay occasioned by manual review" would be "minimized," and the production would be accomplished quickly.[141] The court also stated that if "undue delay" threatened to jeopardize compliance with the discovery schedule, plaintiffs could file a motion requesting that the court reconsider ordering defendants to use plaintiffs' requested approach.[142]

5. Use of TAR in Government Investigations

Some government agencies have accepted the use of TAR for search and review in connection with document productions in regulatory investigations. In August 2015, the Federal Trade Commission issued an update to its Model Second Request for merger antitrust investigations that includes specifications related to the use of TAR in response to Second Requests (requiring that the responding party disclose the specified information

139. Case No. 2:14–01374, 2014 WL 5486827, at *2–3 (S.D.W. Va. 2014).

140. *Id.* at *3.

141. *Id.* at *4.

142. *Id*.

at the end of the process).[143] In particular, the responding party must:

> [b](i) describe the collection methodology, including: (a) how the software was utilized to identify responsive documents; (b) the process the Company utilized to identify and validate the seed set documents subject to manual review; (c) the total number of documents reviewed manually; (d) the total number of documents determined nonresponsive without manual review; (e) the process the Company used to determine and validate the accuracy of the automatic determinations of responsiveness and non-responsiveness; (f) how the Company handled exceptions ('uncategorized documents'); and (g) if the Company's documents include foreign language documents, whether reviewed manually or by some technology-assisted method; and [b](ii) provide all statistical analyses utilized or generated by the Company or its agents related to the precision, recall, accuracy, validation, or quality of its document production in response to this Request; and [c] identify the Person(s) able to testify on behalf of the Company about information known or reasonably available to the organization, relating to its response to this Specification.[144]

Similarly, counsel for the Antitrust Division of the Department of Justice has provided guidance regarding TAR protocols

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143. Fed. Trade Comm'n, *Model Request for Additional Information and Documentary Material (Second Request)*, at 15–16 (revised Aug. 2015), https://www.ftc.gov/system/files/attachments/merger-review/guide3.pdf.

144. *Id.* at 16.

in response to Division investigations, which should be addressed with the DOJ prior to embarking on a TAR-based review.[145] Notably, the Definitions and Instructions section of the DOJ's Model Second Request states the following:

> Before the company or its agent uses software or technology to identify or eliminate potentially responsive documents and information produced in response to this Request, including but not limited to search terms, predictive coding or similar technology, near-deduplication, deduplication, and email threading, the company must provide a detailed description of the method(s) used to conduct all or any part of the search.[146]

145. U.S. Dep't of Justice, *Request for Additional Information and Documentary Material (Model Second Request)*, at 13 (June 2015), https://www.justice.gov/atr/request-additional-information-and-documentary-material-issued-weebyewe-corporation.

146. *Id*.

VI. INTERNATIONAL ADOPTION OF TAR

The use of TAR has been accepted in several foreign jurisdictions.

In Ireland, the Irish High Court in *Irish Bank Resolution Corp. v. Quinn* granted a responding party's motion to use TAR over the objection of the party requesting the production of documents, a ruling upheld by the Irish Court of Appeal.[147]

In England, the English High Court in *David Brown v. BCA Trading* approved the use of TAR over the objection of the requesting party.[148] And in *Pyrrho Investments Ltd. v. MWB Property Ltd.* the parties jointly sought and obtained the approval of the English High Court to use TAR.[149]

In Australia, the Federal Court of Australia in *Money Max v. QBE Insurance Group* issued the first decision of an Australian court addressing the use of TAR. The court ordered the responding party to provide several categories of information about its TAR process and for the parties to meet and confer about any disputes regarding the process.[150] Soon thereafter, in *McConnell Dowell v. Santam Ltd,* the Supreme Court of Victoria issued another opinion approving the use of TAR, which the

147. Irish Bank Resol. Corp. v. Quinn, [2015] IEHC 175 (H. Ct.) (Ir.), upheld by the Irish Court of Appeal (*see Court of Appeal Approves use of TAR for Discovery*, McCann Fitzgerald (2016), http://www.mccannfitzgerald.com/McfgFiles/knowledge/6802-Court%20of%20Appeal%20Approves%20Use%20of%20Tar%20For%20Discovery.pdf).

148. David Brown v. BCA Trading Ltd., [2016] EWHC (Ch) 1464 (Eng.).

149. Pyrrho Inv. Ltd. v. MWB Prop. Ltd., [2016] EWHC (Ch) 256 (Eng.).

150. Money Max Int'l Pty Ltd. (Tr.) v. QBE Ins. Grp. Ltd. [2016] FCAFC 148 at 3-4 (Austl.).

parties had agreed to use and a special discovery master had recommended to the court.[151]

151. McConnell Dowell Constructors (Aust) Pty Ltd. v Santam Ltd. & Others (No 1) [2016] VSC 734 (Austl.).

VII. EVOLVING VIEWS OF TAR

There appears to be some evolution in thinking about TAR since *Da Silva Moore* was decided in 2012. For example, there seems to be an increased comfort level within the legal community with the reliability of TAR, most clearly reflected in the *Rio Tinto PLC v. Vale S.A.*[152] decision in early 2015.

In *Rio Tinto*, the court's discussion reflects that TAR technologies are evolving in ways that may impact some of the issues that have, to date, been controversial in the use of TAR, for example, some requesting parties' concerns about the composition of seed and training sets and the demand for their disclosure.

The *Rio Tinto* court also noted that recent studies have shown that with TAR tools employing continuous active learning, the seed set may have little or no impact, and that as a practical matter, there may be no discrete training sets to share.[153]

The court in *Dynamo Holdings I*[154] expressed similar views to those expressed in *Rio Tinto*; the court rejected the respondent's assertion that predictive coding is an "unproved technology," noting that "the understanding of e-discovery and electronic media has advanced significantly in the last few years, thus making predictive coding more acceptable in the technology industry than it may have previously been."[155]

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152. 306 F.R.D. 125 (S.D.N.Y. 2015).

153. *Id.* at 128 (citing Gordon V. Cormack & Maura R. Grossman, *Evaluation of Machine Learning Protocols for Technology-Assisted Review in Electronic Discovery*, in Proceedings of the 37th Int'l ACM SIGIR Conf. on Research & Dev. in Info Retrieval, at 153–62 (ACM New York, N.Y. 2014), http://dx.doi.org/10.1145/2600428.2609601).

154. Dynamo Holdings Ltd. P'ship v. Comm'r of Internal Revenue, 143 T.C. No. 9, 2014 WL 4636526 (Sept. 17, 2014).

155. *Id.* at *5.

The *Dynamo Holdings I* court added that "[i]n fact, we understand that the technology industry now considers predictive coding to be widely accepted for limiting e-discovery to relevant documents and effecting discovery of ESI without an undue burden."[156]

Whether these evolving views of TAR will translate into widespread adoption in practice remains to be seen. But, further changes in technology are likely to continue to shape and impact the evolution of TAR case law.

156. *Id*.

VIII. CONCLUSION

While the case law reflects a broad consensus that TAR is an acceptable search and review methodology, certain issues regarding the details of its use remain unresolved. The general principles set forth in the cases discussed in this *Primer* should provide useful guidance to courts and parties seeking to use TAR to achieve the goals of Federal Rule 1 (the just, speedy, and inexpensive resolution of legal proceedings) and Rule 26(b)(1) (proportionality).[157] The Bench and Bar should continue to actively monitor research and case law developments in this area.

157. *See* FED. R. CIV. P. 26(b)(1), Advisory Committee Note to 2015 Amendment ("Computer-based methods of searching such information continue to develop, particularly for cases involving large volumes of electronically stored information. Courts and parties should be willing to consider the opportunities for reducing the burden or expense of discovery as reliable means of searching electronically stored information become available.").

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THE SEDONA CONFERENCE GUIDANCE FOR THE SELECTION OF ELECTRONIC DISCOVERY PROVIDERS*

A Project of The Sedona Conference Working Group Series Technology Resource Panel (TRP)

Author:	The Sedona Conference
TRP Leader:	Sherry B. Harris
Drafting Team Leader:	Heather Kolasinsky
Drafting Team Members:	Lea Malani Bays
	Megan E. Jones
	Paul McVoy
	Scott A. Milner

With Input from the Technology Resource Panel
(*See* Appendix E, *infra*)

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PREFACE

Welcome to the next publication in The Sedona Conference Working Group Series, *Guidance for the Selection of Electronic Discovery Providers*. The Sedona Conference is a 501(c)(3) research and educational institute dedicated to the advanced study of law and policy in the areas of antitrust law, complex litigation, and intellectual property rights. The mission of The Sedona Conference is to move the law forward in a reasoned and just way. This effort is an outgrowth of our Working Group on Electronic Document Retention & Production (WG1) and represents the work of the Technology Resource Panel (TRP). The TRP is comprised of "users" of eDiscovery services (from defense and plaintiff firms, corporate law departments, and consulting firms) with input from eDiscovery providers, who registered as TRP members to support this effort in response to an open invitation.

The purpose of the TRP and this paper, as its name implies, is to provide guidance for the selection of an eDiscovery provider that allows the "user" to compare apples to apples, to the extent feasible, which makes it easier for all parties to the process to better understand the nature, cost, and impact of the provider selection process. In the belief that an informed market will lead to reduced transaction costs, more predictable outcomes, and better business relationships, the TRP was formally launched on July 1, 2004, as the RFP+ Group; and its first work product, *Best Practices for the Selection of Electronic Discovery Vendors: Navigating the Vendor Proposal Process*, was originally published in 2005, and subsequently updated in 2007. This paper, *Guidance for the Selection of Electronic Discovery Providers*, supersedes the 2007 paper, as many significant changes have taken place in the eDiscovery marketplace throughout the years. One significant change is the continuing movement toward integration in the provider community offering integrated eDiscovery

services including overall project management, consulting services, data hosting, advanced technologies, and even document review. This paper has a much broader scope addressing all aspects of the eDiscovery lifecycle (as they relate to litigation and investigations). It also takes into account another significant change in the marketplace—the establishment of business relationships in a variety of manners, trending away from the traditional Requests for Proposal for discrete projects. We hope our efforts will be of immediate assistance to law firm attorneys, legal department attorneys, and litigation support professionals who are tasked with the challenge of finding an appropriate eDiscovery provider, as well as to the eDiscovery providers themselves. We continue to welcome comments for consideration for future updates at comments@sedonaconference.org.

On behalf of The Sedona Conference, I want to thank our eDiscovery provider members for their valuable input and financial support of the TRP efforts (*see* Appendix E and www.thesedonaconference.org for a current listing of the TRP members). The Sedona Conference also thanks the TRP User Group drafting team members for their hard work and dedication to this project including Lea Malani Bays, Megan Jones, Paul McVoy, and Scott Milner. Finally, we extend a special thanks to Sherry Harris who leads the TRP, and to Heather Kolasinsky for serving as the Drafting Team Leader.

Craig Weinlein
Executive Director
The Sedona Conference
April 2017

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I. INTRODUCTION

The purpose of this paper is to provide guidance to law firm attorneys, legal department attorneys, and litigation support professionals who are tasked with the challenge of finding an appropriate eDiscovery provider (Provider).[1] This guidance comes in the form of information, sample forms, and checklists designed to provoke thought and provide clarity around the considerations that should be taken into account when trying to identify the appropriate Provider and solution(s) for your specific circumstances. Although there is a trend toward industry consolidation amongst Providers, the overall number of Providers continues to increase. This is perhaps not surprising in light of the growing volume of electronically stored information (ESI), ever-evolving advancements in technology, increased emphasis on ESI in the rules of courts and case law, and the continuing increase in demand for a broader range of services. Among the ballooning number of Providers in the eDiscovery business, there are many that have arrived on the scene by way of expanding their original service offerings. Many Providers that initially focused on offerings such as software solutions, litigation support services, document management services, or forensic services, have widened their focus to include additional eDiscovery disciplines, which has resulted in Providers having considerably different strengths and weaknesses relevant to the project at hand. The need for a process that allows for accurate identification of these differences, and an assessment of the associated risks and rewards, has never been greater.

eDiscovery needs can span the spectrum of services from the anticipated processing, review, and production of two million documents, to data recovery from a recycled laptop or mobile

1. In this paper, Provider includes, but is not limited to, organizations who offer services, software, solutions, or a combination of all.

device, to consulting services for a broad discovery plan, to expert testimony on the accessibility of back-up tapes from 1985. These are a few among many situations that can arise. While the issues associated with individual client matters may seem similar when considered categorically, the circumstances of, and appropriate solutions for, each of those eDiscovery matters is quite different. eDiscovery, like most aspects of litigation, is not well-suited to a cookie-cutter approach. Accordingly, the information, sample forms, and checklists herein are provided for guidance only.

The scope of this paper is intended to address the selection of Providers throughout all phases of the eDiscovery process, whether through a formal request for proposal (RFP) process or by a more informal request for information (RFI) (both formal and informal processes are hereinafter referred to as "Information Request"). To select the "best" Provider—and realize the most value—the organization should fully understand the scope of its needs. We trust that the Provider evaluation process described in this paper will assist users in framing not only the process for selecting Providers, but also the process for defining the parameters of the eDiscovery process itself. The greater the degree of detail defined in advance with regard to the scope and requirements of the need, the easier the process. Determining specific needs may well save a lot of time and money in the long run—for both the Provider responding to the Information Request, as well as the person evaluating, reviewing, and normalizing the responses. Responding to an Information Request is a time-consuming and expensive process for Providers, and it is unreasonable to put Providers through the task of responding to an Information Request before determining that there are no legal or business conflicts that would preclude the Provider's retention to provide the services described in the Information Request. This is also true for the party issuing an Information

Request (Requestor); the time it takes to evaluate, review, and normalize Information Request responses is substantial.

As Comment 6.e. of *The Sedona Principles, Third Edition: Best Practices, Recommendations & Principles for Addressing Electronic Document Production* notes, "[d]iscovery counsel, consultants, and vendors offer a variety of software and services to assist with the electronic discovery process and a party's evaluation of software and services should include the defensibility of the process in the litigation context, the cost, and the experience of the discovery counsel, consultant or vendor, including its project management and process controls."[2] Each of these issues must be evaluated thoroughly, and later weighed against each other in selecting a Provider that is appropriate for the defined need(s). It is also critical that the process employed throughout every phase of the eDiscovery process, including the selection of a Provider, will have well-defined due diligence and be well documented in order to be defensible in the event of a challenge.[3]

The guidance provided herein is intended to be scalable to assist all constituents, from solo practitioners, to attorneys and litigation support professionals in global law firms, to in-house attorneys, with scope extending to small projects, large projects, or portfolio-type engagements. Indeed, the volume of ESI will be very material and may drive much of the Provider evaluation and selection process. In addition to the volume of ESI, there are

2. THE SEDONA CONFERENCE (2017 Public Comment Version), https://thesedonaconference.org/publication/The%20Sedona%20Principles.

3. *See generally* The Sedona Conference, *Commentary on Defense of Process: Principles and Guidelines for Developing and Implementing a Sound E-Discovery Process*, THE SEDONA CONFERENCE (2016 Public Comment Version), *available at* https://thesedonaconference.org/publication/The%20Sedona%20Conference%20Commentary%20on%20Defense%20of%20Process (providing an in depth discussion of defense of process).

many other issues to be considered when evaluating and selecting eDiscovery Providers, such as these:

- The type of the matter
  - Investigation: internal or government
  - Litigation: multidistrict litigation (MDL), class action, single plaintiff
  - Third-party subpoena
  - Second request under the Hart-Scott-Rodino Antitrust Improvements Act
- The type(s) and source(s) of ESI
  - Email
  - Microsoft Office application files; e.g., Word, Excel, PowerPoint
  - Portable Document Format (PDF)
  - Hypertext Markup Language (HTML)
  - Structured data; e.g., database ESI
  - Compressed files; e.g., .ZIP
  - Mobile device data; e.g., smartphone, tablet
  - Wearable device data; e.g., smart watch, wireless activity tracker
  - Social media or other cloud-based data sources
  - Audio or video files
  - Image files
  - Proprietary format files
- Proportionality analysis considerations
- International discovery considerations, such as data privacy, or foreign language review or translation issues
- Time constraints

The timing of the evaluation and selection process is very important. The phases of the eDiscovery process—identification, preservation, collection, culling, analysis, processing, review, and production—take time and are not necessarily linear. The time involved is often dependent on the volume of ESI. If a party delays engagement of a Provider, there is increased risk of missing deadlines or driving up costs to expedite any of the phases. Judges do not look kindly on parties who create delays in the eDiscovery process. For this reason, being proactive has its benefits. Consider whether entering into a preferred relationship with a Provider is the right option to give the Provider time to get familiar with the organization and types of data while you have time to get familiar with the Provider's services and capabilities. This expedites the "getting up to speed" phase for each matter.

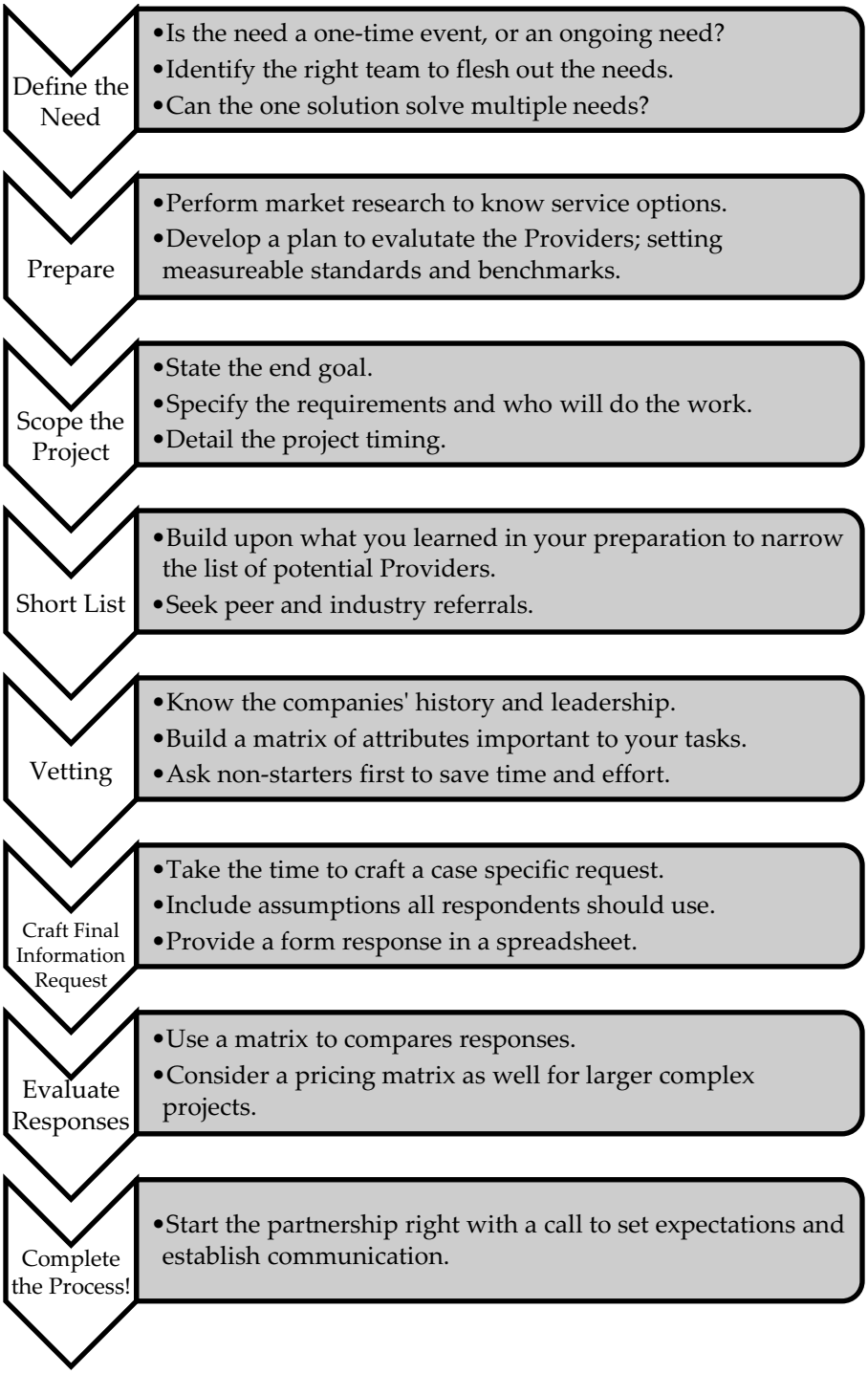
It is also highly advisable for those in positions of making decisions with regard to eDiscovery services and Providers to stay aware of the market and of emerging trends, whether there is an impending need or not. This will also help minimize the ramp-up time needed to identify potential Providers when matters do come up.

Providers, like law firms and corporations, run the gamut in terms of size and capabilities—from self-employed individuals who specialize in one particular area, such as computer forensics, to subsidiaries of publicly-traded corporations that handle many aspects of the eDiscovery process. The process of paring down the universe of possible Providers and comparing their services and software offerings can be overwhelming, especially if there is no systematic way to request, compare, and evaluate the information necessary to make a selection. Input from a consultant who has experience in the evaluation and selection of Providers may be needed to identify and engage an appropriate Provider, thereby streamlining and expediting the process.

This paper includes the processing of traditional paper-based documents in the evaluation process because it is inevitable that the discovery of paper-based documents will continue to be a part of the discovery process for some time. It is important that paper and ESI be treated in an integrated manner, to the extent possible. Recognizing that paper documents will be around for a while, many Providers incorporate features to support the review and production of paper-based documents into their tools.

It is also worth noting that the challenge of choosing among competing Providers in the eDiscovery arena is exacerbated by the lack of standards and uniform processes across the industry. In fact, many Providers consider their processes and methodologies to be proprietary and zealously guard them. The lack of transparency in these proprietary processes can make the "defense of process" prong of our analysis more difficult than it would be otherwise. However, because the party (whether plaintiff or defendant) will ultimately be responsible for the production of relevant information, it is critical that the processes employed be understood and defensible.

A flowchart is provided below to lead you through the primary steps of the process discussed in this paper.


Define the Need
•Is the need a one-time event, or an ongoing need?
•Identify the right team to flesh out the needs.
•Can the one solution solve multiple needs?
Prepare
•Perform market research to know service options.
•Develop a plan to evalutate the Providers; setting measureable standards and benchmarks.
Scope the Project
•State the end goal.
•Specify the requirements and who will do the work.
•Detail the project timing.
Short List
•Build upon what you learned in your preparation to narrow the list of potential Providers.
•Seek peer and industry referrals.
Vetting
•Know the companies' history and leadership.
•Build a matrix of attributes important to your tasks.
•Ask non-starters first to save time and effort.
Craft Final Information Request
•Take the time to craft a case specific request.
•Include assumptions all respondents should use.
•Provide a form response in a spreadsheet.
Evaluate Responses
•Use a matrix to compares responses.
•Consider a pricing matrix as well for larger complex projects.
Complete the Process!
•Start the partnership right with a call to set expectations and establish communication.

II. DEFINING AND UNDERSTANDING THE NEED AND THE PROCESS

The search for a Provider begins with the identification of a need. The need can be a new matter (investigation or lawsuit), a desire to standardize an existing discovery workflow, or a desire to outsource the discovery process altogether. It should be determined whether the need being defined is for an ongoing partnership or limited to a specific project-level need. An initial search for Providers may not necessarily lead to the same short list every time, because the goal is to find the best fit—a Provider suited to both the organization and the particular need.

Potential categories in which the need may fall may include one or more of the following:

- A technology solution—licensing or acquisition of an appropriate software solution or eDiscovery tool or platform, including:
    - a solution that is hosted by the Provider, aka cloud solution, better known as a Software as a Service model (SaaS); or
    - a solution that is hosted by the Requestor/licensee on its own servers.
- Engagement of a Provider for transactional needs such as these:
    - Data preservation/collection
    - Data recovery/forensics
    - Data processing/hosting/production/delivery
    - Document review (law firms, staffing providers, managed review, legal process outsourcing (LPO))
    - Complex searching and tagging
    - Advanced analytics support

- Consulting/professional services/expert testimony
- Other eDiscovery services

The need should not be defined by a single individual or department, but rather by consensus of those with a vested interest in the process and outcome—all stakeholders to the process. For example, when an organization's law department is looking to license a technology solution, it would make sense for the law department to include internal stakeholders such as Information Technology (IT), Security, Compliance, and Procurement/Sourcing, and external stakeholders such as outside counsel. Another example would be when a law firm is looking for a data hosting solution, where it would make sense for the law firm to include internal stakeholders such as the law firm partner, associates, and/or staff who manage complex matters and eDiscovery projects; the firm's litigation support manager; and possibly the client. Defining the need can only be accomplished by having a thorough understanding of technology and the end-to-end discovery process. If those involved do not have a thorough understanding, they should engage someone, such as an independent, technology-neutral consultant, to assist in the process. Whether you hire a consultant or engage in a conversation with your peers, it is good practice to identify others who may have had the same need, and obtain their input, suggestions, and recommendations.

In addition, there have been several recent cases across jurisdictions,[4] as well as secondary authority,[5] that speak to attorney

4. *See* HM Electronics, Inc. v. R.F. Technologies, Inc., 2015 WL 4714908 (S.D. Cal. Aug. 7, 2015); FDIC v. Horn, No. 12-CV-05958, 2015 WL 1529824 (E.D.N.Y. Mar. 31, 2015).

5. *See* Amendments to the ABA Model Rules, state bars issuing ethics opinions, and judges commentary in published interviews, as more thoroughly discussed in The Sedona Conference, *Commentary on Ethics &*

competency in the discovery process. Attorneys are expected to be, or work closely with those that are, knowledgeable of the discovery process, including the eDiscovery workflow. This includes the selection and management of Providers. Attorneys are not able to hide behind a veil of ignorance to shield themselves or their clients from mistakes committed by their Providers, but rather an obligation exists to be proactive and ask questions to better understand the process.

Finally, it is critical that the stakeholders to the process all have the same understanding of eDiscovery terminology in order to effectively define the need. *The Sedona Conference Glossary*[6] will be most valuable in this regard.

Once the need is defined, prepare a concise and specific summary to provide to, and discuss with, potential Providers as they are identified.

Metadata, 14 SEDONA CONF. J. (2013), *available at* https://thesedonaconference.org/publication/The%20Sedona%20Conference%C2%AE%20Commentary%20on%20Ethics%20%2526%20Metadata.

6. The Sedona Conference, *The Sedona Conference Glossary: E-Discovery & Digital Information Management, Fourth Ed.*, 15 SEDONA CONF. J. 305 (2014), *available at* https://thesedonaconference.org/publication/The%20Sedona%20Conference%C2%AE%20Glossary.

III. PREPARING TO ENGAGE A PROVIDER

The Information Request can either be a formal RFP process, whereby a standard set of questions is sent to a list of potential Providers, or a more informal gathering of information. For whichever method is used, proper planning is important to the success of the selection effort.

Like many processes, there is no need to start from scratch each time; a useful strategy in the eDiscovery procurement process is developing a framework for procurement. An effective framework provides structure and ensures standardization around gathering and compiling Provider information, evaluating and selecting Providers, streamlining the contracting process, and managing the Provider engagement for the organization. Many large organizations or organizations that outsource many business functions often establish a procurement office to handle all aspects of procurement management. Although participation from a procurement office would be optimal, an organization does not need to have a formal office to establish a procurement framework, as the eDiscovery procurement framework can be narrowly tailored.

A. The Information Gathering Phase for Identifying Service Providers

The first step in establishing an eDiscovery procurement framework involves developing workflows and mechanisms to identify, gather, organize, and quickly retrieve information about Providers. The best framework has a filtering mechanism in place that allows the Requestor to quickly identify Providers based on the business requirements for which they are seeking services. A common best practice is establishing a Provider database that includes Providers' contact information, services, capabilities, and past experience. The database can be created by gathering information from Providers that solicit your business,

even before there is a need. Taking the time to evaluate the Providers in advance of a specific need will enable an organization to get to know the players in the space and get to know those that may be good partners at some point in the future. Having this mechanism and an organizational procedure in place to easily capture Provider information, outlined in more detail in Section V, will help you quickly build a short list of Providers from whom you can gather additional information.

B. The Evaluation Requirements Phase

The second step in developing a procurement framework is to identify the evaluation requirements for common eDiscovery services needed by your organization. There are many aspects of evaluation that can be established in advance of receiving proposals or even sending out a proposal request. The most successful eDiscovery proposal requests use established standards and criteria that are already in place within organizations, to the extent they exist. It is critical to use the same criteria for all Providers within the same categories. Having established repeatable processes for each phase of eDiscovery will help define consistent standards for choosing Providers for the desired category. The benefit of using criteria that are established by the organizational standard practices helps certify that the Provider is performing according to the organization's processes and standards. In addition, this approach provides an easy mechanism to compare Providers offering similar services for active projects. This is particularly important for law firm organizations who are soliciting Providers across clients and matters.

C. The Service Provider Onboarding Phase

The third step is to develop or, to the extent an organization already has a process, streamline the process for engaging and onboarding the Provider once chosen. In many cases, a contract process might already be established within the organization

outside of the eDiscovery or IT business unit. This process involves identifying the common contracting requirements and developing a workflow that pushes the contract through to internal stakeholders that must sign off on any Provider engagement. The most common requirements in eDiscovery are often related to risk management, such as having a standard nondisclosure agreement—sample provided at Appendix A, *infa*—and making sure that the Provider meets the organization's security, insurance, or malpractice insurance requirements. Establishing a workflow will help with role definition during the procurement phase and reduce the risk and wasted time finalizing the contract to begin work, which is critical in most eDiscovery projects.

D. The Monitor, Control, and Completion of Engagement Phase

The final step in establishing a procurement process is ensuring that you have standard processes in place to monitor, control, and finally close-out the Provider engagement. This is often an overlooked function within the eDiscovery procurement process, but it is important to certify that the Provider has met the business requirements outlined in the initial project requirements and established in the contract. The three critical factors in establishing a Provider management process are service-level agreements, key performance indicators (KPIs), and Provider knowledge management. Once a contract is established there should be a communication plan in place that includes regular and postmortem feedback to Providers providing the service or technology. Once a contract is closed, any information surrounding the solutions or services provided should be transferred to the appropriate knowledge management areas in order to manage risks as well as inform the Provider selection process for future engagements. Once you have a procurement process in place you should be able to effectively apply that process consistently to all requests for proposals, minimizing the time and

effort to complete any individual proposal requests, very often important to the eDiscovery process.

The procurement process might not always result in a contract or formal agreement. Regardless, there should be some written agreement as to the terms that have been agreed upon in the engagement process, which would include the topics outlined above.

IV. SCOPING THE PROJECT

A successful procurement of eDiscovery solutions is defined by matching the right services to the appropriate business need. The best way to ensure that the right information is being populated into the proposal request and ensure a successful evaluation and selection is to thoroughly scope the business requirements of the project, meaning that you clearly define the parameters for the work for which you are seeking a solution. Scoping a project answers the following high-level questions:

- What are the time constraints of the case/project?
- What is the expected outcome?
- What are the specific requirements for and constraints to getting it done?
- What does a finished project look like?
- How will it get done?
- Who will do it?
- When does it need to be done?

These are questions that should be reviewed in conjunction with other factors such as project size, types of services needed, time frames, and minimum requirements. In addition to answering these questions, another goal of scoping is getting the critical stakeholders to agree on the answers to these questions before the proposal request is developed.

A. Project Lead and Team

The first step in scoping an eDiscovery project is assigning a team lead or project manager and building a cross-functional project team. Services, technologies, and solutions within the eDiscovery industry are vast and constantly changing. The person managing the eDiscovery procurement process—as well as the overall project—should be an educated consumer of the services and have direct, timely access to the project sponsor, the

client, and/or any other decision makers. This person or group must be able to grasp the specific eDiscovery business needs, and be knowledgeable of solutions and services offered by the eDiscovery industry as a whole. The project may require knowledge of collection techniques, analytics, or assisted review, so be sure to choose a leader who has the necessary understanding of those tools. If that person does not already exist within the organization, consider: (a) retaining an eDiscovery expert or consultant that can help guide the entire eDiscovery process, including the procurement phase; or (b) networking with others in your field to learn from their successes or missteps. A knowledgeable project manager or consultant can act as the single point of contact and ask the correct questions of potential Providers to ensure the right tools will be available, utilized, and supported.

Equally important is developing the "right" project team—depending on your organization and project goals—comprised of a cross-functional team of stakeholders and decision makers that are responsible for the lifecycle of the eDiscovery project and the successful engagement of the eDiscovery technology or service. If in-house, consider including representatives from Legal, IT, Compliance, Risk Management, Procurement, and eDiscovery Support. For law firms, consider including representatives from your client, eDiscovery or Litigation Support Group, IT, and appropriate litigation attorneys and/or staff. These project teams help with business unit diversity to ensure that all business needs are met, but more importantly that all risk factors and constraints are considered. Services for a single matter will usually need fewer team members than an enterprise solution that will be used across many matters.

Often, soliciting existing Providers of some or all of the services currently being sought can be extremely valuable in crafting a proposal request. If applicable, existing Providers may

shed light on processes that exist, but are not represented or commonly known by stakeholders.

In those instances where an attorney is soliciting services on behalf of their client, it is often important to include a liaison from the client to ensure that the client is involved and their requirements are being met. Likewise, when an organization is seeking an enterprise solution, or a solution that has high cost or risk, it becomes necessary to the scoping process to have a C-level champion take on the role of project sponsor.

B. Clarifying Needs

The next step in scoping an eDiscovery project is defining the organization or project environment where it will be used and how to meet the organization's business needs. Is the solution needed for in-house counsel, a single practitioner, a law firm, or on behalf of a client? Is the solution to be used internally or externally? Is it a technology, a service, or a combination of both? Is the solution enterprise-wide or matter-centric? Keep in mind law firms and in-house counsel commonly seek enterprise or matter-centric solutions for their specific eDiscovery needs, but enterprise solution and matter-centric solutions differ within these organizational constructs. A law firm enterprise solution is often utilized with multiple clients across varying litigation profiles and business needs, while in-house counsel's enterprise solution is usually adopted to address a specific problem that is common across matters. Matter-centric solutions address the specific eDiscovery needs for a specific matter for both types of organizations. However, a law firm or a single practitioner soliciting the solution on behalf of the client for a specific matter requires an extra layer of communication and approval for each defined problem and solution. Any combination of organizational structures and categories of solutions informs

heavily and should be included as part of the business requirements for the proposal request.

C. Define Requirements

The third step in scoping the project is documenting the business problem and defining the requirements for the solution as well as any possible constraints. The problem to be solved by this procurement must be narrowly defined so that operating requirements and constraints can be defined and documented as specifically as possible in the proposal request. Often times organizations send out omnibus eDiscovery proposal requests that are either too broadly defined or try to cover every eventuality. Not only is it very difficult to respond to these requests, but it is also impractical to effectively evaluate responses. A better practice is to define the eDiscovery need(s) and send a request out for that specific function; sometimes this might require several requests for different phases of the eDiscovery process. The requirements for a solution that meet a business need are both functional and non-functional. The requirements may include the business process, level of service, performance, security, compliance, supportability, retention, disposition, and quality. When looking at the requirements for a proposed solution to the business problem, again, it is important to collaborate with the project team, sponsor, and client to determine the priority of the requirements and any project constraints related to budget, schedule, and available resources. When possible, clearly communicate constraints, such as timing and budget, in your proposal request to help minimize responses from Providers that cannot work within these constraints.

D. Define and Confirm Project Goals

The final step in scoping the project is getting agreement among the client, sponsor, and project manager on the project goal. Documentation regarding the goal not only includes the

vision of what the final product or service will accomplish, but also any identified criteria that can help measure the success of the eDiscovery project, technology, or solution. Here, be sure to list the items the solution must accomplish so that those can each be addressed. In addition to an agreement on goals and success criteria, the key stakeholders have to agree and ultimately approve the procurement. It is important to note that during the eDiscovery procurement process, there are often gaps in key information that may be needed to establish the business requirements. At this point, the project manager and project team must fill those gaps with informed assumptions. If making assumptions is necessary to identifying the business requirements, then the project manager must get buy-in from all stakeholders who must also agree on those assumptions. Defining the end goal of the project is not only key to the success of the project, it is key to successfully evaluating the proposal responses. Once you have clearly defined the business problem, project requirements, constraints, and success criteria, and these have been agreed to by the relevant stakeholders, the formal proposal request process itself can begin.

The best scoping process not only helps the project team prepare a proposal, but it is also extremely helpful to the Provider trying to respond to an Information Request. Providers will usually have a number of solutions and can tailor their suggested solutions better if they clearly understand what is being requested and why.

V. DEVELOPING THE SHORT LIST OF PROVIDERS

The identification of the right Provider for a specific job could begin long before the job has even been scoped. Taking the time to stay abreast of Providers, new tools, new workflow approaches, and technology will assist greatly when the need to find a specific solution for a project arises.

Once a project or need has been identified, how do you identify the "right" Providers to invite to this process? There are several ways to become generally educated and to begin collecting information[7] about potential Providers who may be able to assist with a tool or service, so it does not need to be random. With all the available choices, merely requesting technical literature, case studies, and mission statements may not be enough to assist you in narrowing down the very large number of Providers out there. Determine if it makes sense to seek proposals in a multi-step process—such as starting with a brief, more general Information Request likely to result in a larger list of potential Providers to evaluate, followed by a more detailed Information Request to a smaller list. This multi-step process can significantly reduce the time required for both the Requestor and the Provider in the selection process.

Combining these techniques with the following recommended methods will go a long way toward refining the list of possible Providers to participate in the process:

- **Seek out referrals.** Whether you are in-house or at a law firm, "word of mouth" discussions are an invaluable resource. This can include:
    - talking with your litigation support, practice support, practice technology, IT, or procurement departments;

7. *See supra* Sect. III.A. (addressing establishment of a Provider database).

  - discussions with your business partners;
  - engaging an independent consultant;
  - talking with your peers at other companies or law firms;
  - talking with existing Providers who may not provide the services for the particular problem or need; and
  - conducting a survey of your in-house or law firm colleagues or law firms (if you are in-house) to seek specific feedback on Providers—both positive and constructive.

- **Attend and participate in associations, seminars, conferences, and tradeshows.** There is often ample opportunity for face-to-face meetings with peers and Providers at these events. This is a great opportunity to benchmark, knowledge share, and have candid conversations about what Providers and technologies are hot or what emerging trends are out there. Your time with Providers may be an opportunity to start to forge relationships, meet people who may be your account managers or project management teams, and participate in live product demonstrations.
- **Other resources**. There are many publicly available resources that contain an incredible amount of collected Provider information all in one place to help guide the selection process. These include industry websites, industry groups, industry news blogs, industry magazines (such as LegalTech News (LTN)), and industry surveys about Providers.

In short, just like there is no shortage of Providers, there is also no shortage of available information that can assist in the process of identifying the right potential tool or service/solution and Provider.

VI. VETTING SOLUTIONS AND PROVIDERS

A. Making the Cut: How to Select Providers for the Short List

The following Section contains suggested information to request from Providers during early discussions in order to identify a smaller group of strong candidates to focus your attention on when seeking more detailed information or going so far as crafting a more formal Information Request. The number of Providers selected to receive the final Information Request may vary greatly from project to project, but generally speaking, those selected to respond should all be viable contenders. This section outlines the information to consider requesting from each Provider, tailored and weighted according to the project at hand. See the Sample Information Request at Appendix B, *infra*, and the Sample Decision Matrix at Appendix D, *infra*.

Keep in mind that this is a time-consuming process for the Provider, and it is unreasonable to request a proposal from a Provider that is not truly in the running, not to mention time consuming for you to review responses that are not really needed. The use of a decision matrix or other scoring tool to evaluate preliminary Provider responses is helpful in identifying a list of qualified Providers to be included in the Information Request. The template at Appendix D should be customized for evaluating both preliminary and final responses to the proposal process.

It must also be noted that your Information Request, whether through dialogue or a formal process, should only seek answers to questions germane to the project that was scoped as outlined above. For example, if the matter does not deal with foreign language or data, you do not need to inquire about those qualifications, as negative answers to those questions may only cast misguided doubt as to a Provider's qualifications.

B. Provider Background

A responsibility exists to investigate the reputation and integrity of the Provider being considered and to ensure that they offer the kinds of products and services required. Presumably, those selected to receive a proposal request have been vetted for the basics prior to their inclusion in the list of possible Providers or they have been identified as a possible Provider based on factors as outlined in Section V. Seek and evaluate basic background information about the Provider, the personnel, and the product or service that they are offering. Consider requesting client references and contact them—both references identified by the Provider as well as those potentially identified by others that have used the Provider's products or services.

1. About the Provider

Any potential Provider should be stable and known to provide quality service. These are not, on the whole, subjective qualities; it should not be difficult to determine a Provider's reputation and viability. Nonetheless, it pays to ask for details and evidence, such as the following:

When was the Provider founded and by whom? Have they been around long enough or do they have the reputation of being able to deliver what you need? An older Provider may be more likely to be stable and established, but it is possible that a "younger" Provider may offer a solution unique to your problem. You may also ask about revenue for past consecutive years to determine financial stability.

To the extent a Provider cannot meet your needs, what is their policy on subcontracting and partnering? Who are their current partners and subcontractors? It is important to understand what services and products the Provider will handle directly, and what will be handled by another party. Use of third

parties can introduce new risks and costs which you will need to evaluate based on the circumstances.

How many staff members does the Provider have with expertise in your specific project area? Knowledgeable experts can ensure that the services and products are implemented in a way that is a best fit for your particular needs. Even if you do not require their assistance at the outset of a project, Provider experts may be valuable team members if issues later arise.

Do they have a track record for providing the specific product or service required? Age of the Provider alone may not be enough for you to determine how established a particular product or service is. In particular, you may wish to know how much experience the Provider has applying particular products and services to clients or cases similar to the Requestor's. Also know that many Providers that were scanning and coding operations yesterday claim to be experts in eDiscovery today; as with the selection of any expert, one must get behind the representations.

How big are they, both in dollar volume and personnel? How transparent is the pricing? How will pricing be affected if the matter changes in scope? In certain cases, a local Provider with the right expertise and/or product and a good track record may be just as appropriate as a larger Provider.

Ask for client references, and use them (nondisclosure agreements may prohibit disclosure of some references). Use research groups such as Gartner or Forrester for general information about market leaders. Where available, take a look at prior testimony and court opinions involving the Provider. Remember, it is possible the Provider may need to testify regarding the transparency, metrics, or methodologies of the process. As with law firms, remember that retention also involves retaining a specific person or team as well, not just the "company." (See About the Personnel below).

Find out about obligations, representations, and warranties to ensure that the Provider is qualified to do what they say they do and that they aren't doing the same job for an adversary, can guarantee confidentiality and the appropriate safeguards for information, and are reputable in pricing and bidding practices. The Provider should have an adequate process for determining conflicts of interest.

Where is the Provider located, and where are their products and services available? The physical location(s) of the Provider may or may not be an issue, depending upon the type of service they provide.

Can the data be handled without altering metadata? What technologies are used that will prevent spoliation of metadata? Are data and date fields normalized? Data integrity is a basic component of all e-discovery projects.

What safety and security measures does the Provider use to protect data? This is especially important for electronic data involved in litigation where chain-of-custody issues are a concern. Does the physical facility of the Provider provide the appropriate disaster recovery ability? Is there a fully-enabled back-up site? If the Provider is providing a website, is it sufficiently secure and safe from viruses and hackers? What certifications does the Provider have relating to data security? What is the Provider's data retention policy, and what measures does it use to delete data at completion of a project? Asking the Provider to describe in detail existing virtual and physical security capabilities in the proposal request will allow assessment of which Providers most closely conform to the solution requirements.

These are issues that each Provider should be asked to address in detail in a proposal request, and possibly more generally before being considered for a project.

2. About the Personnel

General background information about a Provider is one thing, but a background check should include, more specifically, information about the people who work there and those who may work on the project at hand or as part of your relationship engagement. What is the experience level of the personnel, both generally and specifically, with your requested service? Will the team assigned be dedicated to you and your project? Will they staff your matter with the appropriate skill set? Have personnel been appropriately screened for security? In some cases, a criminal record and background check for all Provider personnel may be necessary. Are security clearances required? If so, inquire plainly as to certified personnel, the levels of their certifications, and what role those individuals will fulfill for the project. Are personnel located in the United States or overseas? The data in some cases may be subject to certain security regulations and the transfer of that data outside the physical border may be prohibited. Do they have the collective expertise to handle and are they available for the project at hand? Sometimes a Provider's success can result in work overload that may impact delivery of the service. If time is of the essence for your project, ask pointed questions about delivery dates and whether the Provider is willing to guarantee such dates in writing. Will the Provider need to hire new, possibly inexperienced or temporary staff to handle the work? It is important to have the ability to approve personnel working on your project and the ability to retain the same personnel for the length of a project. Will they need to subcontract any part of the work? It is important to understand the current capacity and workload of the Provider, as well as personnel turnover, to help you evaluate the Provider's ability to meet agreed-upon service-level agreements and the consistency of the team assigned to you.

If your matter is going to require testimony from the Provider, it is best to determine if the Provider has personnel with that type of experience. What has been the outcome? Are there copies of the testimony or expert affidavits that can be shared?

3. About the Provider's Processes and Philosophy in Delivering Services

It is also important to know the project management approach (process) of a Provider. Although this may vary depending upon the type of product or service, project tracking and client communication is an important consideration. A dedicated project manager, or at the very least a single liaison or point of contact, should be available to manage and troubleshoot so that conflicting messages do not exacerbate existing problems and lead to deadline or quality issues. This also allows you to set up a communication plan that includes project milestones and progress reporting. It is important to have the right to request removal of personnel if they are not a proper fit for the project.

In addition, Providers may provide general support for their products and services, beyond a project manager. You should understand what support services are available, how they are staffed, when they are available, and what the cost will be for those services.

4. About the Product or Service

Notwithstanding the quality of the Provider and personnel, the Provider must also have the goods to provide and support the product or service they sell. Do they use their own software or resell or license software from a third party? Have the Provider's products and services been validated by a court? Not all products and services are created equal. You should not assume just because a Provider is using an "industry standard" product that they support it or set it up the same way; many products

allow for customization and it will be important to understand this from your Provider. Again, client references and Gartner or Forrester resources may shed valuable light on Provider product/service performance. Assuming the Provider's product or service can live up to their claims, how good are they at providing the appropriate level of quality assurance? Do software and systems need to be upgraded on a regular basis? Will the software be inaccessible during these upgrades, and when do they generally occur? Do the technologies they use have unanticipated dependencies that must be otherwise supplied, such as network, operating systems, capacity, or compatibility issues? Are there any refunds for a technology not meeting a certain uptime guarantee?

Up-front work in preparation of the proposal request should detail as many technical concerns and specifications as possible to give the Provider the opportunity to anticipate potential glitches. Remember that the proposal request is a two-way street—the request is just as important as the response. The more explicit and detailed the description of the project, the better the chance the Provider has to recognize and realistically address potential limitations. Mapping out the expected processes and workflow, and subsequently tracking changes, is recommended, particularly in the event testimony may be needed (it's always good to be able to demonstrate how hard you worked to do it right). Most Providers also welcome the establishment of a communications protocol, with scheduled progress reports containing specific metrics, together with a protocol for reporting and resolving unanticipated changes, delays, or other issues.

In addition to the basic information described above, eDiscovery projects pose additional areas of concern. It is important to request information to ensure understanding of the following about the potential Provider:

Maintenance of Document Integrity: This is an important evidentiary consideration. The Provider should describe what is done to ensure that: (a) a document has not been changed during processing; (b) steps are taken to normalize data and date fields; and (c) the "processed" document can later be compared to the original item received by the Provider. Again, a detailed description of the process can help track chain of custody and ensure preservation of content. The Provider should confirm as part of that process that a complete, exact copy of the data is securely stored, in case something does go wrong or is challenged.

Amenability to Escrow: For a large, long-term project, it may be important to escrow any software code, together with instruction manuals and other documentation, to guard against problems in the event the Provider becomes financially unstable or is purchased by another entity with which there may be a conflict of interest.

Expert Testimony Experience: In eDiscovery matters, the Provider may need to be a participant in the litigation. It is advisable to ensure that the Provider has a spokesperson with appropriate expertise who is comfortable on the witness stand to attest to the integrity and transparency of all processes and quality control. It may also be desirable to shield this potential testifier from attorney-client privileged or work-product protected information throughout the process to ensure that such information does not become discoverable by virtue of this expert testimony.

Subcontracting: It is important to understand that the Provider has both fiduciary and confidentiality obligations to the client, and, as such, it is important for the Provider to disclose all possible subcontracting relationships that may be planned or anticipated during the lifecycle of the project. It is important that

a process be established for disclosure and approval of any sub-contracting, and that all sub-contractors are named as additional insureds on any required insurance policies. In addition, the Provider and all subcontractors should be prepared to certify that they are free of conflicts. Requestors may wish to reserve the right not only to approve the use of subcontractors but also the right to terminate or replace a subcontractor. Requestors may also wish to reserve the right to dictate both billing and project management logistics, to the extent necessary. The quality of work performed by the subcontractor should be in keeping with industry standards. The criteria used in selecting primary Providers should be taken into consideration when vetting subcontractors as well, e.g., subcontractors should be held to the same security standards as the Provider and should be subjected to the same security vetting process as that used to vet primary Providers.

Provider Background: A List of Considerations Regarding Potential Providers

PROVIDER BACKGROUND		
ABOUT THE PROVIDER		
Area of Concern		***What to Ask About***
Provider Stability	*Where the Provider has been in business for more than one year, they should have proven experience providing the required services.*	▪ **Provider Age** Information regarding the establishment of the Provider, as well as any mergers or consolidations, and number of years doing work similar to your project. ▪ **Financials** Taxpayer identification and financial statements for the last three years, as well as bank references. Also consider requesting information regarding any pending lawsuits against the Provider. These items may not necessarily be made available at the initial stages of the process and/or from privately held Providers depending on the parties and the situation. Bank references and client references are also helpful if financials are not available. ▪ **Provider History and Performance Information** A description of the Provider's background and expertise in the areas covered by the Information Request, including years of experience, past projects, and performance. Strategy and timeline for attaining or maintaining Provider's place in the future market space.

PROVIDER BACKGROUND		
ABOUT THE PROVIDER		
Area of Concern		*What to Ask About*
		▪ **Number of Salaried Personnel** The number of salaried personnel (vs. hourly workers or subcontractors that are hired on a project-by-project basis) could be a good indicator of a Provider's financial health. What proportion of the sales, consulting, and development personnel are salaried vs. hourly? ▪ **List of Key Clients** Key clients of the Provider who represent over 10% of the Provider's revenue. Providers with only one disproportionally large client could present stability concerns should that client business be lost.
Provider Quality	*The Provider should be able to provide information that will show a proven track record of successful projects and satisfied clients.*	▪ **Client References** Names of clients for whom the Provider has performed services similar to those required. (When requesting references, ask for a general description of the scope of the project and the value achieved by the client, as well as project timelines.) ▪ **Past Performance Information** Information about clients that were satisfied with the outcome of the project, project management, deadlines, fee arrangements, quality control, and perceived integrity. ▪ **Client Retention Rate** Percentage of clients that are retained year after year.

PROVIDER BACKGROUND		
ABOUT THE PROVIDER		
Area of Concern		***What to Ask About***
		▪ **Products and Services Offered** List of all eDiscovery products and services offered by the Provider, and the percentage of Provider's revenue for each.
Provider Obligations, Representations, and Warranties	*The Provider should have sound business practices for their own and their clients' protection, and be willing to adhere to liability and confidentially standards.*	**Proof in Writing of the Existence of:** ▪ Insurance and licenses ▪ Any potential privilege and/or conflicts issues ▪ Confidentiality guarantees ▪ Pricing methods ▪ Non-collusive bidding assurances ▪ Applicable policies such as Foreign Corrupt Practices Act (FCPA), Gramm-Leach-Bliley Act (GLB), Health Insurance Portability and Accountability Act (HIPAA)
Physical Plants	*The Provider should have secure and safe premises for conducting business and safeguarding any information and/or electronic data that may be provided by their clients.*	▪ **Physical Plant/Office Locations** Address and contact information for all plant/office locations, domestic and international, for the Provider's company as well as any affiliated businesses or organizations. Location of data center(s), if applicable. The Provider should differentiate between third-party managed locations and locations owned and managed by the Provider. ▪ **Safety** Information pertaining to building or site disaster safeguards (fire, flood, etc.), especially if the Provider will be hosting data. Data center tier level (i.e., Tier 4 is

PROVIDER BACKGROUND		
ABOUT THE PROVIDER		
Area of Concern		*What to Ask About*
		most robust and less likely to experience failures). ▪ **Security** Information pertaining to building and data access, personnel screening, physical security methods (ID cards, etc.), hacker/virus protection, and industry certifications.

PROVIDER BACKGROUND		
ABOUT THE PERSONNEL		
Area of Concern		*What to Ask About*
Quality of Personnel	*The Provider should employ an appropriately educated and dedicated staff.*	▪ **Rate of Personnel Turnover** Information regarding length of time on the job for those involved in the potential project. ▪ **Client References** As with information regarding Provider quality, ascertain the level of satisfaction with personnel from other previous or current clients, including ease of communication, turnaround times, quality of work, etc.
Experience	*Staff should have experience commensurate with their responsibility.*	▪ **Past Performance** Success that personnel has had at completing the kind of tasks required for the particular product or service need. ▪ **Testimony** Prior experience in giving testimony related to product or service. ▪ **Competitive Advantage** What sets Provider apart from others in the marketplace?

PROVIDER BACKGROUND		
ABOUT THE PERSONNEL		
Area of Concern		***What to Ask About***
Staffing Capacity	*The Provider should advise in advance if any subcontracting or temporary staff will be utilized on the project.*	▪ **Personnel Data** Information regarding the location and number of personnel, number of personnel that support specific products and services, staffing and workforce composition anticipated for the project, and their technical expertise and years of experience.
Project Management	*The Provider should have experienced management to oversee, troubleshoot, and communicate information about the job.*	▪ **Project Oversight** Who will manage the project, product, or service, and the frequency of and methods for reporting progress. Where is the staff, expected to be assigned to the project, located? How many personnel are available to support the different products and services, and what are the hours of operation for the support staff?

PROVIDER BACKGROUND		
ABOUT THE PRODUCT/SERVICE		
Area of Concern		***What to Ask About***
Process and Infrastructure	*The Provider should have demonstrable safety measures in effect, as well as the appropriate infrastructure to meet the demands of the project.*	▪ **Maintenance** Information regarding maintenance of the product /service such as: type, quality, and availability of technical support; procedural updates; product maintenance; upgrades; regularly scheduled periods of product or service unavailability; location of staff; any standard business hours; support process; and escalation procedures, etc. ▪ **Disaster Recovery** Information regarding standard backup plans, including disaster

PROVIDER BACKGROUND		
ABOUT THE PRODUCT/SERVICE		
Area of Concern		*What to Ask About*
		recovery plans and facilities during the lifecycle of the project. (If implementation has not yet occurred, is the entire project lost in the event of a fire?) ▪ **Security** A description of procedures for screening personnel and maintaining security on the premises of all business locations, such as requiring badges for entry. Request certifications held relating to security. ▪ **Technology Infrastructure** A description of redundancies, high availability/failover procedures uptime, scalability, infrastructure maintenance, geographic footprint of Provider, data throughput capabilities, Requestor-facing applications, resiliency, security, new hardware refresh cycle, and roadmap for equipment management. ▪ **Support** Industry benchmarking reports or expertise consulting which compares Providers using industry standards. Request any metrics used to track number, quality, and timeliness of service issues.
Quality of Work	*The Provider should have standard practices to validate and measure the*	▪ **Quality Assurance Procedures** Documentation of steps taken to validate and verify the products/services. Ask for metrics: service-level agreements, credits or earn backs per year, and how

PROVIDER BACKGROUND		
ABOUT THE PRODUCT/SERVICE		
Area of Concern		*What to Ask About*
	quality of products, services, processes, and procedures.	Provider uses metrics to measure and demonstrate performance and quality. ▪ **Client References** As with information regarding company and personnel quality, ascertain the level of satisfaction with the products/services from other Provider clients, including ease of use, stability, problem-solving, technical support, and documentation. ▪ **Reporting Methods** Ascertain the methods the Provider uses to present information to clients during the lifecycle of a project.

C. Short List of Nonstarters

1. Confidentiality

Entering into either a unilateral or bilateral confidentiality agreement is the first step for many prospective Requestors and Providers. A confidentiality agreement will allow the parties to exchange information in order to determine if the Provider has the correct tools, services, or availability to proceed with receiving or responding to the proposal request. Without a confidentiality agreement, it is unlikely that a meaningful dialogue can be initiated with potential Providers about the nature and scope of the project so they can provide "active" feedback. These agreements are often referred to as Nondisclosure Agreements (see sample at Appendix A, *infra*).

2. Provider Security

Engaging a Provider to process data or any kind of service related to eDiscovery requires the same attention to security risk that would apply to the Requestor seeking the service. There is every reason to expect the potential Provider to have physical and network security safeguards in place to protect confidentiality and Requestor assets. In addition, the Provider must be willing to guarantee agreed-upon courses of action should the Provider face financial hardship, gain a new conflicting client, be acquired by another company, or have their programming guru seek an island respite. Security issues should be considered for the Provider, the data, and the project itself.

(a) Physical Site & Personnel Security

Site security for the Provider and any third-party entity they might employ is crucial. A site visit to "kick the tires" is not a bad idea (at least at the final proposal request stage), and may provide a glimpse into the culture of the organization as well. The Provider should have obvious security measures in place such as access restriction to network hardware, telecommunications security, disaster recovery plans, back-up servers, and appropriate insurance.

Personnel security is just as important. What kind of security checks do they use to ensure the reliability of their own personnel, such as background and conflict checks? Are the personnel bonded? What procedures are in place when an employee leaves the Provider? Can they work for your client's adversary?

(b) Data Security

Hardware and software security companies have essentially generated their own industry, and with good reason. Today, electronic information is recognized, as never before, as a valuable business asset and endangered data can be life threatening

to a business or the outcome of litigation. While it may be a reasonable assumption that Providers have the appropriate safeguards in place, the questions must still be asked. What are their back-up and disaster recovery procedures? Are their software systems sufficiently protected from intruders, hackers, and viruses? Is user access sufficiently secured by complex passwords and authentication processes to ensure only authorized access is allowed? How does data get from place to place, and is it encrypted before it goes anywhere? Do they keep their protections up-to-date? Deficiencies in this area are not worth the risk. A Provider's data security should meet the same security standards required by your organization and by the law.

(c) Project Security

If the Provider passes muster on Provider and data security measures, there is still the project to consider. What happens when the project is over (and what determines the end date)? What happens to electronic and hardcopy data, work-product, backups, etc.? What happens if personnel on your project leaves the Provider after the project? Is that work memorialized by the Provider if testimony is subsequently needed? What happens if the Provider has not met their obligation—is there an articulated method to handle disputes? One thing to keep in mind is that the dynamic electronic landscape is driving business mergers and acquisitions, not to mention failures. What happens if the Provider is acquired or files for bankruptcy? Will your client's data be involved in the mess? If you are well informed of the Provider's stability, it is possible to head such a problem off at the pass, and ensure that safeguards are in place in case of such business surprises. Specify what should be done with electronic and hard-copy data at the conclusion of the relationship, such as returning all original paper and media or shredding all copies, and certifying compliance with these procedures at the conclusion of the project.

PROVIDER SECURITY		
PHYSICAL SITE & PERSONNEL SECURITY		
Area of Concern		***What to Ask About***
Physical Site Security	*The Provider should demonstrate provision of appropriate physical and data security procedures.*	The Provider's physical sites should be as secure as the client's. Ask about: ▪ Building safety and security for each site (e.g., access, back-up, disaster recovery) ▪ Telecom (types and locations) ▪ Third-party outsourcing
Personnel Security	*The Provider should be accountable for the quality and reliability of all personnel or subcontractors under their auspices.*	Who works for the Provider, and how are they screened? Ask for information about: ▪ Background checks ▪ Conflicts checks turnover ▪ Drug testing ▪ Bonding ▪ Personnel exit process ▪ Security training

PROVIDER SECURITY		
DATA SECURITY		
Area of Concern		***What to Ask About***
Hardware Security	*The Provider should be able and willing to commit to prescribed procedures in the event of disruption or termination of the project.*	Description of what happens if the Provider cannot finish the job or has an unforeseen disruption of business. Ask about: ▪ Mirror site ▪ Server lock-downs ▪ Access restrictions ▪ Insurance ▪ Disposition of retired hardware ▪ Succession planning in the event of end of business
Software Security	*The Provider should demonstrate provision of appropriate physical*	Information related to: ▪ Third-party outsourcing ▪ Ability to guarantee data integrity ▪ Mirror site

PROVIDER SECURITY		
DATA SECURITY		
Area of Concern		***What to Ask About***
	and data security procedures.	▪ Secure delivery of data
Network Security	*The Provider should have policies to prevent and monitor unauthorized access, misuse, modification, or denial of a computer network and network-accessible resources.*	Information related to: ▪ Multi-factor authentication ▪ Firewall ▪ Intrusion prevention system
Enterprise Vulnerability Management	*The Provider should have a practice of identifying, classifying, remediating, and mitigating vulnerabilities.*	Information related to: ▪ Vulnerability scanning, including practices and platforms used ▪ Tests and audits (e.g., ethical hack)
Web Services and Transmission Security	*The Provider should have security around web services and protection of transmissions from interception.*	Information related to: ▪ Transport-level security ▪ Application-level security

PROVIDER SECURITY		
PROJECT SECURITY		
Area of Concern		***What to Ask About***
Rights on Termination	*The Provider should be able and willing to commit to prescribed procedures in the event of disruption or*	Description of what happens if the Provider cannot finish the job or has an unforeseen disruption of business. Clarify the Provider's position on: ▪ Rights to data ▪ Contract disputes ▪ Business failure/acquisition

PROVIDER SECURITY		
PROJECT SECURITY		
Area of Concern		***What to Ask About***
	termination of the project.	▪ Memorialization of work completed ▪ Data retention and deletion
Conflicts	*The Provider should investigate and fully disclose any potential conflicts with parties related to the client's business or litigation.*	Information related to: ▪ Procedures for checking for conflicts ▪ Agreements not to work with opposing parties without both party's consent ▪ Protocol if Provider is acquired by another company ▪ Any officer or family member with personnel, employer, or consulting relationship with Provider
Data Management	*The Provider should have established procedures for managing and logging project data.*	Information related to: ▪ Media handling/logging procedures including standard operating procedures for maintaining valid chain of custody ▪ How project data is handled upon project completion

D. Conflicts

The consideration of a Provider—or any other litigation support provider for that matter—in connection with any project, should always start with a conflicts check. While there may be situations in which a Provider is retained to perform ministerial or quasi-ministerial type services (equivalent to photocopying), there are others in which the Provider will be privy to confidential information about the client's information management systems and policies, as well as their litigation strategy. It is therefore imperative to ensure that there are no conflicts or potential conflicts at the outset. It is also imperative that a conflicts check

be performed by any entity that will be acting as a subcontractor to the Provider, and that any potential conflict is addressed prior to the engagement of the Provider that will be acting as the general contractor.

In situations where a formal Information Request will be issued, considerations regarding potential conflicts should always precede the issuance of the Information Request. In order to facilitate this process, we recommend that a nondisclosure agreement be executed prior to disclosing any confidential information. A sample nondisclosure agreement is provided at Appendix A, *infra*.

What constitutes a conflict? Before choosing a Provider, it is important to have an adequate understanding of the Provider's conflict check process and any related policies in order to ensure that potential conflicts are identified and disclosed. When providing purely technical services, conflict may be less significant; however, the Provider should at a minimum disclose any conflicts to their clients. Beyond legal conflicts, there may also be business conflicts that may impact the retention of a particular Provider under certain circumstances—for example, a Provider that is being considered by a party may have been previously retained by a competitor of the party and may be in possession of non-public information or trade secrets belonging to its first client. However, because parties may waive a conflict, Providers may be able to undertake engagements in situations where a party grants them a waiver notwithstanding the existence of a conflict. Parties, their attorneys, and Providers should engage in an open and frank discussion concerning conflicts and what steps can be taken to mitigate potential conflicts and protect against the disclosure of confidential information. Where appropriate, parties should consider the waiver of conflicts and allow Providers that are providing, or that have provided services to them, to also provide services to parties that are adverse

to them in situations where there will be no prejudice suffered as a result of having waived the conflict.

The fact that no two eDiscovery projects are the same complicates the conflict analysis, and makes it that much more difficult to draw bright lines. Every potential conflict must be examined in light of the circumstances of the matter at issue. There may be situations where past, existing, or prospective clients are not concerned about a potential conflict because the nature of the services rendered or to be rendered was or is such that there is no concern about the potential disclosure of information that could prejudice its position. Moreover, the explosive growth and consolidation of Providers in the eDiscovery marketplace further complicate the conflict analysis. When a Provider acquires or merges with another Provider, there is a possibility that the new entity could be doing work for two parties that are adverse. The growth in the marketplace has also resulted in a number of Providers being sold to investment groups and corporations that have not traditionally provided litigation support services, resulting in potential conflicts between the ultimate owners of the Provider and its clients. The only way to avoid these problems is to ensure that you understand, prior to engaging a Provider, who ultimately owns and controls it.

We recommend that any service agreement to be ultimately executed by the parties contain a clause memorializing the parties' agreement concerning conflicts. This is especially important in light of the fact that Providers are not bound to the rules of ethics that preclude attorneys from representing parties who are adverse to their clients.

E. Initial Information Exchange Meetings with Providers (do they have suggested information to include in the proposal request?)

Providers are the experts in their market space and know how they measure up to competitors. Providers have also received many past proposal requests from other prospective clients and have responded to those requests. Therefore, Providers are aware of what questions should be included and the manner in which the questions should be asked. If having a preliminary conversation with Providers, consider soliciting a few ideas for questions or topics from various Providers for inclusion in the proposal request; inquire whether they have suggestions for helpful information to include in the proposal request.

If looking at licensing a tool, hardware, or software, it may also be valuable to ask Providers to give acceptable ranges for certain technical or business requirements. This will allow confirmation that technical or business requirements do not exceed what is currently available in the marketplace. If requirements do exceed what is currently available in the marketplace, requirements may need to be reevaluated.

VII. CRAFTING THE FINAL INFORMATION REQUEST

A. General Tips

Crafting an Information Request is not a simple task, nor is the process of responding to such a request. An Information Request is not a form where a Provider simply fills in the blanks, and such a document should not be considered the definition of success when working through the process. No two projects are the same, and an Information Request must be tailored to the specific needs of each project or partnership need if meaningful responses are expected and if a Provider is to be specific in responding to needs.

> Practice Pointer: Perhaps the biggest area of concern when drafting the document is assuming that a Provider's knowledge of the project is complete—such assumptions have been proven wrong in the past—thus it helps tremendously to engage potential Providers in a detailed dialogue to make certain they are aware of all project considerations.

Again, it is in the best interest of all parties to ensure that Providers who are not well suited to the project are not taking the time to respond to an Information Request, and that you are also not taking the time to analyze those responses. This can be accomplished by informal communications with responding Providers or a Q&A process that can be shared with all responding Providers. There are, of course, certain sections that are amenable to boilerplate language, such as confidentiality, rights of the parties, representations, and warranties. A sample "tailored" Information Request containing those sections is included in Appendix B, *infra*. Such Information Requests generally remain consistent from project to project, but as with everything, should still be reviewed each time to make sure they are appropriate for the matter at hand.

> Practice Pointer: For example, if you have already worked with all of the responding Providers, consider whether there are certain questions that can be eliminated to focus on the variances of that specific project's needs.

In addition to general or boilerplate language, an Information Request should include and request information focused on getting you the information tailored to the specific product or service needed. For example, if known, identify any data types that are unique to the Provider or law firm in order to confirm that the Provider can handle the data types (e.g., GroupWise, iOS data, and text messages). Another example would be the need for collection services outside of the United States; list the countries at issue and request information about the Provider's previous experience in this area and ability to handle such requests including whether the Provider would need to subcontract those services. Identifying the components of a project where the Provider anticipates a need to subcontract work is an important detail that should not be overlooked. A subcontractor presents some process visibility concerns, as well as concerns about tracking and locating the subcontracted individual or group down the road if needed.

B. Project Specific Information Request

When drafting a project-specific Information Request, it is recommended that you include a project scenario, asking the Providers to answer and provide information using the same method. When possible, require prospective Providers to answer questions using a similar formula. The scenario-based Information Request is an example of this formulaic approach. Identifying a suitable method of questioning and providing clear instruction on the expected format of answers will allow you to better compare the Providers' answers.

> Practice Pointer: Specifically, include the assumptions that the Providers should use when answering your questions, for example, the anticipated number of custodians, the collection size, how many documents in a gigabyte, how many pages in a document, anticipated timelines, or how many users will need access to the software if a hosting solution is being sought.

Providers often have their own general assumptions and it can be very difficult normalizing the responses to any fact-gathering exercise if you are forced to convert responses of a varying format to a common format.

However, in some instances you may consider allowing Providers to generate alternative proposals so that Providers can distinguish themselves based on the strength of their offerings. For example, the project scenario may contemplate one workflow, but with a Provider's proprietary workflow or customizable solutions, agreeing to allow an alternative answer format may more clearly highlight available solutions that you'll want to consider when making your selection.

C. Ongoing Partnership Information Request

If you are drafting an ongoing partnership Information Request, then consider providing exemplar matters for the Providers to review and provide analysis. Exemplar matters, in addition to estimated volume (monthly, yearly, or over multiple years) or number of times the data could be used for separate matters, may also assist at getting responses that provide volume-based or discounted enterprise-level pricing. Regardless of whether you are drafting a project- or partnership-based Information Request, it is important to detail to Providers the methodology for bid process evaluation so that Providers are aware of what you as the client view as most important in your selection process.

D. Sample Answer Matrix

In addition to providing the information discussed throughout this section, consider including an Excel or database tool for Providers to use when responding to the request. Attached at Appendix D, *infra*, is a sample answer matrix tool. The more "locked down" the request, the easier it will be to compare the responses, meaning that if all responding parties are required to use the same assumptions and have the same matrix with which to provide their answers, the easier it will be to compare and contrast the answers.

E. Timeline

In addition to where and whom the response should be submitted, the Information Request should also contain information about the applicable timeline, including, but not limited to: issue date, question and answer dates (if any), response due date, timeline for review, dates for presentations (if any), and date for ultimate determination and award under the Information Request.

F. Information Request Sections to be Customized

The Information Request sections that must be customized for a project include the following:

a. Project Overview (Scope of Work (SOW)): As discussed, a thorough description of the project may be the most important element of an Information Request, and this description, together with the requirements list, should be discussed with all project team members to ensure as complete a description as is reasonably practicable. Indeed, this is where the problem is defined, specifying the number and type of information sources, the systems on which they

reside, timelines, scope of relevancy, and any applicable court orders. Also specify the services required and, if applicable, the expected format for review and production. This is an appropriate time to develop internal checklists regarding eDiscovery needs, etc.

b. Deadlines: Describe any deadline or time line that is important to your workflow. Confirm that the Provider can meet the deadline, both in terms of capabilities and available resources.
c. Geographic Scope: Describe the geographic scope of the work, particularly any potential for foreign, international, or cross border issues that may be encountered.
d. Management: Describe the roles of client, counsel, and staff in the management of the work contemplated. Also spell out the expected lines of communication, metrics and measurements of success, and procedures and expectations for progress and status reporting.
e. Requirements Description: In this section, describe for the Provider, to the extent known or reasonably anticipated, the technical requirements, specific services needed, the time constraints, the volume, the required output, and the required service and quality levels. If software or hardware is involved, also inquire regarding any implementation, training requirements, available technical support services, and associated costs. It is important to specify the goals and objectives of the project, as well as priorities. Ask for "what" is needed, and allow the Provider to describe "how" they will meet those needs.

f. Definitions: *The Sedona Conference Glossary*[8] defines terms frequently used in connection with eDiscovery matters. It is recommended to include in the Information Request all definitions that may apply to avoid future misunderstandings. The Sedona Conference Technology Resource Panel members have agreed to work within the framework of this Glossary.
g. Provider Process and Infrastructure: Here the Provider is asked to describe, in detail, assumptions, processes, and infrastructure for getting the project done. Seek information regarding their internal reporting structure, and their process for "change control," i.e., how unanticipated issues are handled. Remember, litigation often involves "surprises" as the norm.
h. Quality Assurance: Following up on the initial proposal request questions and responses regarding quality assurance, this inquiry seeks to determine if the Provider will institute any additional quality assurance procedures in light of the nature and circumstances of the project.
i. Processing Methods: Questions here are driven, of course, by the nature of the services requested. In the sample "tailored" Information Request (Appendix B), there is a list of suggested questions for a variety of fact patterns.

8. The Sedona Conference, *The Sedona Conference Glossary: E-Discovery & Digital Information Management, Fourth Ed.*, 15 SEDONA CONF. J. 305 (2014), *available at* https://thesedonaconference.org/publication/The%20Sedona%20Conference%C2%AE%20Glossary.

j. Provider Recommendations: The eDiscovery arena is very dynamic, with technological capabilities continuously changing. Asking for the Provider's recommendations will give the Provider an opportunity to describe new service offerings that may provide a better solution for the project, or guide away from outdated assumptions that may be embedded in service requests. As mentioned in "e" above, ask for "what" is needed, and allow the Provider to explain "how" those needs will be met.

k. Pricing Alternatives: Specify the pricing model(s) preferred, so that meaningful comparisons of the Provider pricing responses can be made. Indicate the specific service, unit (i.e., gigabyte (GB), each unit, hourly, etc.), and volume (i.e., megabyte (MB), GB, etc.) type for consistent comparisons. Appendix C, *infra*, discusses various pricing models for various services. Be sure to ask the Providers to list all possible charges so there are no surprises. If time is of the essence for your project, consider building in adequate protection to ensure essential timelines are met (e.g., late penalties). If the Provider is using some form of "conversion" to respond in the pricing model requested, the "conversion" should be transparent and understood.

l. Provider Qualifications and References: Be sure to check trade references, carefully read the Provider's website, and then follow-up with questions as to various representations made therein. It is also important to speak with references supplied by the Provider. While some of the Provider's clients may have insisted on confidentiality, be certain to speak with those familiar with the Provider's ability to perform, just as one would with any other Provider.

m. Follow-up Processes: Set forth a procedure for handling questions that arise during the Information Request process, allowing each participant to weigh in. Crafting and responding to an Information Request is a complex process, and questions about language or meaning are bound to arise. Resolution of any ambiguities should be globally communicated among all prospective Providers and client stakeholders to ensure the resolution is accurate, complete, and fairly noticed.
n. Post-Information Request Briefings: Let the potential Providers know when you will make a final decision. Once a decision has been reached, in addition to notifying the selected Provider, it is also a good practice to explain to those Providers that did not get the job the reason for the selection that was made. This preserves goodwill for the next project and helps improve the process overall by educating the competition.
o. Invoicing: Often overlooked (and the missing link) is obtaining invoicing that captures billing categories in line with the ABA's Uniform Task-Based Management System: Litigation Code Set.[9] Provide service Providers with your organization's invoicing requirements to be transmitted using information exchange standards (csv, xml, etc.). Leveraging the collective experience and information from eDiscovery projects for every matter across an organization can

9. *See generally Uniform Task-Based Management System Litigation Code Set*, AMERICAN BAR ASSOCIATION, http://www.americanbar.org/groups/litigation/resources/uniform_task_based_management_system/litigation_code_set.html (last visited Mar. 31, 2017).

provide legal teams with meaningful historical project metrics on which to make more informed decisions on future projects. Receiving invoicing in standard information exchange formats, over time, will enable your technology departments to aggregate the information within spreadsheets and databases that can generate actionable eDiscovery business intelligence (BI).

p. Training: Within eDiscovery, every role that interacts with ESI requires some measure of technical know-how. Describe for the Provider, if known, or request the type of training included for each job function (technical analyst, project managers, contract reviewers, attorneys, etc.) per matter. Inquire about continuing legal education (CLE) programs offered, by state. As with service Providers, it is important that law firm and corporate personnel are sufficiently familiar with the processes, workflows, and technology offered. The extent of training needed will depend on an employee's role. Taking advantage of programs to validate their knowledge and expertise will serve to streamline communication and overall eDiscovery processes.

VIII. SELECTION: EVALUATING RESPONSES TO THE INFORMATION REQUEST—THE DECISION MATRIX

As with analyzing responses to an initial proposal request, the beginning point for analyzing and comparing Provider responses is through the use of a scoring sheet or decision matrix. (See Appendix D, *infra.*) To complete this process, each item in the Information Request (hardware security, software security, etc.) is assigned a level of importance specific to the project at hand, and then each Provider response is given a 'grade' or number assessing the sufficiency of the response. The Providers are ranked by multiplying the importance level and the response grade, and then adding the results. Of course, a decision matrix cannot, and should not, replace the exercise of common sense and good judgment but will hopefully inform the exercise of that judgment, usually made in conjunction with the client.

On complex products, consider creating a pricing matrix to have Providers populate and return with their written responses. Each column should represent a key price term (e.g., per licensee charge, hourly rate of technicians, upload charge, etc.). This permits comparison of apples to apples when evaluating responses.

IX. AFTER SELECTION

A. Communicate Selection and Reasons (Feedback)

Once a selection is made, it is important to communicate to the selected Provider to inform them that they have been selected and confirm their interest and ability to perform the requested tasks as outlined in the Information Request. During that communication, it would be helpful to provide the selected Provider the reasons they were selected including any areas where their response did not fully meet expectations. This will provide the selected Provider an opportunity to focus their energy on those areas.

It is also important to communicate to the Provider participants that have not been selected that the project was awarded to another Provider and the reason(s) for that decision. Often the Providers not awarded the work will want feedback as to why they were not selected. This should be viewed as an opportunity to provide proactive and constructive feedback and information that may assist the Provider in responding to future Information Requests with your organization or other organizations. This generally happens via a phone call; however, some organizations allow Providers not selected to meet with the organization to discuss their response and the area(s) for which they did not meet the organization's selection criteria. Many of these Providers may be a fit for future work or projects and by giving the Providers feedback, the Providers have an opportunity, if they choose, to focus efforts in order to win a future project.

B. Contracting with the Selected Provider

After selection, the selected Provider and organization will enter into the contracting phase of the relationship—whether it is a full Master Services Agreement (MSA) or a SOW. Basic con-

tract provisions like liability, indemnity, confidentiality, insurance, and many other terms should be considered and agreed to by the parties. Depending on the scope of the work or the type of software licensed, it may also be appropriate in the contract to address who owns the data, what the service-level response times are for various types of errors or outages, location of the data and how data will be removed from any system or location at the end of the contract, what security will be in place around the data and systems, and what turn-around times will be for certain work. Organizations may want to work with their procurement department regarding appropriate terms and conditions.

C. Relationship Management and Escalation Process

The partnership between an organization and their Provider can be strengthened when there is a set relationship management plan. This may include regularly scheduled meetings between your organization and the Provider in order to discuss the relationship, what is working well, what can be improved, and strategies to expand the relationship. This is also an opportunity for a candid discussion on key data metrics, key performance indicators (KPI's), and continued process improvement opportunities.

In addition to relationship management, each relationship should have a clearly defined escalation process. Understanding and clearly defining the appropriate chain of command and escalation plan will allow for a quick remedy of potential problems or disputes.

X. TRENDS

Much of the discussion in this paper has focused on the importance of effectively defining the need prior to efforts to identify the proper solution(s) and Provider(s). With the landscape of the eDiscovery industry changing so rapidly, attorneys and litigation support professional are advised to stay abreast of new industry trends, developments in technology, and significant case law development. Knowledge of industry trends and developments can be very helpful when attempting to articulate a need and in recognizing the available solutions. This section contains some basic information on some of the more recent trends and developments to consider when crafting an Information Request.

A. Information Governance

While the field of information governance is not new, there has been a recent shift in focus from managing the costs of data storage to more effectively managing the overall amount of data being stored as a way of managing eDiscovery costs and risks. Tools and processes are being applied in new ways to minimize existing data stores that have become of little or no use to the business processes of a firm or company. One of the clearest manifestations of this trend is the use of the term big data (Big Data) to describe complex or massive, previously unmanageable data repositories that have historically been inaccessible for practical business uses. Managing Big Data and only keeping what is needed are areas that will continue to be explored as computing power and analytics advance. It will become im-

portant when drafting proposal requests to understand how potential Providers handle the volume and the collection of data from these resources.[10]

B. Technology-Assisted Review (TAR)

TAR is not new, but its acceptance and use is growing. As courts and judges have made it more clear that TAR is a reasonable option,[11] when combined with a well thought out workflow, process, and proper expertise, parties and corporations are beginning to realize the benefits of leveraging these tools to keep costs down, shorten timelines, and make document culling and review projects more manageable. A full exploration of the Provider's abilities, experience, and capabilities in the area of analytics should be included in any proposal request where these services may come into play. It is vital to a successful proposal request process that the evaluation of a TAR Provider includes the involvement of someone experienced in the practical application of TAR tools.

TAR is also being applied to new areas, like data collection or pre-collection data analysis. Using TAR in these areas helps to alleviate massive, costly collections that are more traditionally identified using text key term/phrase methodologies. TAR tools are also being leveraged in the areas of information gov-

10. *See generally* The Sedona Conference, *Commentary on Information Governance*, 15 SEDONA CONF. J. 125 (2014), *available at* https://thesedonaconference.org/publication/The%20Sedona%20Conference%C2%AE%20Commentary%20on%20Information%20Governance (containing in-depth discussion of information governance).

11. *See generally* The Sedona Conference, *TAR Case Law Primer*, 18 SEDONA CONF. J. ___ (forthcoming 2017), *available at* https://thesedonaconference.org/publication/TAR%20Case%20Law%20Primer (containing discussion of TAR case law).

ernance and data disposition. Using an appropriate TAR workflow may provide insight and categorization of data subject to retention requirements and data not subject to retention requirements and, possibly, ready for disposal.

An offshoot of the application of TAR technology is in preserving the intellectual property gained during a document review project. Historically, once documents were coded for a specific project, it was difficult to carry that work to subsequent projects unless the work was done on exactly the same document corpus. Using TAR, however, allows for certain information gleaned during these reviews to be "learned" by the TAR tools and applied to new review sets. Specifically, tools are being developed that will learn what a privileged document is for an organization and can apply that logic to newly introduced documents. A number of Providers also enable data reuse on similar matters so the same information does not have to be collected and reviewed again.

C. Consolidation

The trend continues whereby eDiscovery companies continue to grow market share by merging with their competitors, if not via outright acquisitions. What is new is that large companies outside of the eDiscovery marketplace have now turned their attention to this market sector. It is unclear how the technologies will be applied. Whether the new technology will be kept as a stand-alone eDiscovery solution or whether the technology was purchased as a building block for an existing consumer solution that has nothing to do with eDiscovery, or some combination thereof, has yet to be revealed.

D. Mobile Computing

The shift to mobile computing is clearly making its way into the legal sector. Solutions range from being able to access, edit,

and file briefs via a mobile device, like a tablet or smart phone, to timekeeping so that timekeepers can use stopwatch-like apps to track their time on a matter in and out of the office. Other solutions allow users to check out batches of documents from data repositories to use at deposition and trial, and link those documents to their outline which has been written on the device. Additionally, there are applications that allow users to work collaboratively in the cloud with their co-counsel.

In order to keep up with this portability, hardware companies have developed accessories so that the attorney on-the-go can set up an office no matter where he or she lands. There are printers the size of a three-hole punch, projectors that are no bigger than a pack of playing cards, and battery packs that can recharge devices on the go allowing for longer times between the need for a wall jack.

The greatest strides in mobile computing, however, have to do with security. There is an increased focus on complex authentication and encryption to prevent data theft. Data can be erased remotely, allowing companies to ensure that their data's integrity is not compromised should a device be lost or stolen. Mobile devices can be tracked and usage can be limited to specific tasks as designated by an organization. Most proposal requests should deal with mobile computing in some form.

E. Cloud Computing

Many organizations have begun the shift to cloud computing. Cloud computing allows organizations to give up their reliance on internal hardware and software, while purchasing these resources over the internet. In the legal sector, we see a number of eDiscovery SaaS offerings, whereby the eDiscovery software normally installed inside a firm or company's firewall is now being hosted on a Provider's server farm. Users access their data via a secure connection on the internet. With respect

to the proposal request process, knowing where your data resides can be very important, especially in some business sectors. It should be clear to Providers when drafting a proposal request that details regarding cloud computing capabilities are necessary, especially if your organization is affected by data location regulations or sensitivities.

APPENDIX A: SAMPLE NONDISCLOSURE AGREEMENT

MUTUAL NONDISCLOSURE AGREEMENT

THIS MUTUAL NONDISCLOSURE AGREEMENT is made and entered into this ___ day of _____, 20__, between XYZ, Inc., a _____ Corporation, and ABC, Inc., a _____ Corporation.

1. Purpose. The parties wish to explore a business relationship of mutual interest and in connection with this opportunity, each party may disclose to the other certain confidential technical and business information which the disclosing party desires the receiving party to treat as confidential.

2. "Confidential Information" means any information relating to the business plans, financing, capital structure, proprietary processes, or technologies owned by, licensed to, developed by, and/or discussed by either party and any other information the parties should reasonably assume is confidential or proprietary to the disclosing party. Confidential Information shall not, however, include any information which (i) was publicly known and made generally available in the public domain prior to the time of disclosure by the disclosing party; (ii) becomes publicly known and made generally available after disclosure by the disclosing party to the receiving party through no action or inaction of the receiving party; (iii) is already in the possession of the receiving party at the time of disclosure by the disclosing party as shown by the receiving party's files and records immediately prior to the time of disclosure; (iv) is independently developed by the receiving party without use of or reference to the disclosing party's Confidential Information, as shown by documents and other competent evidence in the receiving party's possession; or (v) is required by law to be disclosed by the receiving party, provided that the receiving party (a) gives the disclosing party

prompt written notice of such requirement prior to such disclosure, (b) provides a letter from counsel confirming that the Confidential Information is, in fact, required to be disclosed, and (c) provides assistance in obtaining an order protecting the information from public disclosure.

3. Non-use and Nondisclosure. Each party agrees not to use any Confidential Information of the other party for any purpose except to evaluate and engage in discussions concerning the business relationship between the parties. Each party agrees not to disclose any Confidential Information of the other party to third parties or to such party's employees, except to those employees of the receiving party who are required to have the information in order to engage in the business relationship between the parties.

4. Maintenance of Confidentiality. Each party agrees that it shall take reasonable measures to protect the secrecy of and avoid disclosure and unauthorized use of the Confidential Information of the other party. Without limiting the foregoing, each party shall take at least those measures that it takes to protect its own confidential information.

5. Return of Materials. All documents and other tangible objects containing or representing Confidential Information disclosed by either party to the other party, and all copies thereof in the possession of the other party, shall be and remain the property of the disclosing party, and shall be promptly returned to the disclosing party upon the disclosing party's written request.

6. No License. Nothing in this Agreement is intended to grant any rights to either party under any patent, mask work right, or copyright of the other party, nor shall this Agreement grant any party any rights in or to the Confidential Information of the other party except as expressly set forth herein.

7. Term. The obligations of each receiving party hereunder shall survive until such time as all Confidential Information of the other party disclosed hereunder becomes publicly known and made generally available through no action or inaction of the receiving party.

8. Remedies. Each party agrees that any violation or threatened violation of this Agreement may cause irreparable injury to the other party, entitling the other party to seek injunctive relief in addition to all legal remedies.

9. Miscellaneous. This Agreement shall bind and inure to the benefit of the parties hereto and their successors and assigns. This Agreement shall be governed by the laws of the State of _____, without reference to conflict of laws principles. This document contains the entire agreement between the parties with respect to the subject matter hereof, and neither party shall have any obligation, express or implied by law, with respect to trade secret or proprietary information of the other party except as set forth herein. Any failure to enforce any provision of this Agreement shall not constitute a waiver thereof or of any other provision. This Agreement may not be amended, nor any obligation waived, except by a writing signed by both parties hereto.

APPENDIX B: SAMPLE INFORMATION REQUEST

– MAKE BELIEVE V. COLD REALITY –

Confidential
[Date]

Any Electronic Evidence Provider
One Discovery Street
Hard Drive, Illinois 12345

Re: Information Request: Electronic Data
Preservation and Collection Services

Dear XXX:

The undersigned firm represents Cold Reality, Inc. with respect to the litigation brought by Make Believe Management, LLP, *Make Believe v. Cold Reality*, a fairly small matter in the Northern District of California in San Francisco. Your firm has been identified as a potential provider of litigation support, electronic evidence, and data hosting services for defense counsel in this litigation. We would appreciate your execution and return of the enclosed Nondisclosure Agreement ("NDA") prior to submitting your responses to this Information Request. Please fax the executed NDA to _____ at _____, sending the original to us via first class mail.

Your response to this Information Request will be used to identify whether you are a candidate suitable for issuance of a request for proposal (RFP) containing specific inquiries as to how you propose to satisfy the preservation, collection, and production needs of this case. Accordingly, we appreciate detailed responses to this Information Request, and we welcome your suggestions and offerings of information that we have failed to ask about, but may nonetheless be helpful to our case. Please feel free to provide additional information on other services you feel would be of benefit or value to the firm or our client.

This litigation revolves around patent infringement issues with respect to the game shows "Sue Me" and "Court Fun," produced by the parties and currently viewable on national television networks. The firm is looking for a full service provider capable of providing litigation preservation, collection, and production services for both electronic data and hardcopy, paper documents. In addition, the data and documents collected will need to be processed for hosting on an externally hosted site, securely accessible by our attorneys and client's in-house counsel, that needs to be completed no later than {Date, Year}.

While we cannot guarantee that this case will not be resolved by motion practice or settlement, no dispositive motions are pending, and neither party has indicated an intention to resolve this dispute outside of court. Accordingly, this Information Request is issued with our full intent to retain an appropriate service provider.

Your complete response to this Information Request, which should be delivered to us in printed paper form and an electronically searchable PDF file, must be submitted within 7 days of receipt of this Information Request.

Please direct your responses to the undersigned with copies to John Dough and John Cash, at this firm, as well as Bud E Guy, Esq., in-house counsel at Cold Reality, Inc., 1313 Mockingbird Lane, Centerville, USA. Please do not hesitate to contact me at _____, or by email at _____.com, if you have any questions, suggestions, or concerns.

Very truly yours,
Mr. John Lit Supp
Director of Litigation Support
Little, Firm, That, Could, LLP
One Defense Way
Struggle, Ohio

cc: J. Dough
J. Cash

INFORMATION REQUEST

Please provide us with information regarding your capabilities to provide the necessary support for the following:

- Length of engagement: Medium-term litigation (potentially 1–3 years).
- Number of documents: At least 100,000, although potentially more than 1,000,000, including documents in native format.
- Harvest of data from approximately 18 hard drives, 3 servers, and potentially other sources.
- Type of documents: Documents will be collected and produced in both paper and electronic format. Those documents not in "native format" will need to be scanned, bibliographically coded, and "OCR" processed, with an identified degree of OCR accuracy.
- Please describe your reporting and quality assurance procedures.
- What are your standard representations, warranties, and service-level guarantees?
- Document review and production database: Please identify your capabilities in the following areas:
    - Ability to organize and segregate documents in a variety of manners (including by producing party)
    - Ability to host all documents in a single uniform image format with the corresponding native format file linked with images
    - Handling and preservation of all metadata captured and saved in situations where native files have been converted to images, including captured and searchable text
    - Backup procedures and redundant layers of protection of the data

  - Security: Facility, server, database, and user security are all of great importance. Please describe your security protections, procedures, and audit procedures for same, as applied to both network and physical security.
  - The provision of ASCII load files for in-house review tools
- Electronic File Processing: Please describe your capabilities in the following areas:
  - The processing and chain of custody protocols and other measures used to avoid spoliation charges
  - Your de-duplication methodologies and process and testing of same
  - Identify artificial intelligence algorithms or other tools, if any, used to parse, categorize, segregate, or tag data, together with process for using and testing same.
- Document Review: Please advise as to your systems and processes for administering document review capabilities and support to the following specifications:
  - Access to a document review database by 10 or more attorneys and/or paralegals (potentially in different parts of the country) at a given time through standard web browsers, from any internet-connected computer, with or without tokens for security. Documents should be available for review for 24 hours per day, with exception for normal database maintenance.
  - Single web-based review tool for all databases. Please specify any required client software downloads or agents.
  - Training: Please describe your processes, extent, and frequency of training.

- Technical support: Set forth the extent and method used for providing technical support for issues relating to accessibility, functionality, and content management.
- Printing: Please describe your print capabilities for batch printing provided at your facility, the facility of a provider of our choice, or to a local printer at the user's office.

PROVIDER BACKGROUND

Please supply a narrative description of your history, together with your contact information, proof of financial viability, and data regarding your corporate structure, number of salaried personnel, and other pertinent information regarding your business.

SECURITY

We would like to understand the measures undertaken by you to ensure the security and integrity of your networks and physical building.

SUBCONTRACTORS

Those responding to this Information Request should be aware that the law firm has confidentiality and fiduciary obligations to our clients, and, in fulfilling those obligations, we are mindful to avoid unnecessary costs and potential conflict situations.

Should you have need to subcontract any part of the work you are bidding for, please set forth those areas of work or process that you intend to subcontract, at any time during the engagement, together with the reasons for subcontracting this work. Please also state your willingness to aver that any such subcontractors will meet any agreed upon deadlines.

The firm reserves the right to approve the use of any subcontractor before they are engaged and it is expected the firm will pay nothing additional for the use of the subcontractor. It is expected the quality of work to be supplied by subcontractor be

high quality and in keeping with industry standards. It is also expected the firm will pay the lower rate, if subcontractor is lower in price than the quoted price in your response to the Information Request. The firm reserves the right to dictate billing and project management logistics in using a potential subcontractor and reserves the right to discontinue use of the subcontractor.

CONFIDENTIALITY

This matter, the participants, and any information disclosed during this Information Request process or (for the provider and any subcontractors selected) during the actual engagement is deemed confidential. In addition to the nondisclosure agreement submitted by you prior to responding to this Information Request, you and any subcontractors may be required to sign a confidentiality order imposed by the Court.

CONFLICTS

Prior to retention, provider and any approved subcontractor shall be required to perform a conflict check of its existing clients and its engagements to ascertain that conflicts do not exist with this case. This would include other engagements for actions our adversaries may be involved in.

APPENDIX C: PRICING MODELS

When evaluating proposals from multiple providers (Providers), one of the hardest areas to compare is the pricing for the proposed project. Because there are no standards governing the processing of electronic data ("e-data"), most Providers follow their own proprietary workflow, and base their pricing on that workflow. Even when looking at the pricing for discrete portions of an electronic discovery project, such as imaging a hard drive or processing a PST file, it is often difficult to compare multiple Provider proposals because some Providers bundle pricing for multiple steps, or approach steps in different manners.

The number of options for processing e-data for review and production also make it difficult to compare proposals from multiple Providers. While the vast majority of all e-data was traditionally converted (to TIFF, PDF, or HTML, for example) for review and production (either on paper or in load files), it is becoming much more prevalent for Providers to offer processes allowing the review to take place in "native" format. Because of the prior predominance of conversion to image, the vast majority of electronic discovery projects were priced on a per-page basis, and while the cost of conversion to image is not the only cost associated with processing e-data for review under the traditional model, it represents a significant portion of the overall cost of the process. However, as more and more e-data is reviewed in native format, the pricing of electronic discovery projects has moved towards volume or "gigabyte" based pricing, which, while not the only cost associated with processing e-data for review under this model, may still represent a significant portion of the overall cost of the project. Per-page quotes are often an almost meaningless benchmark.

A few observations are in order before delving into the nuts and bolts of pricing. Aside from the review costs, the cost to process e-data for review and production (whether to TIFF, PDF, native, or some other format) may be by far one of the most expensive and time-consuming components of the process. Therefore, any steps to reduce the amount of data to be processed, will almost certainly reduce both the time it takes to process the data for review as well as the overall cost of the project. As opposed to copying entire hard drives or network shares, the volume may be reduced in any number of ways, such as by eliminating non-relevant data by culling out system files, using date filters or keyword searches, or by identifying only targeted subsets of the preserved or collected data (i.e., folders, directories, or other specific areas) containing potentially relevant data. Using mutually-agreeable objective criteria, agreed upon by the parties, to remove clearly irrelevant data from the processing and review set will always be more efficient, and cost effective, than using human reviewers to eliminate this data. Critical to any process employed to narrow the data for processing and review is consistency and process documentation. This ensures a reasonable, defensible process as discovery proceeds.

Additionally, processes such as "concept" search engines and analytics bring with them their own set of pricing models. However, because the process itself is different from traditional processing, comparing proposals for these services with proposals for other methods of data reduction may have to be done at a higher level than the granular line-item comparison proposed in this paper. Maybe the only way to compare a proposal involving newer or different technologies with other proposals is to look at the total cost of the project, and in some instances the comparison may have to include the projected review costs because these newer or different processes involve different review strategies. Indeed, sometimes the "all-in" cost, or total cost, may really be the key metric to consider.

In order to fully understand the pricing of electronic discovery services, it is imperative to understand the process itself. To that end, the following is a representation of the electronic discovery process—starting with collection of e-data and concluding with production. We have broken down the process into broad steps, each of which is composed of multiple steps. Obviously, not every step described will be necessary in every project. As you would expect, Providers have different pricing models for each of the steps, or in some cases, for each of the sub-steps.

Harvesting/Collection
(forensic recovery or active data acquisition, restoration of back-up tapes)

Processing
(elimination of system files, de-duplication, culling by date ranges, keyword searching, identification of targeted subsets, extraction of metadata)

Conversion
(conversion to TIFF\PDF\HTML\etc., or processing for native review)

Creation of Review Database
(loading, user fees, hosting)

Review
(technology-assisted review, manual human review)

Production
(endorsement—bates numbering, confidentiality logo, etc.—printing of production sets or creation of load files if producing electronically)

Creation of Production Database
(loading, user fees, hosting)

Another important, and often significant, component of the total cost of the process may be project management fees. Some Providers incorporate these costs into their overall price model; others charge a percentage of the total project cost, while others charge by the hour for project management. In addition, strategic partnerships are sometimes entered into, with totally unique pricing models.

Outside of the context of strategic partnerships or long-term relationships, most Providers use one of two general pricing models, albeit generally with their own twist. We will briefly examine these models, point out some of the issues associated with each of them, and then describe our proposed methodology to compare proposals from Providers using different models—although our hope is that Providers will respond to a request with pricing based upon the pricing model sought, or at least break down their pricing in such a way that it can be compared with other proposals. In any context, it may be prudent to request an example invoice from the Provider showing all potential line items that could appear to avoid unanticipated charges.

One common pricing model is based on a per-page fee, under which the Provider charges based upon the number of pages of images generated from the e-data. Given that at one time, almost 100% of e-data processed for review and production was converted to TIFF or PDF, many Providers, law firms, and clients were fairly comfortable with this model, primarily because, like photocopying, it provides objective criteria—the client pays for the number of TIFF or PDF pages that are generated from the data set. However, one of the principal disadvantages of this model is that it is difficult to accurately estimate the number of TIFF or PDF pages that will be generated from a data set prior to processing, thus making it difficult to estimate the cost. While some Providers include the cost of keyword searching, culling

(based upon file types and\or date ranges), and de-duplication in their per-page image conversion charge, others charge separately for each of these steps.

A more common pricing model used by Providers today is based upon the amount of data processed. Under this volume-based pricing model the Provider charges a set fee based upon the volume of data to be processed. Some Providers that use this model charge only for the data actually processed, after keyword searching, culling, and de-duplication, but charge separately for each of these steps; while other Providers charge based upon the size of the raw data set, before keyword searching, culling, and de-duplication, but bundle the cost of these steps into their processing charge. While this pricing model at least appears to make it easier to estimate the cost of processing e-data—if the cost per gigabyte is X and the data set consists of 100 gigabytes of data, one can quickly calculate the cost to process the data set—it may be unlikely that all 100 gigabytes of data will have to be processed. As with the per page pricing model, the raw data set will most likely be reduced by keyword searching, culling, and de-duplication, which will result in less than 100 gigabytes of data being processed. Any quote for volume-based pricing should clearly specify whether the quote is based on compressed or decompressed volume, as this can result in significant price differentials. Compressed volume would be the volume before expanding container files, such as email .pst files or .zip files; the decompressed volume is the volume of data after container files have been expanded.

Pricing models are as dynamic as the technology and processes used by Providers to process e-data. Therefore, it is imperative that the requesting party (Requestor) be able to break down the pricing contained in multiple proposals, regardless of the process used by the Provider. The Requestor should specify a pricing scenario in the request for proposals, and Providers

who use different pricing scenarios should provide a way for the Requestor to compare the pricing in their proposal to proposals in the requested format. For example, if the request calls for proposals based on a volume-based pricing model, Providers who use a page-based pricing model should include estimates of the number of pages per gigabyte, so that the Requestor can compare the proposal to proposals based on volume-based models.

Not surprisingly, pricing is an area of much innovation in the electronic discovery area. Fixed-price models, incentive-price models, project pricing, and strategic long-term relationships represent alternatives to the basic pricing approaches described above, and are just some of the innovations being requested today by major organizations.

APPENDIX D: SAMPLE DECISION MATRIX

INFORMATION REQUEST: DECISION MATRIX
SAMPLE ONLY – WEIGHTING IS KEY
As mentioned in text, this is only a beginning point.

Score: 1–5
Weight: 1–3

	WEIGHT	PROVIDER SCORES		
		Provider A	Provider B	Provider C
ABOUT THE PROVIDER				
Stability	2	3	3	4
Quality	2	3	3	5
Covenants*	2	4	3	5
Physical Plants	2	4	3	3
PERSONNEL				
Quality	3	3	3	3
Experience	3	3	3	3
Staffing Capacity	3	3	3	3
Project Management	3	3	3	5
ABOUT THE PRODUCT/SVC				
Process and Infrastructure	2	4	5	3
Quality of Work	2	4	5	3
PHYSICAL SITE & PERSONNEL SECURITY				
Physical Site Security	2	4	5	3
Personnel	2	4	5	3

	WEIGHT	PROVIDER SCORES		
		Provider A	Provider B	Provider C
DATA SECURITY				
Hardware Security	2	5	4	4
Software Security	2	5	4	3
Network Security	2	5	4	4
Enterprise Vulnerability Management	2	5	4	4
Web Services & Transmission Security	2	5	4	3
PROJECT SECURITY				
Rights on Termination	3	5	4	5
Conflicts	2	4	4	5
Data Management	3	5	4	4

	RESULTS		
	Provider A	Provider B	Provider C
About the Provider	28	24	34
Personnel	36	36	42
About the Product/Svc	16	20	12
Physical Site & Personnel Security	16	20	12
Data Security	50	40	36
Project Security	38	32	37
TOTAL	184	172	173

* Includes: Obligations, Representations, Warranties, etc.

NOTE: Scores outside the range of 1–5 and weights outside the range of 1–3 will be highlighted in RED.

APPENDIX E: TECHNOLOGY RESOURCE PANEL

THE SEDONA CONFERENCE WORKING GROUP SERIES TECHNOLOGY RESOURCE PANEL PROVIDER MEMBERS: (as of April 2017)*

Alix Partners, LLP

Altep

Driven Inc.

H5

Ipro Tech, LLC

kCura Relativity

Meta-e Discovery, LLC

NightOwl Discovery, Inc.

Nuix

QuisLex

TCDI

* For a current listing of TRP members, *see* www.thesedonaconference.org.

THE SEDONA CONFERENCE COMMENTARY ON PROPORTIONALITY IN ELECTRONIC DISCOVERY*

A Project of The Sedona Conference Working Group on Electronic Document Retention and Production (WG1)

Author:

The Sedona Conference

Editors-in-Chief & Steering Committee Liaisons:

Kevin F. Brady — Ariana J. Tadler

Team Leaders:

Philip Favro — Peter Pepiton

Drafting Team Members:

Bobbi Basile — Alan C. Geolot

Lea Malani Bays — Peter B. Haskel

David R. Cohen — Robert L. Levy

Aaron Crews — Annika K. Martin

Judicial Participants:

Hon. James C. Francis IV — Hon. Craig B. Shaffer

Copy Editor:

Susan McClain

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PREFACE

Welcome to the final, May 2017, version of The Sedona Conference *Commentary on Proportionality in Electronic Discovery*, a project of The Sedona Conference Working Group on Electronic Document Retention & Production (WG1). The Sedona Conference is a 501(c)(3) research and educational institute dedicated to the advanced study of law and policy in the areas of antitrust law, complex litigation, and intellectual property rights. The mission of The Sedona Conference is to move the law forward in a reasoned and just way.

The public comment version of this third iteration of The Sedona Conference *Commentary on Proportionality in Electronic Discovery* was published in November 2016 to reflect the significant and evolving emphasis on proportionality under the 2015 amendments to the Federal Rules of Civil Procedure. After a 60-day public comment period, the editors reviewed the public comments received and, where appropriate, incorporated them into this final version. We hope that this 2017 version of the *Commentar*y will evolve into an authoritative statement of law, both as it is and as it should be. As always, future developments in the law may warrant another iteration of this *Commentary*. Your comments and suggestions regarding future versions may be sent to comments@sedonaconference.org.

On behalf of The Sedona Conference, I thank once again all the drafting team members including Bobbi Basile, Lea Malani Bays, David R. Cohen, Aaron Crews, Alan C. Geolot, Peter B. Haskel, Robert L. Levy, and Annika K. Martin, along with all of our WG1 members whose dialogue and comments contributed to this *Commentary*. The Sedona Conference also thanks The Honorable James C. Francis IV and The Honorable Craig D. Shaffer for serving as Judicial Participants. Finally, we extend a special thanks to Philip Favro and Peter Pepiton for serving as Team Leaders, and to Kevin F. Brady and Ariana J. Tadler for

serving as both Editors-in-Chief and Steering Committee Liaisons.

Craig Weinlein
Executive Director
The Sedona Conference
May 2017

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THE SEDONA CONFERENCE PRINCIPLES OF PROPORTIONALITY

Principle 1: The burdens and costs of preserving relevant electronically stored information should be weighed against the potential value and uniqueness of the information when determining the appropriate scope of preservation.

Principle 2: Discovery should focus on the needs of the case and generally be obtained from the most convenient, least burdensome, and least expensive sources.

Principle 3: Undue burden, expense, or delay resulting from a party's action or inaction should be weighed against that party.

Principle 4: The application of proportionality should be based on information rather than speculation.

Principle 5: Nonmonetary factors should be considered in the proportionality analysis.

Principle 6: Technologies to reduce cost and burden should be considered in the proportionality analysis.

INTRODUCTION

Achieving proportionality in civil discovery is critically important to securing the "just, speedy, and inexpensive resolution of civil disputes" as mandated by Federal Rule of Civil Procedure 1. Despite periodic changes in the civil discovery rules since 1983 to address claims of excess, burden, and abuse, some commentators continued to express dissatisfaction with the handling of discovery issues and disputes, especially with respect to electronically stored information (ESI). Much of this continued frustration appeared to be rooted in the perception that preservation and production burdens were not always proportional to the particular lawsuits at issue.

Rules 26(b)(1) and 37(e) were completely revamped in December 2015. The proportionality considerations that were formerly in Rule 26(b)(2)(C)(iii) were moved to Rule 26(b)(1). The 2015 amendment restores the proportionality factors to their original place in defining the scope of discovery. Chief Justice John Roberts wrote in his Year-End Report on the Federal Judiciary that amended Rule 26(b)(1) "crystalizes the concept of reasonable limits on discovery through increased reliance on the common-sense concept of proportionality." Rule 26(b)(1) now provides that "[p]arties may obtain discovery regarding any nonprivileged matter that is relevant to any party's claim or defense and proportional to the needs of the case considering":

- "the importance of the issues at stake in the action,"
- "the amount in controversy,"
- "the parties' relative access to relevant information,"
- "the parties' resources,"
- "the importance of the discovery in resolving the issues, and"

- "whether the burden or expense of the proposed discovery outweighs its likely benefit."

Proportionality is now one of the factors, together with relevance, determining the scope of discovery. A consideration was added ("the parties' relative access to relevant information") to address information asymmetry, and another consideration was moved ("the amount in controversy") to emphasize that this may not be determinative in terms of whether discovery should be permitted or precluded. Proportionality should be considered in fashioning discovery requests, responses, and objections.

Proportionality considerations often may be relevant to rules that do not explicitly adopt the term "proportionality." Examples include whether ESI is "not reasonably accessible," Fed. R. Civ. P. 26(b)(2)(B); if discovery is "unreasonably cumulative or duplicative," Rule 26(b)(2)(C)(i); whether a "party seeking discovery has had ample opportunity to obtain the information by discovery in the action," Rule 26(b)(2)(C)(ii); and whether production of trial preparation material would cause "undue hardship," Rule 26(b)(3)(A)(ii). In addition, case law construing these other rules may be instructive in addressing Rule 26(b)(1) proportionality issues.

Amended Rule 37(e) applies if ESI "that should have been preserved in the anticipation or conduct of litigation is lost because a party failed to take reasonable steps to preserve it." In determining the reasonableness of the preservation steps taken, courts may consider, among other things, the proportionality of the preservation efforts. Although Rule 37(e) applies only to ESI, the court should also be able to consider proportionality in connection with the preservation of non-ESI sources of information.

The amendments to Rules 26(b)(1) and 37(e) are intended to modify how civil litigation is handled going forward. The committee notes make clear the increased emphasis on the role of

proportionality in discovery. The practical ramifications of including the proportionality factors in the scope of discovery are evolving and many questions remain concerning how practitioners and judges will adjust. Those questions became the main drivers behind the initiative to revisit at this time The Sedona Conference *Commentary on Proportionality in Electronic Discovery*.

While WG1 hopes that all states will eventually adopt proportionality rules for discovery, WG1 acknowledges that this is not the situation in 2017. Therefore, parties and practitioners planning or facing litigation that could be filed in state court need to consult state laws to ensure they comply with applicable pre-litigation preservation duties.

THE SEDONA CONFERENCE
PRINCIPLES OF PROPORTIONALITY WITH COMMENTARY

Principle 1: The burdens and costs of preserving relevant electronically stored information should be weighed against the potential value and uniqueness of the information when determining the appropriate scope of preservation.

Comment 1.a: Although the Federal Rules of Civil Procedure ("Rules," or "Federal Rules")[1] do not apply until litigation has commenced, the provisions of Rule 37(e) address spoliation of ESI where preservation duties arise before the commencement of litigation. As the advisory committee note to Rule 37(e) suggests, proportionality principles may be considered in evaluating the reasonableness of pre-litigation preservation efforts of all parties.[2] It is important to note that in applying principles of proportionality to preservation, a miscalculation can lead to the permanent loss of relevant information. In contrast, a miscalculation during production can usually be cured. In particular, at the preservation stage parties should be wary of applying too narrow a definition of what constitutes relevant ESI. Parties often can reduce the risk of loss of relevant information with

1. Although these Principles generally reference the Federal Rules and federal case law, it is the hope and expectation of WG1 that the Principles will also serve as a useful guide to courts and litigants involved in state court litigation, except where applicable state rules or law are inconsistent with the Principles set forth herein.

2. FED. R. CIV. P. 37(e) advisory committee's note. *See also* Lord Abbett Mun. Income Fund, Inc. v. Asami, No. C-12-03694, 2014 WL 5477639, at *3 (N.D. Cal. Oct. 29, 2014) (noting that "the proportionality principle applies to the duty to preserve potential sources of evidence"). Although proportionality applies to all stages of the discovery process, Principle 1 focuses on the preservation stage of that process.

steps such as the following: (i) earlier or more complete disclosure about the substance of their claims and defenses; (ii) communication about the types of information each party considers to be within the duty to preserve; and (iii) earlier or more thorough investigation of the existence and location of relevant information.

Comment 1.b: Courts conducting a post hoc analysis of a party's preservation decisions should do so in light of the proportionality factors set forth in Rule 26, and the reasonableness of the preserving party's efforts, as provided in Rule 37(e).[3] This analysis should, in turn, depend on the date when the preservation obligation arose and the knowledge available to that party at the time when the information was, or could have been, preserved.[4] As reflected in the advisory committee note, the court, when analyzing these issues, "should be sensitive to party resources; aggressive preservation efforts can be extremely costly, and parties (including government parties) may have limited staff and resources to devote to those efforts."[5] The note further

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3. *See* Hon. Craig D. Shaffer, *The "Burdens" of Applying Proportionality*, 16 SEDONA CONF. J. 55, 102 (2015) (discussing the application of the Rule 26(b)(1) proportionality factors in the preservation context).

4. The committee note states that, "[c]ourts should consider the extent to which a party was on notice that litigation was likely and that the information would be relevant." *See* Marten Transp., Ltd. v. Plattform Advert., Inc., No. 14-cv-02464, 2016 WL 492743, at *10 (D. Kan. Feb. 8, 2016) (finding that the duty to preserve did not extend to certain internet search history because, at the time the duty to preserve arose, there was no reason to believe the plaintiff knew or should have known the information would be relevant). In many cases, the duty to preserve will arise first for the plaintiff, as it is the party bringing the action and thus knows there is a reasonable likelihood of litigation prior to any party being sued.

5. As the committee note states, "[t]he court should also be sensitive to the party's sophistication with regard to litigation in evaluating preservation efforts." *Compare* Best Payphones Inc. v. City of New York, No. 1-CV-3924, 2016 WL 792396, at *5 (E.D.N.Y. Feb. 26, 2016) (finding that a party was not

provides that "[a] party may act reasonably by choosing a less costly form of information preservation, if it is substantially as effective as more costly forms." In any motion under Rule 37(e), it may also be appropriate to consider, as part of a proportionality analysis, each party's preservation actions regarding the information at issue.

Steps that can be taken by each party to meet its preservation obligations, where proportional, include:

i. in advance of litigation, having in place reasonable policies addressing legal preservation obligations that may arise;[6]
ii. identification of relevant custodians with knowledge of the matters in dispute;
iii. discussion with custodians and other appropriate personnel to identify sources of unique ESI and other information relevant to the matter, including "non-custodial" sources;
iv. preservation of the identified ESI;
v. suspension of information retention policies that would otherwise result in the routine deletion of unique relevant ESI;

---

unreasonable in his preservation efforts when he was under the mistaken belief that he was preserving his emails by keeping his emails "new"), *with* U.S. *ex rel.* Guardiola v. Renown Health, No. 12-cv-0295, 2015 WL 5056726, at *4–5 (D. Nev. Aug. 25, 2015) (urging companies to consider implementing "sensible" retention policies to avoid the costs and burdens of addressing ineffective preservation practices).

6. Within this *Commentary*, the term "policies" means formal protocols that organizations have developed and follow to address matters relating either to information retention or preservation for litigation purposes. "Policies" also refers to practices developed in the absence of written protocols that organizations observe for information retention or preservation purposes.

vi. maintenance of relevant ESI in a reasonably accessible format; and
vii. documentation of preservation efforts undertaken.

Comment 1.c: Rule 26(f) includes preservation as an issue to be discussed during the Rule 26(f) conference. It may be appropriate for all parties to discuss their respective information retention policies and the steps they have taken to preserve relevant information; however, neither a party's information retention policies nor its litigation preservation policies should routinely be the subject of collateral discovery. The parties should be cognizant of attorney-client privilege and attorney work product, but these protections should not be used to withhold information regarding the existence, location, and accessibility of relevant information. A party may also decide to initiate discussions regarding preservation with the opposing party prior to discovery, which may be especially important if the party is in receipt of a preservation demand. Such a dialogue creates an opportunity to agree on the appropriate scope of preservation. Although it is preferable for the parties to reach such agreements, if the parties are unable to do so, a judge can be asked to impose a preservation order.[7]

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7. The committee note to Rule 37(e) states:

> The duty to preserve may in some instances be triggered or clarified by a court order in the case. Preservation orders may become more common, in part because Rules 16(b)(3)(B)(iii) and 26(f)(3)(C) are amended to encourage discovery plans and orders that address preservation. Once litigation has commenced, if the parties cannot reach agreement about preservation issues, promptly seeking judicial guidance about the extent of reasonable preservation may be important.

Principle 2: Discovery should focus on the needs of the case and generally be obtained from the most convenient, least burdensome, and least expensive sources.

Comment 2.a: Although the scope of discovery can be broad, it is not unlimited.[8] All discovery is subject to the proportionality factors incorporated in Rules 26(b)(1), 26(b)(2)(C), and 26(g)(1)(B).[9] Proper application of those proportionality factors focuses on the actual claims and defenses in the case, and how and to what degree requested discovery bears on those claims and defenses. In the end, "[t]he court's responsibility, using all the information provided by the parties, is to consider [all the

8. *Compare* Siriano v. Goodman Man. Co. L.P., No 2:14-cv-1131, 2015 WL 8259548, at *11 (S.D. Ohio Dec. 9, 2015) ("The scope of discovery under the Federal Rules of Civil Procedure is traditionally quite broad . . . [and] is more liberal than the trial setting, as Rule 26(b) allows discovery 'regarding any nonprivileged matter that is relevant to any party's claim or defense and proportional to the needs of the case.'"), *with* Cole's Wexford Hotel, Inc. v. Highmark Inc., No. 10-1609, 2016 WL 5025751 (W.D. Pa. Sept. 20, 2016) (holding that "the scope of discovery is limited to matter that is relevant to claims or defenses and is proportional to the needs of a case" and finding reliance on case law that construed the scope of discovery to be "relevant to the subject matter involved in the pending action" to be "misplaced" and having "no application" after the enactment of the 2015 amendments). *See also In re* Bard IVC Filters Products Liability Litigation, No. MDL 15-02641-PHX DGC, 2016 WL 4943393 (D. Ariz. Sept. 16, 2016) (explaining that the 2015 amendments to Rule 26(b)(1) "abrogated cases" that applied previous versions of the rule and that the "test going forward is whether evidence is 'relevant to any party's claim or defense,' not whether it is 'reasonably calculated to lead to admissible evidence.'").

9. Carr v. State Farm Mut. Auto. Ins. Co., No. 3:15-cv-1026-M, 2015 WL 8010920 (N.D. Tex. Dec. 7, 2015) (discussing standards under amended Rule 26(b)); Noble Roman's, Inc. v. Hattenhauer Distrib. Co., No. 1:14-cv-01734-WTL-DML, 2016 WL 1162553, at *3 (S.D. Ind. Mar. 24, 2016) (limits and breadth of discovery under Rule 26 also apply to Rule 45 third party subpoenas).

proportionality factors] in reaching a case-specific determination of the appropriate scope of discovery."[10]

Comment 2.b: Weighing the accessibility[11] and associated expense and burden of discovering relevant information, as well as the discovery needed in a given case, requires a nuanced and often iterative approach.[12] Although any one source of information is unlikely to be the most convenient, least burdensome, and least expensive, proportionate discovery is not defined by a "perfect fit" and cannot be reduced to a simple quantitative formula. For this reason, it is important that the parties confer regarding available sources and make meaningful disclosures about the types of information found in those sources.[13] Cooperation in the meet and confer process can focus discovery on

10. FED. R. CIV. P. 26 advisory committee's note.

11. This *Commentary* does not address the relationship between proportionality and the "Specific Limitations on Electronically Stored Information" that apply to sources of ESI that are not reasonably accessible under Federal Rule of Civil Procedure 26(b)(2)(B). *See* The Sedona Conference, *Commentary on Preservation, Management and Identification of Sources of Information that are Not Reasonably Accessible*, THE SEDONA CONFERENCE (July 2008), https://thesedonaconference.org/publication/The%20Sedona%20Conference%C2%AE%20Commentary%20on%20Preservation%2C%20Management%20and%20Identification%20of%20Sources%20of%20Information%20that%20are%20Not%20Reasonably%20Accessible.

12. *See, e.g.*, Siriano v. Goodman Man. Co. L.P., No 2:14-cv-1131, 2015 WL 8259548, at *7 (S.D. Ohio Dec. 9, 2015) (ordering discovery conference to discuss phasing and directing parties to "engage in further cooperative dialogue in an effort to come to an agreement regarding proportional discovery"); Sender v. Franklin Res., Inc., No. 11-cv-03828-EMC (SK), 2016 WL 814627, at *2 (N.D. Cal. Mar. 2, 2016) (ordering single Rule 30(b)(6) deposition to cover enumerated topics in lieu of written discovery and five depositions "where it is debatable whether the deponents are the appropriate individuals").

13. *See* Ariana J. Tadler, *APB To Requesting Parties: Prepare for Proportionality*, PRACTICAL LAW (Nov. 15, 2015) (encouraging transparency during the

finding relevant ESI from the most readily available sources and thereby reduce the burden of production.

For example, the responding party may have already collected, searched, processed, and reviewed a significant amount of ESI for a similar litigation or government investigation.[14] If the requesting and responding parties in a new matter addressing similar issues agree on a targeted production from the information already produced, this ESI collection presumably can be produced expeditiously and without undue burden. If the responding party has confidentiality or other concerns regarding the ESI to be produced in the new matter, after early resolution of such concerns, the resulting ESI production can be made without undue burden.[15]

Comment 2.c: In the early stages of litigation, application of the proportionality factors may be complicated by the parties' and the court's lack of information. It may be difficult to determine all of the claims and defenses or the factual or legal issues

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Rule 26(f) conference since a responding party frequently has "better information (and sometimes the only information) to support claims of undue burden or expense"); Philip J. Favro & Hon. Derek P. Pullan, *New Utah Rule 26: A Blueprint for Proportionality Under the Federal Rules of Civil Procedure*, 2012 MICH. ST. L. REV. 933, 954 (2012) ("[P]arties seeking the protection of proportionality principles must engage in reasonable, cooperative discovery conduct.").

14. *In re* WorldCom, Inc. Sec. Litig., 234 F. Supp. 2d 301 (S.D.N.Y. 2002) (lifting PSLRA stay to allow discovery in subsequent civil litigation of documents previously provided to governmental entities).

15. *In re* Bayer Phillips Colon Health Probiotic Sales Practices Litig., No. 11-cv-3017, at 2–3 (JLL) (JAD) (D.N.J. May 7, 2015) (finding that confidential or irrelevant documents were not subject to production simply because they were previously provided to government; parties to meet and confer to reach agreement on document issues with plaintiffs having the right to seek to compel production of additional documents in absence of an agreement).

that will ultimately be critical in the litigation. Therefore, a proportional approach to discovery must be measured by the information available to the parties "as of the time" requests, responses, or objections are served.[16] A requesting party may lack sufficient information to understand the burden or expense associated with responding to discovery, while a responding party may not fully appreciate the importance of the discovery to the ultimate disposition of the case. In any event, a proportionate assessment of the needs of the case requires more than conjecture or unfounded assertions.[17]

For these reasons, the court, or the parties on their own initiative, may find it appropriate to conduct discovery in phases, starting with discovery of clearly relevant information available from the most accessible and least expensive sources.[18] Thus, it may be appropriate for parties to focus initially on the ESI of certain key custodians or certain key time periods that may be less burdensome to collect and search. Phasing may allow the parties to develop the facts of the case sufficiently to determine

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16. *See* Lifeguard Licensing Corp., v. Kozak, 15 Civ. 8459 (LGS)(JCF), 2016 WL 3144049, at *3 (S.D.N.Y. May 23, 2016) (observing that amended "Rule 26(b)(1) makes no distinction between claims and defenses; to be discoverable, information must be 'relevant to a party's claim or defense.' And the plain language of the Rule does not provide for discovery of 'likely,' 'anticipated,' or 'potential' claims or defenses.").

17. Salazar v. McDonald's Corp., No. 14-cv-02096-RS(MEJ), 2016 WL 736213 (N.D. Cal. Feb. 25, 2016) (rejecting defendant's generalized arguments regarding cost and burden); Cargill Meat Solutions Corp. v. Premium Beef Feeders, LLC, No. 13-cv-1168-EFM-TJJ, 2015 WL 3937410 (D. Kan. June 26, 2015) (rejecting arguments of undue burden based on "unsupported estimate" of cost and "unsubstantiated" claims that discovery is cumulative and duplicative).

18. Doyle v. Gonzalez, No. CV-10-0030-EFS, 2011 WL 611825 (E.D. Wash. Feb. 10, 2011) (phasing discovery based on city's limited financial resources with court ordering searches of city's servers based on 31 terms rather than 10 proposed by city).

how to efficiently and effectively target subsequent discovery.[19] In addition, phasing discovery may allow the parties to focus first on the information that will be most helpful in assessing litigation risk and facilitating settlement discussions, or on case-dispositive legal issues that can be decided with minimal factual development.[20] An agreement to engage in phased discovery should not preclude a party from later seeking additional relevant discovery, nor impose on the requesting party a heightened burden under Rule 26(b)(1).[21] In short, phased discovery should be viewed as a way to promote the objectives of Rule 1.[22]

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19. United States *ex rel.* Oughatiyan v. IPC the Hospital Company, Inc., No. 09 C 5418, 2015 WL 4249195 (N.D. Ill. July 14, 2015) (ordering phased discovery in nationwide False Claims Act case, which alleged wrongdoing from January 2003 to the present, that focused initially on defendant's operations in seven states and for the period from 2014 through date of Government complaint); Barrera v. Boughton, No. 3:07-cv-1436 (RCN), 2010 WL 3926070 (D. Conn. Sept. 30, 2010) (granting in part plaintiff's motion to compel with phasing of ESI discovery by ordering review of electronic information from three individuals for period shorter than that sought by plaintiffs and longer than that proposed by defendants).

20. Tamburo v. Dworkin, No. 04 C 3317, 2010 WL 4867346, at *3 (N.D. Ill. Nov. 17, 2010) (citing *The Sedona Conference Commentary on Proportionality in Electronic Discovery*, 11 SEDONA CONF. J. 289 (2010), court ordered parties in longstanding case to meet and confer on phasing of discovery "to identify which claims are most likely to go forward and concentrate their discovery efforts in that direction before moving on to other claims").

21. Strauch v. Compu. Sci. Corp., No. 3:14 CV 956 (JBA), 2015 WL 7458506 (D. Conn. Nov. 24, 2015) (allowing defendant to use its proposed search terms for production but without prejudice to plaintiffs seeking additional documents if they found production to be insufficient); Gardner v. Continental Cas. Co., No. 3:13 CV 1918 (JBA), 2016 WL 155002, at *3 (D. Conn. Jan. 13, 2016) (citing *Strauch,* court ordered parties to discuss various document review approaches, without prejudice to plaintiffs renewing their motion if parties did not reach agreement).

22. Hon. Elizabeth D. Laporte & Jonathan M. Redgrave, *A Practical Guide to Achieving Proportionality Under New Federal Rule of Civil Procedure 26*, 9 FED.

Parties who wish to conduct phased discovery must communicate with one another about the issues relevant to the litigation and make meaningful disclosures about the repositories—both accessible and inaccessible—that may contain relevant information.[23] Moreover, the parties must cooperate with one another to prepare and propose to the court a phased discovery plan.

Principle 3: Undue burden, expense, or delay resulting from a party's action or inaction should be weighed against that party.

Comment 3.a: Although the Federal Rules do not set forth specific deadlines for completing discovery, courts often set discovery deadlines in accordance with their own scheduling orders or local rules. Courts may also control the sequence of fact and expert discovery, set specific dates for completion of document production, or limit the time period in which parties can raise discovery disputes. Setting deadlines for substantial completion of discovery (or certain phases of discovery) can reduce incentives for a party to manipulate or inappropriately prolong the discovery process with burdensome requests or inappropriate objections.

Comment 3.b: Propounding discovery requests at the early stages of the litigation allows parties time to explore compliance with the discovery requests, consider proportionality issues,

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CTS. L. REV. 19 (2015) (touting the virtues of phasing as a "practical solution" to particular challenges in the discovery process).

23. *In re* Bard IVC Filters Products Liability Litigation, No. MDL 15-02641-PHX DGC, 2016 WL 4943393 (D. Ariz. Sept. 16, 2016) (observing that the "proportionality requirement" mandates "input from both sides" in order to yield success in discovery).

and bring any disputes before the court for resolution.[24] Indeed, Rule 26(d)(2) permits a party to propound document requests prior to the Rule 26(f) meeting between the parties to enable counsel to use that conference to identify and attempt to resolve potential discovery disputes.[25] This process allows time for meaningful good faith discussions regarding discovery and facilitates discussion of the proportionality factors by the parties. Results of the Rule 26(f) meeting should be embodied in the Rule 26(f)(3) discovery plan, which serves as a useful tool for the parties to address the numerous discovery issues set forth in the Rule. Attention to these issues at an early stage can help shape the discovery process, give the parties the opportunity to resolve e-discovery issues, and allow the court to provide guidance and rulings on issues that the parties cannot resolve.

Comment 3.c: In assessing whether a particular discovery request or requirement is unduly burdensome or expensive, a court should consider the extent to which the claimed burden and expense grew out of the responding party's own action or inaction.[26] In addition, the court may consider the time at which the issue arose and whether the requesting party should have raised the issue earlier.[27]

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24. Similarly, parties should also take into account the proportionality factors in connection with sending or responding to a preservation letter.

25. Although parties are now permitted to serve document requests prior to the Rule 26(f) conference, for purposes of compliance with response timing, the requests are considered served on the date of the first Rule 26(f) conference.

26. United States *ex rel.* Guardiola v. Renown Health, No. 3:12-cv-00295-LRH-VPC, 2015 WL 5056726, at *4–*6 (D. Nev. Aug. 25, 2015) (citing defendant's storage practices in finding that email was reasonably accessible and ordering its retrieval and production).

27. Goodman v. Praxair Servs., Inc., 632 F. Supp. 2d 494, 506–08 (D. Md. 2009) (spoliation motion "should be filed as soon as reasonably possible after discovery of the facts that underlie the motion"); Cottle-Banks v. Cox

Although a party's conduct is not *per se* a proportionality factor, failure to engage in early, meaningful discussions designed to develop a discovery plan and avoid potential disputes may properly affect the outcome of any proportionality determination that a court makes. This is appropriate because a party can be sanctioned for failing "to participate in good faith in developing and submitting a proposed discovery plan as required by Rule 26(f)."[28]

Comment 3.d: Information retention policies may also affect the proportionality analysis. Where a party's information retention policies serve reasonable organizational or commercial purposes, burden, expense, or delay attributable to such policies should not be held against the party claiming burden.[29] Conversely, where information retention policies do not serve such purposes, associated arguments of burden, expense, or delay should be discounted.[30]

Comment 3.e: The failure to notify the requesting party that relevant ESI is being withheld on the basis of proportionality

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Comms., Inc., No. 10-cv-2133-GPC (WVG), 2013 WL 2244333, at *16 (holding as untimely a spoliation motion filed nine months after issue arose).

28. FED. R. CIV. P. 37(f). *See* Skepkek v. Roper & Twardowsky, LLC, No. 11-4102-KHV, 2014 WL 289470, at *3 (D. Kan. Jan. 27, 2014) (refusing to impose sanctions in part because both parties at fault for failing to adequately confer at Rule 26(f) conference regarding ESI production).

29. *See* Solo v. United Parcel Service Co, No. 14-12719, 2017 WL 85832 (E.D. Mich. Jan. 10, 2017) (reasoning the defendant had a "valid business reason . . . for storing older data on backup tapes" and declining to order its production).

30. *See* United States *ex rel.* Guardiola v. Renown Health, No. 3:12-cv-00295-LRH-VPC, 2015 WL 5056726, at *4–*6 (D. Nev. Aug. 25, 2015) (rejecting a responding party's claims of inaccessibility, undue burden, and undue cost given its reliance on disaster recovery tapes for common law preservation purposes).

should also be weighed against the responding party. The parties should engage in discussions regarding the limits of the search proposed or performed for responsive information to address the scope of such discovery.[31]

Comment 3.f: The resolution of these and other disputes can be fact-intensive, requiring the court to assess whether the requesting and responding parties complied with their discovery obligations, the degree of culpability involved, and the prejudice to the moving party.

Principle 4: The application of proportionality should be based on information rather than speculation.

Comment 4.a: Rule 26(b)(1) provides that in considering whether to limit discovery that may be disproportionately burdensome or expensive, courts should consider "the importance of the discovery in resolving the issues." In other words, the court may limit discovery if the information sought, while relevant, is not sufficiently important to warrant its production.[32] This issue often arises when discovery requests seek information that is duplicative, cumulative, or not reasonably accessible.[33]

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31. FED. R. CIV. P. 34 advisory committee's note.

32. An alternative to limiting burdensome or expensive discovery is to shift its cost to the requesting party. *See* FED. R. CIV. P. 26(c)(1)(B); *see also* Rowe Entm't, Inc. v. William Morris Agency, Inc., 205 F.R.D. 421, 428 (S.D.N.Y. 2002) ("[T]here is no justification for a blanket order precluding discovery of the defendants' e-mails on the ground that such discovery is unlikely to provide relevant information . . . . The more difficult issue is the extent to which each party should pay the costs of production."); McPeek v. Ashcroft, 202 F.R.D. 31, 34 (D.D.C. 2001) ("The converse solution is to make the party seeking the restoration of the backup tapes pay for them, so that the requesting party literally gets what it pays for.").

33. FED. R. CIV. P. 26(b)(2)(C)(i). *See also* Mckinney/Pearl Rest. Partners, L.P., v. Metro. Life Ins. Co., No. 3:14-cv-2498-B, 2016 WL 98603, at *3 (N.D.

Comment 4.b: When asked to limit discovery on the basis of proportionality, courts should consider the likely benefits of the information sought for resolving factual issues in dispute. Discovery must be limited if producing the requested information is disproportionate to its likely benefits, considering the Rule 26(b)(1) proportionality factors. Performing this kind of assessment can be particularly challenging because it may be difficult to evaluate the importance of the requested information until it is actually produced.[34]

Tex. Jan. 8, 2016) ("[J]ust as was the case before the December 1, 2015 amendments, under Rules 26(b)(1) and 26(b)(2)(C)(iii), a court can—and must—limit provider discovery that it determines is not proportional to the needs of the case . . . and must do so even in the absence of a motion."); Eisai Inc. v. Sanofi-Aventis U.S., LLC, No. 08-4168, 2012 WL 1299379, at *7–10 (D.N.J. Apr. 16, 2012) (applying proportionality standards to curtail discovery requests that sought marginally responsive information that was duplicative of ESI already produced in discovery). Courts may also employ sampling for the purpose of evaluating a request to shift costs. Zubulake v. UBS Warburg LLC, 217 F.R.D. 309, 324 (S.D.N.Y. 2003) ("Requiring the responding party to restore and produce responsive documents from a small sample of backup tapes will inform the cost-shifting analysis.").

34. *See* FED. R. CIV. P. 26(b)(2) advisory committee's note ("The good-cause determination, however, may be complicated because the court and parties may know little about what information the sources identified as not reasonably accessible might contain, whether it is relevant, or how valuable it may be to the litigation."); *see also* Peskoff v. Faber, 244 F.R.D. 54, 59 (D.D.C. 2007) ("Application of this factor can be challenging because the importance of the results of the forensic examination can only be assessed after it is done."); and Oracle v. Google, No. 10-cv-03561-WHA (DMR), 2015 WL 7775243, at *2 (N.D. Cal. Dec. 3, 2015) (Both parties failed to provide sufficient information to address the proportionality factors, so the court had to make its "best judgment based on limited information before it.").

In some cases, it may be clear that the information requested is important or perhaps even outcome-determinative.[35] In other cases, extrinsic information may be required to demonstrate the importance of the information sought or the effort required in order to produce it.[36]

Extrinsic information can take many forms and may include affidavits, estimates of the expenses to be incurred based upon experiences from prior litigation, industry experiences, or another basis supported by research or analysis performed. Such information may include the parties' reasoned statements regarding the likely importance of the requested information, whether the requested information was created by "key players,"[37] whether prior discovery permits an inference that the requested information is likely to be important,[38] whether the creation of the information requested was contemporaneous with

35. *See* Covad Comms. Co. v. Revonet, Inc., 258 F.R.D. 5, 13 (D.D.C. 2009) (permitting discovery that "should establish once and for all" a key issue in the case).

36. Ashmore v. Allied Energy, No. 8:14-cv-00227-JMC, 2016 WL 301169, at *3 (D.S.C. Jan. 25, 2016) ("Defendant did not submit any documentation (i.e., statement of work or invoice) that either establishes the proposed cost of production or a cost estimate for an alternative form of production (such as by disc or hard drive). Moreover, there is no information before the court regarding Defendant's resources or financial condition to assess its ability to fund the cost of the document production. . . . Without the aforementioned cost/financial information, the court concludes that Defendant cannot demonstrate that the document production to Plaintiff is unduly burdensome, unreasonable, or oppressive.") (citations omitted).

37. *Zubulake*, 217 F.R.D. at 317 ("[E]mail constituted a substantial means of communication among UBS employees.").

38. *Peskoff*, 244 F.R.D. at 60 ("[I]t can be said that the information that has been produced thus far in this case permits the court to infer the possible existence of additional similar information that warrants further judicial action."); Ameriwood Indus., Inc. v. Liberman, No. 06-524, 2006 WL 3825291, at *3 (E.D. Mo. Dec. 27, 2006) ("In light of the Samsung email, the Court finds

key facts in the case,[39] or whether the information requested is unique.[40] Any attempt to evaluate the importance of requested information will be fact-specific and vary from case to case.

Comment 4.c: In some circumstances, the courts may order sampling of the requested information to determine whether it is sufficiently important to warrant discovery.[41]

To the extent the parties decide to use sampling, they should consider how the process should be performed, considering the needs of the case, in order to obtain accurate and persuasive information. For example, will an extrapolation based on random sampling or statistical sampling of the larger universe be sufficient?[42] The parties should also consider whether disclosure of

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that other deleted or active versions of emails may yet exist on defendants' computers.").

39. *Ameriwood Indus., Inc.*, 2006 WL 3825291, at *5 ("In the instant action, defendants are alleged to have used the computers, which are the subject of the discovery request, to secrete and distribute plaintiff's confidential information.").

40. *See* FED. R. CIV. P. 26(b)(2)(C)(i) (providing that courts must limit discovery that is "unreasonably cumulative or duplicative").

41. *See* FED. R. CIV. P. 26(b)(2) advisory committee's note ("[T]he parties may need some focused discovery, which may include sampling of the sources, to learn more about what burdens and costs are involved in accessing the information, what the information consists of, and how valuable it is for the litigation in light of information that can be obtained by exhausting other opportunities for discovery."); Quintana v. Claire's Boutiques, Inc., No. 5:13-cv-00368-PSG, 2014 WL 234219, at *2 (N.D. Cal. January 21, 2014) (explaining that sampling advances the goal of proportionality under the Rules).

42. In *Larson v. AT&T Mobility LLC*, 687 F. 3d 109 (3rd Cir. 2012), the U.S. Court of Appeals for the Third Circuit overturned a district court decision on the grounds that it would be unreasonable for defendant Sprint to search its billing records in order to identify class members for individual notice under Fed. R. Civ. P. 23 in a class action against cellular-phone-service providers alleging that providers' contractual flat-rate early termination fee was an il-

the entire sample is appropriate, particularly since disclosure could result in the production of non-relevant information.[43] For example, in order to demonstrate the absence of unique responsive information, a party may consider providing a description or examples of the irrelevant documents to the requesting party in order to provide that party with equal knowledge as to what would be yielded from a search of those sources.[44] This transparency is especially important if cost-sharing has been raised.[45] In addition, sampling can be used to demonstrate the rate of responsive information, to extrapolate the volume (and therefore costs) associated with reviewing the potentially responsive ESI. Further, using sampling to demonstrate the rate of responsive

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legal penalty. The court cited Principle 4 of The Sedona Conference, *Commentary on Proportionality in Electronic Discovery*, 11 SEDONA CONF. J. 289 (2010), and noted that the availability of statistical sampling of Sprint's billing records as a means to provide an estimate of the number of class members who could be identified; and once that estimate was made, the Court could weigh the "anticipated results, costs and amount involved" and determine whether a full search of Sprint's databases would be reasonable. *Id*. at 130–31.

43. *See In re* Biomet M2a Magnum Hip Implant Products Liability Litig., No. 3:12-MD-2391, 2013 WL 6405156, at *2 (N.D. Ind. Aug. 21, 2013) (declining to order the production of non-responsive documents). *See also* Hon. John M. Facciola & Philip J. Favro, *Safeguarding the Seed Set: Why Seed Set Documents May Be Entitled To Work Product Protection*, 8 FED. CTS. L. REV. 1 (2015) (explaining that a sample may constitute work product in certain instances).

44. *In re* Lithium Ion Batteries Antitrust Litig., 2015 U.S. Dist. LEXIS 22915, at *51–56 (N.D. Cal. Feb. 24, 2015) (ordering a protocol that requires random sampling for disputed search terms and disclosing to requesting party all nonprivileged documents in the sample).

45. Fed. R. Civ. P. 26(c)(1)(B) expressly provides that courts may issue protective orders "specifying terms, including time and place or the allocation of expenses, for the disclosure or discovery." While courts may expressly allocate expenses between the parties, this "does not imply that cost-shifting should become a common practice. Courts and parties should continue to assume that a responding party ordinarily bears the costs of responding." FED. R. CIV. P. 26 advisory committee's note.

information can support an argument that a data source is or is not likely to contain responsive information.

Comment 4.d: The responding party may demonstrate that the burden or expense of producing the requested information outweighs its potential importance. Burden and expense should be supported by hard information and not by unsupported assertions.[46] For example, if a party claims that a search would result in too many documents, the party should run the search and be prepared to provide the opposing party with the number of hits and any other applicable qualitative metrics.[47] If the party claims that the search results in too many irrelevant hits, the party may consider providing a description or examples of irrelevant documents captured by the search.[48] Quantitative metrics in support of a burden and expense argument may include

46. *See* Mckinney/Pearl Rest. Partners, L.P., v. Metro. Life Ins. Co., No. 3:14-cv-2498-B, 2016 WL 98603, at *4 (N.D. Tex. Jan. 8, 2016) (A party seeking to resist discovery on proportionality grounds bears the burden of making a specific objection and showing that the discovery fails the proportionality calculation by "coming forward with specific information to address—insofar as that information is available to it—[the proportionality considerations]."); *see also* Herrera–Velazquez v. Plantation Sweets, Inc., No. CV614-127, 2016 WL 183058, n.6 (S.D. Ga. Jan. 14, 2016) (The burdens to show lack of proportionality has not fundamentally changed in Rule 26 compared to the earlier version of Rule 26 and so "a party seeking to resist discovery must come forward with specific information.") (citing Carr v. State Farm Mutual Auto Ins. Co., No. 3:15-cv-1026-M, 2015 WL 8010920, at *6 (N.D. Tex. Dec. 7, 2015)).

47. Finisar Corp v. Nistica Inc., No. 13-cv-03345-BLF (JSC), 2014 U.S. Dist. LEXIS 172414 (N.D. Cal. Dec 12, 2014) ("The Court expects that if a party insists that a search term results in too many hits, the party will have run the search and will be able to provide the opposing party with the number of hits and specific examples of irrelevant documents captured by the search. Blanket statements that certain search terms are unduly burdensome do not constitute meeting and conferring in good faith.").

48. *Id*.

the projected volume of potentially responsive documents. It may also encompass the costs associated with processing, performing data analytics, and review, taking into consideration the anticipated rate of review and reviewer costs, based upon reasonable fees and expenses.[49]

Principle 5: Nonmonetary factors should be considered in the proportionality analysis.

Comment 5.a: The Federal Rules recognize that the proportionality analysis encompasses important nonmonetary considerations. This includes "the importance of the issues at stake in the action," "the parties' relative access to relevant information," "the parties' resources," "the importance of the discovery in resolving the issues," and "whether the burden . . . of the proposed discovery outweighs its likely benefit."

Comment 5.b: Regarding "the importance of the issues at stake in the action," the committee note to Rule 26(b)(1) states:

> It also is important to repeat the caution that the monetary stakes are only one factor, to be balanced against other factors. The 1983 Committee Note recognized "the significance of the substantive issues, as measured in philosophic, social, or institutional terms. Thus the rule recognizes that

49. *Compare* Bridgestone Americas, Inc. v. Int'l Bus. Mach. Corp., No. 3:13-cv-1196, 2014 WL 4923014 (M.D. Tenn. July 22, 2014) (granting plaintiff's request to use technology-assisted review as a discovery search methodology over defendant's objection given the number of documents to be reviewed and the anticipated cost of conducting that review), *with* Labrier v. State Farm Fire & Cas. Co., No. 2:15-cv-04093-NKL, 2016 WL 2689513 (W.D. Mo. May 9, 2016) (rejecting defendant's assertions of undue burden based on time and cost given that the sought after discovery is "at the very heart of this litigation").

> many cases in public policy spheres, such as employment practices, free speech, and other matters, may have importance far beyond the monetary amount involved." Many other substantive areas also may involve litigation that seeks relatively small amounts of money, or no money at all, but that seeks to vindicate vitally important personal or public values.[50]

Thus the rule recognizes that cases may have importance far beyond the monetary amount involved. For example, cases concerning constitutional or statutorily created rights (such as those brought under 42 U.S.C. § 1983 or Title VII)[51] may warrant discovery that otherwise might not be indicated based on the amount in controversy which could be relatively minimal.[52]

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50. FED. R. CIV. P. 26(b)(1) advisory committee's note.

51. Doe v. Trustees of Boston College, No. 15-10790-DJC, 2015 WL 9048225 (D. Mass. Dec. 16, 2015) (citing committee note regarding "vitally important personal or public values" in gender bias case under Title IX); Morales v. Turman, 59 F.R.D. 157, 159 (E.D. Tex. 1972) (quoting United States v. Kohler, 9 F.R.D. 289, 291 (D. Pa. 1949)) ("When important civil rights are in issue in complex litigation of widespread concern, a court must make every effort to enhance the fact-finding process" and the "court's discretion must be guided by 'considerations of policy and of necessity, propriety and expediency in the particular case at hand.'").

52. *See, e.g.*, McHenry v. Chadwick, 896 F.2d 184, 189 (6th Cir. 1990) (finding in a civil rights case that "the value of the rights vindicated goes beyond the actual monetary award, and the amount of the actual award is not controlling"); *see also In re* Domestic Drywall Antitrust Litig., 300 F.R.D. 228, 232 (E.D. Pa. 2014) (finding that in some cases, such as antitrust cases, ESI's benefits "vastly outweigh its costs," because "the issues are important, the financial stakes of both discovery and damages are high, and there are important reasons of public policy justifying broad discovery in antitrust cases, regardless of the result. Some of the landmark antitrust cases of the last 50 years

Similarly, nonmonetary relief, such as an injunction or declaratory relief, may also factor into the proportionality analysis when appropriate.[53] Public interest or public policy considerations, such as deterrence or wholesale change in business or industry practices, may weigh in favor of broader discovery. In other cases, nonmonetary factors may weigh in favor of limiting discovery, such as when the discovery, for example, is used to wage a war of attrition, to coerce a party, or to infringe on the privacy rights of third parties.[54]

Comment 5.c: Another nonmonetary factor directs parties and courts to consider the "parties' relative access to information." As the committee note states:

> [t]he direction to consider the parties' relative access to relevant information adds new text to provide explicit focus on considerations already implicit in present Rule 26(b)(2)(C)(iii). Some cases involve what often is called "information asymmetry." One party—often an individual plaintiff—may have very little discoverable information. The other party may have vast amounts of information, including information that can be

have resulted in changes in normative corporate behavior. Given contemporary tools of discovery, ESI plays an important part, and must be considered in ruling on discovery disputes.").

53. *See, e.g.*, Jenkins v. United Gas Corp., 400 F.2d 28, 33 (5th Cir. 1968) ("In dollars Employee's claim for past due wages may be tiny. But before [this Court], it is enough on which to launch a full scale inquiry into the charged unlawful motivation in employment practices. It is even more so considering the prayer for injunction as a protection against a repetition of such conduct in the future.").

54. United States v. Univ. of Nebraska at Kearney, No. 4:11CV 3209, 2014 WL 4215381 (D. Neb. Aug. 25, 2014) (denying discovery requested by the plaintiff because it was overly broad and would impact the privacy interests of students).

> readily retrieved and information that is more difficult to retrieve. In practice these circumstances often mean that the burden of responding to discovery lies heavier on the party who has more information, and properly so.[55]

Cases involving "information asymmetry" may be particularly appropriate for creative use of the proportionality principles to ensure that a party has access to the discovery to allow it to present its case while at the same time avoiding unnecessary discovery. For example, if the parties can agree on certain stipulated facts, then there may be no need for discovery on those stipulated facts.[56]

Comment 5.d: A party's nonmonetary resources may also affect a proportionality analysis.[57] A party's resources, or lack

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55. FED. R. CIV. P. 26(b)(1) advisory committee's note.

56. Alternatively, the parties might consider other creative means to address "information asymmetry." In the employment context, for example, the parties might consider use of the Initial Discovery Protocols for Employment Cases Alleging Adverse Action, *available at* https://www.fjc.gov/sites/default/files/materials/2017/DiscEmpl.pdf.

57. *See* Chen-Oster v. Goldman, Sachs & Co., 285 F.R.D. 294, 305–06 (S.D.N.Y. 2012) ("Goldman Sachs has ample resources to respond in discovery. Indeed, at its direction, Aon Hewitt is regularly performing special projects on the PeopleSoft database similar to the search requested by the plaintiffs."); Major Tours, Inc. v. Colorel, CIV. 05-3091 JBSJS, 2009 WL 3446761, at *4 (D.N.J. Oct. 20, 2009), *aff'd,* 720 F. Supp. 2d 587 (D.N.J. 2010) (protecting NJ agency from production based on several proportionality factors, but mainly because "[g]iven the complexity and scope of this litigation, it is apparent that defendants have already spent hundreds of thousands of dollars in time and money on the defense of the case. No party, including the State, has an unlimited litigation budget to pay for document production efforts that in all likelihood are of marginal benefit."); McPeek v. Ashcroft, 202 F.R.D. 31 (D.D.C. 2001) (explaining its hesitance to require the government to restore backup tapes and ordering test search on data subset to determine likelihood that more complete restoration would be productive).

thereof, may encompass any number of items including, but not limited to, personnel, technology, intellectual property, health, and overall financial strength (or weakness).[58] The monetary aspect of a party's resources are appropriately considered in terms of Principle 2, but courts and practitioners should also be mindful that nonmonetary aspects of a party's resources could present distinct factors that serve to justify the requested discovery,[59] limit the extent of the discovery sought,[60] or influence questions regarding cost allocation, among other things.[61] For example, it may not be appropriate in some instances to require a party—be it an individual, business, or government entity—to divert its personnel and other assets to discovery tasks at the expense of the party's intended purposes.[62]

Comment 5.e: The final nonmonetary factors—"the importance of the discovery in resolving the issues" and "whether

58. However, assertions of inadequate resources should be used carefully and only in good faith. Williams v. Santiago, CIV A. 04-4841, 2006 WL 1737574, at *3 (E.D. Pa. June 22, 2006) (rejecting party's claim of inadequate resources as potentially a "calculated stratagem" in declining to set aside default judgment).

59. *See* Croman Corp. v. United States, 94 Fed. Cl. 149, 153 (2010) (declining to reopen discovery over argument that government trial counsel's limited resources had unfairly limited government's discovery during now-expired discovery period).

60. Hunter v. Ohio Indem. Co., No. 06-3524, 2007 WL 2769805, at *1 (N.D. Cal. Sept. 21, 2007) (denying effort to depose individual with minimal knowledge of case who was principal caregiver to spouse with life-threatening illness).

61. *See* Strauch v. Compu. Sci. Corp., Civ. Action No. 3:14-cv-00956, 2015 WL 7458506, at *3 (D. Conn. Nov. 24, 2015) (discussing alternative test methods outside of the proportionality context).

62. McPeek v. Ashcroft, 202 F.R.D. at 33–35 (balancing DOJ's need to perform public tasks against litigation needs); *Major Tours*, 2009 WL 3446761, at *4 (citing limited state resources in ruling against request for review of backup and archived emails).

the burden . . . of the proposed discovery outweighs its likely benefit"—are discussed in the commentaries to Principle 2 and Principle 4.

Principle 6: Technologies to reduce cost and burden should be considered in the proportionality analysis.

Comment 6.a: As the volume of ESI continues to increase so does the volume of discoverable information. The responding party generally selects the technology to identify relevant information.[63] This can lead to significant cost savings in furtherance of proportionality. The advent of more sophisticated search methodologies has created avenues to reduce the burdens associated with identification, review, and production of relevant documents.[64] However, there is no obligation to maximize electronic discovery efficiencies at the expense of other legitimate organizational goals.

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63. Hyles v. New York City, 10-cv-3119, 2016 WL 4077114 (S.D.N.Y. Aug. 1, 2016) ("Under Sedona Principle 6, the City as the responding party is best situated to decide how to search for and produce ESI responsive to Hyles' document requests. . . . it is not up to the Court, or the requesting party (Hyles), to force the City as the responding party to use TAR when it prefers to use keyword searching."). *But see* Order Re: Implementation of Predictive Coding Regimen, Indep. Living Ctr. of S. Cal. v. City of L.A., 2:12-cv-00551-FMO-PJW, at *1 (C.D. Cal. June 26, 2014) ECF No. 375 (ordering the use of technology-assisted review to search more than 2 million documents after "little or no discovery was completed" before the discovery cutoff and the parties had ongoing disputes after "months of haggling" over search terms that yielded large numbers of documents for review).

64. *See, e.g.*, Chen-Oster v. Goldman, Sachs & Co., No. 10 Civ. 6950(AT)(JCF), 2014 WL 716521, at *1 (S.D.N.Y. Feb. 18, 2014) (describing how advanced search methodologies can "elide[] the search process with substantive determination of relevance and [have] the advantage of saving resources for the producing party"); Malone v. Kantner Ingredients, Inc., Case No. 4:12-CV-3190, 2015 WL 1470334, at *3 n.7 (D. Neb. Mar. 31, 2015) ("Predictive coding is now promoted (and gaining acceptance) as not only a

The responding party may end up selecting one or more technologies that meet its overall needs. The fact that a technology is not the ideal fit for a particular case should not be held against that party unless the technology is inadequate. For example, one technology may excel in reading rare file formats while another may efficiently group email into discussion threads or families, or deduplicate similar files more effectively. A responding party who refuses to consider the use of an appropriate technology to reduce e-discovery burdens, even when it is reasonably available and within that party's resources, will have a difficult time making any later claim based on disproportionality or undue burden caused by that refusal.[65]

Comment 6.b: Courts will increasingly consider available technology in the proportionality analysis.[66] However, courts should leave the choice of technological methods to the re-

more efficient and cost effective method of ESI review, but a more accurate one.").

65. *See, e.g.*, Harris v. Subcontracting Concepts, LLC, Case No. 1:12-MC-82, 2013 WL 951336, at *5 (S.D.N.Y. Mar. 11, 2013) (rejecting a burden argument on the grounds that "[w]ith the advent of software, predictive coding, spreadsheets and similar advances, the time and cost to produce large reams of documents can be dramatically reduced").

66. *See, e.g.*, Chevron Corp. v. Snaider, 78 F. Supp. 3d 1327, 1341 n.9 (D. Col. Jan. 15, 2015) (noting that, in addressing burden, defendant did "not address the likelihood that in a case such as this computer-assisted review would no doubt be invoked, and while that is costly, it is much more efficient than assigning individuals to review a large volume of paperwork"); Deutsche Bank National Trust Co. v. Decision One Mortgage Co., LLC, No. 13-L-5823, 2014 WL 764707, at *1 (Ill. Cir. Ct. Jan. 28, 2014) (stating that "if the parties agree that predictive coding would be appropriate in this case, they are encouraged to use that tool").

sponding party so long as the methods are reasonable and appropriate to meet the needs of the case.[67] While technology may create efficiencies and cost savings, it is not a panacea and there may be circumstances when the costs of technology outweigh the benefits of its use.

Comment 6.c: Early test searches or early case assessment technology might facilitate agreement on targeting collections or searches using certain date ranges, platforms or sources, file types, or custodians. In addition, the parties may need to negotiate whether or which search methods might be necessary to further assist in identifying relevant ESI.[68] Preliminary steps of this sort may help the parties agree on cooperative discovery efforts and potentially yield savings by, for example, eliminating the need for some searches or date ranges, identifying custodians, or refining search terms to more effectively target and retrieve relevant information.[69]

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67. Hyles v. New York City, 10-cv-3119, 2016 WL 4077114 (S.D.N.Y. Aug. 1, 2016) (relying on Principle 6 of *The Sedona Principles: Best Practices Recommendations & Principles for Addressing Electronic Document Production, Second Edition* (THE SEDONA CONFERENCE, 2007, *available at* https://thesedonaconference.org/publication/The%20Sedona%20Principles) to deny plaintiff's request that defendant use technology-assisted review to help identify and produce responsive ESI).

68. *See, e.g.*, Sekisui Am. Corp. v. Hart, 945 F. Supp. 2d 494, 506 n.71 (S.D.N.Y. Aug. 15, 2013) (describing recently developed technology using metadata to help address certain matters in the case).

69. *See, e.g.*, The Sedona Conference, *Commentary on Achieving Quality in the E-Discovery Process*, 15 SEDONA CONF. J. 265, 288 (2014) ("A practitioner may use metrics, such as the number of included or excluded documents by keyword or filtering criteria, to evaluate the outcome. Examining keywords that return high and low numbers of 'hits' can uncover issues with how the search was constructed, the choice of terms, or even issues with the data."); Vasudevan Software, Inc. v. MicroStrategy Inc., No. 11-cv-06637-RS-PSG; 2012 WL 5637611, at *5 (N.D. Cal. Nov. 15, 2012) (requiring the parties to meet and confer regarding search term hit counts for each custodian and

Parties should consider involving individuals with expertise or knowledge of the technological methods at issue to help in this process. Further efficiencies may be realized by including such individuals in the meet and confer process and in court conferences.

term); *In re* Lithium Ion Batteries Antitrust Litig., 2015 U.S. Dist. LEXIS 22915, at *51–56 (N.D. Cal. Feb. 24, 2015) (allowing language to be included in search protocol calling for random sampling of documents that hit on disputed search terms and disclosing to requesting party all nonprivileged documents in the sample).

THE CHALLENGE OF COLLECTING DATA FROM MOBILE DEVICES IN EDISCOVERY

*Robert D. Keeling**

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In an increasingly mobile world, we rely ever more heavily on our mobile devices, specifically mobile applications, to both send and store written communications and various information. The ubiquity of such applications makes it inevitable that they will increasingly be a discovery target in nearly all types of litigation. Indeed, text messages, email, and social media postings are already common sources of data requested by litigating parties.[1] But as mobile communication and storage be-

* Robert Keeling is a partner at Sidley Austin and an experienced litigator whose practice includes a special focus on electronic discovery matters. He is co-chair of Sidley's eDiscovery Task Force and represents both plaintiffs and defendants in civil litigation throughout the nation and conducts internal investigations in the U.S. and throughout the world.

1. *See, e.g.*, Smith v. Hillshire Brands, 2014 WL 2804188 (D. Kan. June 20, 2014); Lee v. Stonebridge Life Ins. Co., 2013 WL 3889209 (N.D. Cal. July 30, 2013); The Katiroll Co. v. Kati Roll and Platters, Inc., No. 10-3620, 2011 WL

come more pervasive, mobile applications become more sophisticated in an effort to secure sensitive content. Accordingly, while requests to collect mobile device data may seem facially reasonable, collection often goes well beyond what has traditionally been recovered and is far more difficult and expensive than what recent case law would suggest.

With proportionality the new standard for discovery,[2] the burden to collect mobile device data matters.[3] And, importantly, the evolution of mobile device technology has outpaced opportunities for courts to make informed and reasoned judgments about what is proportional in this area. Because of this, prior precedent governing the discovery of mobile devices frequently becomes outdated after just a few years. Rather than relying on precedent that fails to fully appreciate the increasing complexity of mobile device technology, courts should zero in on the specific burdens associated with extracting mobile device data in each individual case and balance those costs against the importance of the desired data to the merits; only then may courts resolve discovery disputes in a proportional manner.

OVERVIEW

Under former Rule 26(b)(1), the legal standard for discovery was relevance; discovery was generally permitted unless it was clear that the information sought would have no possible bearing on the claim or defense of a party.[4] If a request appeared relevant on its face, the objecting party had the burden of

3583408 (D.N.J. Aug. 3, 2011); Torres v. Lexington Ins. Co., 237 F.R.D. 533 (D.P.R. 2006).

2. *See* FED. R. CIV. P. 26(b)(1).

3. David Crump, *Goodbye "Reasonably Calculated"; You're Replaced by "Proportionality": Deciphering the New Federal Scope of Discovery*, 23 GEO. MASON L. REV. 1093, 1100 (2016).

4. 2014 WL 2804188 (D. Kan. June 20, 2014).

demonstrating the request's nonrelevance.[5] Proportionality, as a check, frequently operated to tailor the collection and production of content to relevance alone.

For example, in *Smith v. Hillshire Brands*,[6] the defendant requested the plaintiff, a former employee, to produce both electronic communications regarding the allegations raised in the complaint and the plaintiff's social networking activity.[7] The judge in *Smith* granted the defendant's first request, but limited the defendant's second request to *relevant* social media activity, *i.e.*, postings that directly referenced matters in the complaint, the defendant more generally, or events that could reasonably be expected to produce a significant emotional or mental state.[8] The approach in *Smith* is emblematic of how most courts handled requests for electronically stored information (ESI) and social media data.[9]

Notably missing from the relevancy discussion that predominates/characterizes the law governing discovery and production of ESI on mobile devices, however, is the technological complexity associated with communications made via secure mobile messenger applications, which make it more burdensome to extract and collect than unsecured cloud data or even traditional email correspondence. But two recent developments come together to require, going forward, that the technological complexity of mobile device data be a critical and threshold

5. *Id.*

6. *Id.*

7. *Id.* at *1.

8. *Hillshire Brands*, 2014 WL 2804188, at *3–6. *See also*, *e.g.*, Ogden v. All-State Career Sch., 299 F.R.D. 446, 448–50 (W.D. Pa. 2014); Giacchetto v. Patchogue-Medford Union Free Sch. Dist., 293 F.R.D. 112, 115–16 (E.D.N.Y. 2013).

9. Crump, *supra* note 3, at 1094–96.

component in disputes over the scope of electronic discovery (eDiscovery).

First, the Federal Rules of Civil Procedure were amended in 2015 to make proportionality a condition on the *scope* of discovery, as opposed to an extrinsic limitation.[10] The revision impacts what is considered discoverable in a dispute, but it remains unclear how courts will apply the new standard to ESI or mobile device data.[11] The Sedona Conference, however, has determined that a proper proportionality analysis must consider six overarching principles: (1) the burden and cost of preserving relevant ESI as against the data's uniqueness and value; (2) whether there are more convenient and less expensive sources of information; (3) whether any undue burden, expense, or delay results from a party's action or inaction; (4) the need for concrete information versus speculation regarding the data's value and the burden to produce it; (5) what nonmonetary factors restrict the parties' behavior; and (6) other available technologies to reduce the costs to collect and produce.[12]

Second, the mobile application industry has grown exponentially in size, scope, and sophistication. Between 2015 and 2016, the annual gross revenue of the mobile application industry grew by $3.6 billion in the Americas.[13] It is estimated that in four

10. FED. R. CIV. P. 26(b)(1) (2015) advisory committee's note.

11. Crump, *supra* note 3, at 1104–05; *see also* Moore v. Lowe's Home Ctrs., LLC, 2016 WL 687111, at *5 (W.D. Wash. Feb. 19, 2016) (holding that a secondary search of emails with eighty-eight terms was "not proportional," but without explaining how).

12. The Sedona Conference, *Commentary on Proportionality in Electronic Discovery*, 18 SEDONA CONF. J. 141, 146 (2017).

13. Dean Takahashi, *The app economy could double to $101 billion by 2020*, VENTUREBEAT (Feb. 10, 2016, 6:00 AM), http://venturebeat.com/2016/02/10/the-app-economy-could-double-to-101b-by-2020-research-firm-says/.

years, the industry's gross domestic revenue will be approximately $26 billion,[14] making it bigger than the entire global music business in 2015.[15] Mobile applications have propelled our devices beyond a simple phone into a miniaturized, all-purpose life tool. They permit users to have immediate and more varied methods of communication, keep up to date on sports and current events, manage finances, listen to music, and play games.

Many mobile applications utilize cloud databases, and service providers allow for remote access to networks and data storage via Internet connection anytime and anywhere. For discovery purposes, cloud data is readily available to users, and courts easily may require production of information in that cloud.[16] However, cloud networks are also widely perceived to be insecure.[17] Consequently, users have sought out applications and networks that provide additional security for their private communications, such as WhatsApp (the most used messaging

14. *Id.*

15. Glen Peoples, *This $25 Billion Global Music Industry Isn't Everything*, BILLBOARD (Dec. 11, 2015), http://www.billboard.com/articles/business/6805318/25-billion-global-music-industry-not-everything.

16. Robert Keeling, *How To Avoid Discovery Problems While Using the Cloud*, LAW360 (Mar. 7, 2014), http://www.sidley.com/~/media/files/publications/2014/03/how-to-avoid-discovery-problems-while-using-the-__/files/view-article/fileattachment/law360_how-to-avoid-discovery-problems-while-usi__.pdf. *See also*, *e.g.*, Mt. Hawley Ins. Co. v. Felman Prod., Inc., 269 F.R.D. 609, 618 (S.D.W. Va. 2010).

17. *See* Bruce Byfield, *Is cloud storage innately insecure?*, LINUX MAGAZINE (Sept. 5, 2014), http://www.linux-magazine.com/Online/Blogs/Off-the-Beat-Bruce-Byfield-s-Blog/Is-cloud-storage-innately-insecure; John Brodkin, *Gartner: Seven cloud-computing security risks*, INFOWORLD (July 2, 2008), http://www.infoworld.com/article/2652198/security/gartner—seven-cloud-computing-security-risks.html. The cloud's perception of insecurity may not be entirely fair. That issue, however, is beyond the scope of this paper.

application in the world), ChatSecure, KakaoTalk, and, more recently, iMessage and Face Time.[18] Most of these applications are built with end-to-end encryption, which means that the service provider itself cannot see the messages that pass between communicating users.[19] While attractive to security-conscience users, the technology necessary to secure those private communications also creates headaches for litigants who must now grapple with that same technology when responding to a discovery request.

NEW CHALLENGES OF COLLECTING DATA FROM PHONES AND APPLICATIONS

The foremost challenge of collecting mobile device data is that it is both costly and time consuming, especially if the device to be proliferated is a smart phone (iPhone, Android, etc.), which is more often than not the case. While some data can easily be extracted using a device's SIM card, other data cannot be retrieved absent the use of new mobile forensics technology. Because mobile device applications often require multiple tools to extract, isolate, process, verify, and then report back on the data,[20] acquisition has become increasingly complex and challenging. Depending on the data, extraction may require commands in the internal server via data cable, putting a boot loader

18. Andra Zaharia, *The Best Encrypted Messaging Apps You Can (and Should) Use Today*, HEIMDAL SECURITY (June 9, 2016), https://heimdalsecurity.com/blog/the-best-encrypted-messaging-apps/. Apple is now especially trusted by many because of the fact that it refused to unlock and decrypt the iPhone of the San Bernardino terrorist. *Id.*

19. Martin Kleppmann, *The Investigatory Powers Bill would increase cybercrime*, MARTIN KLEPPMANN (Nov. 10, 2015), https://martin.kleppmann.com/2015/11/10/investigatory-powers-bill.html.

20. Cynthia A. Murphy, *Cellular Phone Evidence: Data Extraction and Documentation*, https://digital-forensics.sans.org/media/mobile-device-forensic-process-v3.pdf (last visited Feb. 10, 2017).

into the phone that dumps the memory, or even using an electron microscope.[21] Isolating the data (keeping it offline and undetected by other networks) requires effectively "cloning" a SIM card.[22] The technology necessary to accomplish the entire task is highly advanced, and, correspondingly, both expensive and time-intensive.

The two largest providers of data collection service are Cellebrite and Oxygen Forensics.[23] Each company provides forensic extractors that allow users to bypass locks and recover mobile data, including any messages, geographical coordinates, video calls, as well as data that has been deleted.[24] Built for any kind of phone technology, forensic extractors also decode encrypted data, create their own clouds, and then generate reports of the retrieved data. Because the services are custom to the needs of the individual party and matter, the cost can range from $1,000 to over $1 million.[25]

The resource-intensive nature of mobile data extraction underscores the importance of courts conducting a proper proportionality analysis when it comes to requests for such data. In the past, courts have frequently tied proportionality to scope by

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21. *Id.*

22. *Id.*

23. *Cellebrite Competitive Analysis*, OWLER, https://www.owler.com/iaApp/107565/cellebrite-competitors?onBoardingComplete=true.

24. *See Oxygen Forensic Extractor*, OXYGEN FORENSICS, https://www.oxygen-forensic.com/en/products/oxygen-forensic-extractor (last visited Feb. 10, 2017); Paul Henry, *Quick Look – Cellebrite UFED Using Extract Phone Data & File System Dump*, SANS DIGITAL FORENSICS AND INCIDENT RESPONSE BLOG (Sept. 22, 2010), https://digital-forensics.sans.org/blog/2010/09/22/digital-forensics-quick-cellebrite-ufed-extract-phone-data-file-system-dump/.

25. Cellebrite and other data extraction companies do not publicly display these prices due to their high, subjective variance. As such, this information comes from an unknown sales associate.

narrowing the set of would-be-collected data to that which is strictly relevant. The cost and resources associated with mobile data extraction, however, make this approach somewhat untenable. Even assuming litigants can isolate the mobile application(s) containing the relevant information, depending on the application used, data security or encryption may render extraction and collection of just one application insurmountable. Moreover, unlike data that can be culled prior to extraction or collection, identification of the specific content that warrants collection can only occur after the difficult process of unlocking and extracting that data.

While mobile device data may seem relevant in the abstract, whether it is discoverable in the first instance now requires a careful proportionality analysis that balances the costs of collection and extraction against the value and uniqueness of the mobile data, bearing in mind the nature and value of the litigants' claims and whether the information can be sourced elsewhere.

In recent years, federal judges have sometimes required *objecting* parties to submit affidavits or evidence for why a specific discovery request is overbroad or unduly burdensome, or to at least give an informed estimate as to the nature of that burden.[26] While the 2015 Amendments "do[] not change the existing responsibilities of the court and the parties to consider proportionality . . . [or] place on the party seeking discovery the burden of addressing all proportionality considerations,"[27] given the likely lopsided effect of incorporating mobile forensics technology

26. *See* Ashford v. City of Milwaukee, 304 F.R.D. 547, 553–54 (E.D. Wis. 2015); Gross v. Lunduski, 304 F.R.D. 136, 151 (W.D.N.Y. 2014); Heller v. City of Dallas, 303 F.R.D. 466, 490 (N.D. Tex. 2014); Ehrlich v. Union Pac. R.R. Co., 302 F.R.D. 620, 626 (D. Kan. 2014). *See also* FED. R. CIV. P. 34(b)(2)(C) (2015) advisory committee's note.

27. FED. R. CIV. P. 26(b) (2015) advisory committee's note.

and services into eDiscovery, judges should interpret the proportionality requirement as imposing a burden upon parties requesting mobile device data to show that the request is appropriately narrow and sensitive to those costs.[28] Factors for consideration could include the uniqueness and importance of the mobile device data, the likely location of the data on the device, and whether the information can be gleaned from a less burdensome source. The requirement does, after all, primarily pertain to the *requests* that parties make of one another.

CONCLUSION

As mobile devices have become an everyday source of communication and information-storage, users have demanded applications that ensure the safety of those communications and information. A concomitant consequence of this trend is that mobile device data is becoming increasingly difficult and costly to extract and collect. The growth of technology in this field has outpaced the courts' ability to consider the burdens that are now associated with collection of mobile device data, particularly in light of the new proportionality requirement. Accordingly, prior precedent concerning what is "proportional" may be of limited help with respect to mobile device data going forward. Separately, while courts have always enjoyed the discretion to limit discovery on grounds of proportionality on the back-end, they now have an obligation to incorporate proportionality into the question of what is discoverable in the first instance. This change in scope argues in favor of requests for mobile device discovery that are consistent with the Sedona Conference principles and are also narrowly tailored to the costs and inherent difficulties of data collection.

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28. FED. R. CIV. P. 26(b)(1) ("Parties may obtain discovery regarding any nonprivileged matter that is . . . proportional to the needs of the case . . . .").

EXTRATERRITORIAL APPLICATION OF U.S. PATENT LAWS

Michael Brody
Winston & Strawn
Chicago, IL

James I. Harlan
InterDigital, Inc.
Washington, D.C.

Steffen Johnson
Winston & Strawn
Washington, D.C.

Christopher Mills
Winston & Strawn
Washington, D.C.

Peter Bigelow
Winston & Strawn
Washington, D.C.

I. SURVEY OF RELEVANT EXTRATERRITORIAL LEGAL DOCTRINES

A. Extraterritorial Application of Laws Generally

It is by now well settled that, under the presumption against applying U.S. law extraterritorially, courts generally will not apply U.S. law extraterritorially unless Congress clearly indicates

within the statute that it intends for the law to apply extraterritorially.[1] The Supreme Court has given various justifications for this presumption.[2] First, it is a core principle that courts should interpret statutes so as not to conflict with international law.[3] In declining to apply Title VII to a foreign employer of a U.S. citizen, for example, the Supreme Court has cited a concern with not "rais[ing] difficult issues of international law."[4] Second, the Court has cited principles of international comity: the presumption against extraterritorial application "serves to protect against unintended clashes between our laws and those of other nations which could result in international discord."[5] Third, at least once the Court has justified the presumption based on choice-of-law principles.[6] Fourth, the Court has noted that "Congress generally legislates with domestic conditions in

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1. *See* Stephen R. Smerek & Jason C. Hamilton, *Extraterritorial Application of United States Law After Morrison v. National Australia Bank*, 5 DISP. RESOL. INT'L 21, 24 (2011), *available at* http://bit.ly/2axKWGQ (discussing Morrison v. Nat'l Australia Bank Ltd., 561 U.S. 247, 255 (2010)).

2. Curtis A. Bradley, *Territorial Intellectual Property Rights in an Age of Globalism*, 37 VA. J. INT'L L. 505, 513–14 (1997) (discussing each of the justifications).

3. *See id.* at 514–15 (citing Murray v. The Schooner Charming Betsy, 6 U.S. (2 Cranch) 64, 118 (1804)). However, it is important to note that Congress may create laws that violate and override international law if it so chooses. *See* United States v. Martinez-Hidalgo, 993 F.2d 1052, 1056 (3d Cir. 1993).

4. EEOC v. Arabian Am. Oil Co., 499 U.S. 244, 255 (1991) (overruled by 42 U.S.C. § 2000e(f) on other grounds).

5. Bradley, *supra* note 2, at 515 (quoting *Arabian Am. Oil Co.*, 499 U.S. at 248).

6. *Id.* (citing Am. Banana Co. v. United Fruit Co., 213 U.S. 347, 356 (1909) (declining to apply U.S. law extraterritorially in part because "the general and almost universal rule is that the character of an act as lawful or unlawful must be determined wholly by the law of the country where the act is done")).

mind."[7] Therefore, if Congress does not explicitly say that a statute should apply extraterritorially, it is likely that Congress did not intend for the statute to have such a reach.[8] Finally, the Court has justified the presumption based on separation of powers considerations, as extraterritorial application of laws can implicate foreign relations issues and policy matters that, often, courts have neither the authority nor the competence to handle.[9]

Some critics argue that these reasons for the presumption have weakened in recent times.[10] For example, critics have argued that the concern over conflicts with international law is not as important now because it is largely accepted "that nations may, under certain circumstances, regulate extraterritorial conduct that has effects within their territory."[11] Additionally, the territorial approach to choice-of-law is no longer dominant, prompting critics of the presumption to argue that consistency with choice-of-law no longer supports applying a territorial approach to federal statutes.[12] Critics have also argued that Congress has begun to focus increasingly on regulating conduct outside of its borders, suggesting that it no longer makes sense to presume that Congress intends to legislate only domestically.[13]

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7. *Id.* at 516 (quoting Smith v. United States, 507 U.S. 197, 204 n.5 (1993)).

8. *See generally id.*

9. *Id.* (citing several cases that discuss the lack of institutional competence to determine such matters and the sensitive nature of the issues involved in such matters).

10. *See* Bradley, *supra* note 2, at 517.

11. *Id.* at 517; *see* RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 402(1)(c).

12. Bradley, *supra* note 2, at 517–18.

13. *See id.* at 518–19.

Accordingly, the presumption may no longer help courts interpret statutes in a manner consistent with Congressional intent.[14] Finally, pointing to decisions in which courts have not applied the presumption, some critics have argued that application of the presumption is in decline.[15]

Despite these critiques of the presumption, however, the Supreme Court still actively applies it. This past Term, for example, in *RJR Nabisco, Inc. v. European Community*, the Court applied the presumption to 18 U.S.C. § 1964(c), a provision of the Racketeer Influenced and Corrupt Organizations Act (RICO) that creates a private right of action for anyone injured by a violation of 18 U.S.C. § 1962.[16] The Court held that § 1964(c) did not rebut the presumption because it did not include "a clear indication that Congress intended to create a private right of action for injuries suffered outside of the United States."[17]

B. Extraterritorial Application of Patent Laws

1. Direct Infringement

35 U.S.C. § 271(a) provides that "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent." Various extraterritorial issues have arisen under the provision, particularly as to (1) methods or systems that span multiple jurisdictions, (2) sales or offers to sell, from

14. *Id.*

15. *See id.* at 519 nn.63–67 and accompanying text (discussing critics' arguments and citing cases where the presumption has not been applied).

16. No. 15-138, 2016 WL 3369423, at *15, *17 (U.S. June 20, 2016).

17. *Id.* at *17.

or to other countries, and (3) the scope of the § 271(a) prohibition on importing infringing products or processes.

(a) Methods or Systems that Span Multiple Jurisdictions

The first extraterritoriality issue that arises under § 271(a) concerns methods or systems that span multiple jurisdictions. In *NTP, Inc. v. Research in Motion, Limited*,[18] the Federal Circuit held that the use of a patented method will be considered "use" under § 271(a), and will thus constitute infringement, only if every step of the method is performed within the United States.[19] The use of a patented system, by contrast, will be considered "use" under § 271(a) when both control of the system and beneficial use of the system is within the United States, even if the system uses components located abroad.[20]

(b) Offers to Sell and Sales into the United States

As for the "offer to sell" prong of § 271(a), the Federal Circuit had defined an offer to sell based on contract principles, holding that it is "a 'manifestation of willingness to enter into a bargain, so made as to justify another person in understanding that his

18. NTP, Inc. v. Research in Motion, Ltd., 418 F.3d 1282 (Fed. Cir. 2005) (abrogated on other grounds by Zoltek Corp. v. United States, 672 F.3d 1309, 1313, 1326–27 (Fed. Cir. 2012)).

19. *Id.* at 1318.

20. *Id.* at 1317 (holding that use of mobile devices in the United States to send and receive emails constituted "use" under § 271(a), even though the devices used a relay station located in Canada) (citing Decca Ltd. v. United States, 544 F.2d 1070, 1083 (Ct. Cl. 1976) (holding that the use of a navigation system constituted "use" under § 271(a) even though the use of the system required the use of a transmitter station in Norway, primarily because the control and beneficial use of the system was within the United States)).

assent to that bargain is invited and will conclude it.'"[21] Explaining the idea of a contract-law offer, one scholar stated that an offer "put[s] the power of acceptance into the offeree."[22]

Under Federal Circuit law, to be covered by § 271(a), an offer to sell must be for a sale that is to take place in the United States, regardless of where the offer to sell is made.[23] In *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*, the Federal Circuit reversed the district court's determination that § 271(a) did *not* cover an offer for a sale that was to take place in the United States from a U.S. company to a U.S. company, where the offer was made and executed in Norway.[24] According to the Federal Circuit, "for an offer to sell to constitute infringement, the offer must be to sell a patented invention within the United States"—"[t]he focus should not be on the location of the offer, but rather the location of the future sale that would occur pursuant to the offer."[25]

The Federal Circuit affirmed that reasoning in *Halo Electronics, Inc. v. Pulse Electronics, Inc.*, holding that an offer to sell was *not* covered by § 271(a) where the negotiations took place in the

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21. MEMC Elec. Materials, Inc. v. Mitsubishi Materials Silicon Corp., 420 F.3d 1369, 1376 (Fed. Cir. 2005) (quoting Rotec Indus., Inc. v. Mitsubishi Corp., 215 F.3d 1246, 1257 (Fed. Cir. 2000) (quoting RESTATEMENT (SECOND) OF CONTRACTS § 24 (1981))); *see also* Lucas S. Osborn, *The Leaky Common Law: An "Offer to Sell" as a Policy Tool in Patent Law and Beyond*, 53 SANTA CLARA L. REV. 143, 172 (2013) (listing Restatement definition of an offer as contract law definition of offer).

22. Osborn, *supra* note 21, at 173.

23. Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc., 617 F.3d 1296 (Fed. Cir. 2010).

24. *Id.* at 1308–10.

25. *Id.* at 1309.

United States but the sale was to take place in other countries.[26] In *Halo*, the defendant engaged in price discussions and attended meetings with an offeree in the United States,[27] but the court held that the offer there was not covered by § 271(a).[28] Thus, under current law meetings and negotiations in the United States do not matter for § 271(a) liability if the location of the sale is abroad.

As for the "sale" prong, the Federal Circuit recently held that "§ 271(a) . . . states a clear definition of what conduct Congress intended to reach—making *or* using *or* selling in the United States *or* importing into the United States, even if one or more of those activities also occur abroad."[29] Thus, in the reasonable royalty context, "[w]here a physical product is being employed to measure damages for the infringing use of patented methods," "territoriality is satisfied when and only when any one of those domestic actions for that unit (e.g., sale) is proved to be present, even if others of the listed activities for that unit (e.g., making, using) take place abroad."[30] Under current law, "[t]he standards for determining where a sale may be said to occur do not pinpoint a single, universally applicable fact that determines the answer, and it is not even settled whether a sale can have more than one location."[31] Although "[p]laces of seeming relevance include a place of inking the legal commitment to buy and sell

26. 769 F.3d 1371, 1381 (Fed. Cir. 2014) ("An offer to sell, in order to be an infringement, must be an offer contemplating sale in the United States.").

27. *See* Halo Elecs., Inc. v. Pulse Eng'g, Inc., 810 F. Supp. 2d 1173, 1207 (D. Nev. 2011).

28. *Halo*, 769 F.3d at 1381.

29. Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd., 807 F.3d 1283, 1306 (Fed. Cir. 2015).

30. *Id.*

31. *Id.* at 1308.

and a place of delivery, and perhaps also a place where other substantial activities of the sales transactions occurred," the court declined to "settle on a legal definition or even to say whether any sale has a unique location."[32] And "[i]n the lost-profits context," "where the direct measure of damages [i]s foreign activity (i.e., making, using, selling outside § 271(a)), it [i]s not enough, given the required strength of the presumption against extraterritoriality, that the damages-measuring foreign activity have been factually caused, in the ordinary sense, by domestic activity constituting infringement under § 271(a)."[33]

The "offer to sell" and "sell" prongs likely do not apply to patented *processes*. Examining the language of § 271(a), the Federal Circuit in *NTP* explained that a sale required something that could be transferred and that the performance of a method did not require the transfer of something.[34] As such, the court found it difficult to apply the "offer to sell" or "sell" prongs to a patented process.[35] The court also discussed the statute's legislative history, which supported the idea that processes could not be infringed under the "offer to sell" or "sell" prongs.[36] How-

32. *Id.* (citations and internal quotation marks omitted).

33. *Id.* at 1307 (citing Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc., 711 F.3d 1348, 1371 (Fed. Cir. 2013), which rejected the argument that "having established one or more acts of direct infringement in the United States, [the plaintiff] may recover damages for [the defendant's] worldwide sales of the patented invention because those foreign sales were the direct, foreseeable result of [the defendant's] domestic infringement").

34. NTP, Inc. v. Research in Motion, Ltd., 418 F.3d 1282, 1318–21 (Fed. Cir. 2005); *see also* Jason R. Dinges, *Extraterritorial Patent Infringement Liability After NTP, Inc. v. Research In Motion, Ltd.*, 32 J. CORP. L. 217, 229–30 (2006) (discussing *NTP*'s analysis of the applicability of the "offer to sell" or "sell" prongs).

35. *NTP*, 418 F.3d at 1319.

36. *Id.* at 1319–20.

ever, despite the language of the statute and the legislative history, the court declined to hold categorically that process claims could not be infringed under the "offer to sell" and "sell" prongs of § 271(a), holding only that the "offer to sell" and "sell" prongs did not apply to defendant's performance of a patented process because one of the steps occurred outside the United States.[37] This limited holding leaves open the possibility that the "offer to sell" or "sell" prongs could be applied to a patented process, but given the Federal Circuit's explanation of why it did not apply the prongs to the processes in *NTP*, it is unlikely that it would decide to apply those prongs to a patented process in another case.

(c) Importation

A third issue relates to importation. The Federal Circuit in *NTP* applied the same reasoning to the "import" prong of § 271(a) as it applied to the "offer to sell" and "sell" prongs, emphasizing that it was difficult to see how one could infringe a process through importation.[38] The court explained that the legislative history suggested that the "import" prong should not apply to process claims.[39] As with the "offer to sell" and "sell" prongs, however, the court declined to hold that process claims necessarily could not be infringed under the "import" prong of § 271(a), holding only that the "import" prong did not apply to the case at hand.[40] This limited holding means that it is possible that the "import" prong could be applied to processes in the future, but this is unlikely.

37. *Id.* at 1320–21.

38. *Id.* at 1321; *see also* Dinges, *supra* note 34, at 230.

39. *NTP*, 418 F.3d at 1321; *see also* Dinges, *supra* note 34, at 230.

40. *NTP*, 418 F.3d at 1321.

Though § 271(a)'s "import" prong likely will not apply to patented *processes*, it does prohibit the importation into the United States of a *product* that is patented in the United States.[41] Moreover, the importation of products made by a patented method is addressed by § 271(g), which prohibits importation into the United States of a product that is made by a *process* that is patented in the United States, if the importation occurs during the term of the process patent.[42] A "product" for these purposes is a "physical article."[43] As such, it does not include information that is generated by a patented method and then transmitted into the United States; nor does it include a product that is manufactured to a specification that is generated by a patented method.[44] Section 271(g) adds the further restrictions that no remedy is available for such importation if the infringement consists of "a noncommercial use or retail sale" of the product, unless there is not an alternative remedy available. Also,

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41. Gemtron Corp. v. Saint-Gobain Corp., 572 F.3d 1371, 1380 (Fed. Cir. 2009) (citing *In re* N. Pigment Co., 71 F.2d 447, 456 (C.C.P.A. 1934) ("It has long been settled that articles patented in the United States cannot be manufactured abroad, imported, and sold in violation of the rights of the patentee.")); *see also* Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd., 807 F.3d 1283, 1308 (Fed. Cir. 2015) (holding that there is "no extraterritoriality bar to including within the royalty base those chips which were imported into the United States for use in the United States"); *see generally* Fellowes, Inc. v. Michilin Prosperity Co., 491 F. Supp. 2d 571, 583–84 (E.D. Va. 2007) (discussing the definition and contours of "import" within § 271(a)).

42. 35 U.S.C. § 271(g) (2012); *see, e.g.*, CNET Networks, Inc. v. Etilize, Inc., 528 F. Supp. 2d 985, 993–95 (N.D. Cal. 2007) (denying motion for summary judgment of noninfringement where defendant imported and used a catalog that was created by a patented method).

43. Bayer, A.G. v. Housey Pharmaceuticals, Inc., 340 F.3d 1367, 1377 (Fed. Cir. 2003).

44. *Id.*; NTP, Inc. v. Research in Motion, Ltd., 418 F.3d 1282, 1323–24 (Fed. Cir. 2005).

§ 271(g) provides that an imported product will not be considered to be made by a patented process where "(1) it is materially changed by subsequent processes; or (2) it becomes a trivial and nonessential component of another product."[45]

Thus, under § 271(a) and § 271(g), an offshore infringer that sells a patented product in the United States or that sells a product in the United States produced through a patented process can be held liable as an infringer.

2. Contributory and Induced Infringement

In the 1972 decision *Deepsouth Packing Co. v. Laitram*,[46] the Supreme Court held that a company did not infringe by making components of a patented machine and shipping the uncombined components overseas to be combined into the patented machine. In response, in 1984 Congress enacted 35 U.S.C. § 271(f), which has two subsections. Section 271(f)(1) provides

45. Section 284(b) further modifies the remedies available against § 271(g) infringers where the § 271(g) infringer is an innocent downstream importer of the accused goods; that is, where the importer did not practice the patented method and lacked knowledge that a patented process was used by the manufacturing entity. 35 U.S.C. § 287(b)(1). Such importers may eliminate or ameliorate their exposure for patent infringement by having recourse to an elaborate and somewhat impractical "request for disclosure" procedure outlined in the statute. 35 U.S.C. § 284(b)(3)–(5). Briefly, the procedure contemplates that an importer may make a written request to a manufacturer of the products in question to disclose any patents owned or licensed by the manufacturer which the manufacturer "reasonably believes could be asserted to be infringed under § 271(g)" if the product in question is manufactured abroad and imported into the United States. This obligation is not imposed on an innocent importer wishing to secure relief under § 284(b) where there are "mitigating circumstances;" namely, where "due to the nature of the product, the number of sources for the product, or like commercial circumstances, a request for disclosure is not necessary or practicable to avoid infringement." 35 U.S.C. § 284(b)(3)(B)(iii).

46. 406 U.S. 518 (1972); *see* Dinges, *supra* note 34, at 220.

that "[w]hoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer."

Section 271(f)(2) provides that "[w]hoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer."[47]

One issue that is posed by the "component" requirement of § 271(f) is whether software can be a "component" for these purposes. In *Microsoft v. AT&T*[48] the Supreme Court determined that, to the extent that "software code is an idea without physical embodiment" it cannot be a "component" of anything.[49] However, once the code "is expressed as a computer readable copy," it can be "combinable" to create an infringing product and, as such, can be a "component" for the statutory purposes. Whether a software "component" is "supplied from the United

47. *See generally* Dinges, *supra* note 34, at 220–23.

48. 550 U.S. 437 (2007).

49. *Id.* at 449–50.

States" depends on whether the code is copied into the infringing device from the United States or from a non-U.S. source.[50]

Another issue posed by the provision is whether a separate entity must be the one that combines the components abroad, or whether the statute also covers an entity "inducing" itself to combine them. The Federal Circuit recently held in *Promega Corp. v. Life Technologies Corp.* that no third party is needed for inducement under § 271(f)(1); the statute covers the situation where one induces *himself* to combine components of a patented invention in such a way that would infringe the patent if combined within the United States.[51] In *Life Technologies*, the infringer (Life Technologies) manufactured a component in the United States and shipped that component to one of its own manufacturing facilities in the United Kingdom to be assembled.[52] Life Technologies argued that it could not induce itself to combine the components into a patented invention under § 271(f)(1), and thus that a third-party was necessary for inducement under § 271(f)(1).[53] The Federal Circuit rejected this argument, explaining that § 271(f)(1) was written such that the combination, not a person, was the object of "induce," so it did not matter *who* was induced, as long as someone was induced to combine components.[54]

The Federal Circuit also addressed the interpretation of "substantial portion," holding that it was possible for a single

50. *Id.* at 452–54.

51. 773 F.3d 1338 (Fed. Cir. 2014).

52. *Id.* at 1344.

53. *Id.* at 1353.

54. *Id.* at 1351–52.

component to make up a "substantial portion" of a patented invention.[55] Life Technologies had only supplied a single component to its U.K. manufacturing facility, and it argued that a single component could not make up a "substantial portion" under § 271(f)(1).[56] Rejecting this argument, the court first stated that the meaning of "substantial" was "important" or "essential" and the meaning of "portion" was "a part of a whole," and not necessarily more than one part.[57] The court also explained that the term "components" in the provision referred to "components of a patented invention," not the components that were supplied from or in the United States, so the fact that the provision used the term "components" in its plural form did not indicate that multiple components must be supplied.[58] Finally, the court stated that the use of the singular "component" in § 271(f)(2) did not indicate that the use of the plural "components" in § 271(f)(1) exclusively referred to multiple components, because the two terms were used in different contexts.[59]

On review, the Supreme Court overruled the Federal Circuit on the "single component issue," holding that a single component of a multi-component device could never constitute a "substantial portion" of the device for the purposes of § 271(f)(1).[60] The Court found that the Federal Circuit's construction of the

55. *Id.* at 1353.

56. *Id.* at 1354–55.

57. *Id.* at 1353 (quoting WEBSTER'S THIRD NEW INT'L DICTIONARY 2280 (2002) (defining "substantial") and AM. HERITAGE COLL. DICTIONARY 1066 (4th ed. 2000) (defining "portion")).

58. *Id.* at 1354.

59. *Id.*

60. *See* Life Technologies Corp. v. Promega Corp., ___ U.S. ___, 137 S. Ct. 734 (2017).

statute was at odds with the plain language of the pertinent provisions and the legislative history, and that it required potential infringers (and reviewing courts) to undertake the highly subjective analysis of determining "the relative importance of the components of an invention."[61]

Apart from § 271(f), § 271(b), which provides that "[w]hoever actively induces infringement of a patent shall be liable as an infringer," "contains no such territorial proscription."[62] Thus, it "does not, on its face, foreclose liability for extraterritorial acts that actively induce an act of direct infringement that occurs within the United States."[63] The Federal Circuit has held that "where a foreign party, with the requisite knowledge and intent, employs extraterritorial means to actively induce acts of direct infringement that occur within the United States, such conduct" may fall within § 271(b).[64] To determine the scope of induced infringement, the court has relied on the same test used with wholly domestic activities: "To support a finding of inducement under § 271(b), the accused infringer must have knowingly and intentionally induced another party's direct infringement."[65]

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61. 137 S. Ct. at 741.

62. Merial Ltd. v. Cipla Ltd., 681 F.3d 1283, 1302 (Fed. Cir. 2012).

63. *Id.*

64. *Id.*

65. *Id.* at 1303–04. The Supreme Court has held that "induced infringement under § 271(b) requires knowledge that the induced acts constitute patent infringement." Global-Tech Appliances, Inc. v. SEB S.A., 563 U.S. 754, 766 (2011). The Court also held that "a defendant's belief regarding patent validity" is not "a defense to a claim of induced infringement." Commil USA, LLC v. Cisco Sys., Inc., 135 S. Ct. 1920, 1928 (2015).

3. Extraterritorial Discovery

Finally, various issues arise regarding conducting discovery abroad. Where the relevant legal issues require factual exploration of extraterritorial conduct, obtaining the necessary documents and witnesses can be problematic—particularly when the U.S. courts may not have jurisdiction to compel foreign production, and when foreign countries have strict privacy laws. Extraterritorial application of U.S. patent laws implicates these issues, which are generally beyond the scope of this article.

4. International Exhaustion

The Federal Circuit recently addressed the question of international patent exhaustion in its *en banc* decision in *Lexmark, Inc. v. Impression Products, Inc*.[66] In holding that a foreign sale by a U.S. patent owner does not presumptively exhaust U.S. patent rights, the Federal Circuit relied heavily on the presumption against extraterritorial application of the Patent Act. The court further recognized the importance of maintaining symmetry in assessing conduct that occurs abroad: because infringement of a U.S. patent does not result from sales made wholly abroad, it would be incongruous to find that exhaustion of U.S. patent rights would result from a sale made abroad.

II. POLICY CONSIDERATIONS

Historically, the United States has acted as the world's largest integrated market, so its legal system effectively determined the scope of international intellectual property rights, and thus the rules under which international competition was waged. But to the extent markets abroad are now of comparable magnitude, with viable competing adjudicatory systems, a market in adjudication has now arisen. Owners of intellectual property

66. 816 F.3d 721 (2016).

have options as to where they will enforce their rights. Various policy considerations are relevant to the extraterritorial application of U.S. patent laws.

A. In Support of Extraterritorial Application of U.S. Patent Laws

Several reasons support the application of U.S. patent laws extraterritorially. First, as mentioned above, an expansion of U.S. patent laws encourages the use of the U.S. legal system, and so to that extent promotes the United States' dominance in the market for adjudication. This expansion would allow the United States to continue to set the rules of intellectual property protection and competition in the worldwide market.

Second, extraterritorial application of patent laws can promote invention and innovation.[67] Initially, by expanding the U.S. market in adjudication, the United States can set the rules to optimize invention and innovation. Additionally, concerning process patents, if someone can avoid liability for infringing a patented process as long as they do at least one step of that process outside of the United States,[68] inventors will be more likely to focus their energies on inventing processes that cannot easily be completed in part in other countries.[69] This could cause inventors to shy away from committing resources to the invention of processes in the technology industry, because many such processes can easily be performed in multiple locations, including

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67. *See* Melissa Feeney Wasserman, *Divided Infringement: Expanding the Extraterritorial Scope of Patent Law*, 82 N.Y.U. L. REV. 281, 292–93 (2007) (citing U.S. CONST. art I, § 8, cl. 8).

68. *See* NTP, Inc. v. Research in Motion, Ltd., 418 F.3d 1282, 1317–18 (Fed. Cir. 2005) (holding that the defendant's use of a process patented by the plaintiff did not infringe because one step of that process took place in Canada).

69. *See* Wasserman, *supra* note 67, at 292–93 (discussing *NTP* and its potential effects on future inventions).

foreign nations. Patents on such processes would be weaker than patents on processes that cannot be performed in multiple countries.[70] Extraterritorial application of patent laws would promote invention by extending protection of U.S. laws to patented processes that are partially completed in foreign nations, thus incentivizing invention of such processes, which would especially benefit the technology industry.

Third, concerns about conflicts between the United States and foreign patent laws may be overblown, particularly after the America Invents Act harmonized the U.S. patent system with foreign systems in various ways, including switching to a first-inventor-to-file system.

B. Against Extraterritorial Application of U.S. Patent Laws

By expanding U.S. patent laws, the U.S. courts are subjected to additional burdens, and could be overwhelmed with complex cases involving largely foreign conduct. Such application may inhibit the use of international bodies (and associated treaties) that can specialize in exterritorial conduct and are better-equipped to deal with such cases. It may also cause conflicts with foreign countries, resulting in retaliatory measures, reduced trade, or other negative consequences.

Moreover, extraterritorial application of U.S. patent laws may, in some circumstances, subject U.S.-based companies to substantial infringement liability, reducing their ability to compete on the world market and potentially pushing them to move their operations abroad.

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70. *See id.*

One policy supporting the presumption against extraterritoriality is that when courts apply the presumption, it will be easier to predict whether conduct will constitute infringement.[71] Without the presumption, parties may not know whether a court will attach infringement to certain extraterritorial conduct, and courts may attach liability to extraterritorial conduct where an actor did not think that conduct would create liability. This lack of notice could result in increased litigation when a court finds someone liable for extraterritorial activity that was not clearly noted in a statute, and it could result in economic harm if people or businesses are reluctant to manufacture needed products or use certain efficient processes for fear that a court may find that the manufacture of the products or the use of process constitutes infringement.[72]

Another potential problem with extraterritorial application of the patent laws is that courts may not be able to adequately assess foreign interests, so they may be biased towards U.S. interests when deciding how to apply patent laws extraterritorially, which can harm foreign relations and can result in unfairness to litigants.[73]

In addition, in the context of international patent exhaustion, allowing extraterritorial application of U.S. patent law could have the effect of placing U.S. patent law under the control of a foreign sovereign, as noted by the Federal Circuit in the *Lexmark*

71. *See* Timothy R. Holbrook, *Extraterritoriality in U.S. Patent Law*, 49 WM. & MARY L. REV 2119, 2142 (2008) (explaining that Congress took twelve years to legislatively overrule Deepsouth Packing Co. v. Laitram, 406 U.S. 518 (1972) with 35 U.S.C. § 271(f)).

72. *See* Bradley, *supra* note 2, at 556.

73. *See* Bradley, *supra* note 2, at 555–56.

decision.[74] Foreign countries would have the ability to place restrictions on the terms of sales of patented goods occurring within their borders, with concomitant effects on patent exhaustion. As a policy matter, it would be problematic to cede control of U.S. patent law to foreign sovereigns in this manner.[75]

III. THE STRATEGIC CONTEXT

In effect, extraterritorial application of U.S. patent laws gives a litigant the option of pursuing its remedies in the United States or in a foreign jurisdiction. A checklist of pertinent considerations follows:

- When applying for patent protection, to what extent does non-U.S. coverage enhance the extraterritorial reach of a U.S. portfolio for a particular product in its most likely markets?
- Upon becoming aware of extraterritorial infringement, is there protection in the pertinent jurisdiction? Is the "infringing" product being imported to or sold in the United States?
- Is the U.S. International Trade Commission (ITC) available with respect to U.S. imports?
- What extraterritorial doctrine will apply, and what special showing will need to be made to establish U.S. liability before reaching the underlying issues of infringement and validity?
- How important is discovery to the case? And what are the comparative options? To what extent can U.S. ancillary procedures help in non-U.S. cases?

74. Lexmark, Inc. v. Impression Products, Inc., 816 F.3d 721, 773 (2016).

75. *Id*.

- How do the applicable U.S. venues compare to the applicable non-U.S. venues? Consider the following:
    - Are there material substantive differences in the laws of the pertinent jurisdictions?
    - Statistically, what are the comparative likelihoods of prevailing?
    - Time to judgment of infringement? Damages award? Injunctive relief? Determination of validity?
    - Availability of injunctive relief? In what market(s)?
    - Likely damages?
    - All-in cost of litigation?
    - Availability of prevailing party attorneys' fee?

DIAGNOSING AND TREATING LEGAL AILMENTS OF THE ELECTRONIC HEALTH RECORD: TOWARD AN EFFICIENT AND TRUSTWORTHY PROCESS FOR INFORMATION DISCOVERY AND RELEASE

Hon. Ralph Artigliere
Placida, FL

Chad P. Brouillard
Foster & Eldridge, LLP
Cambridge, MA

Dr. Reed D. Gelzer
Provider Resources, Inc.
Newbury, NH

Kimberly Reich
Lake Forest, IL

Steven Teppler
Abbott Law Group
Jacksonville, FL

ABSTRACT

Electronic health records (EHRs) promise streamlined communications, lower costs, and improved patient care in one of the most complex industries in our economy. Currently they're falling short. This is mainly because of poor standardization of format, low clinical and business reliability, and non-interoperability. This paper contends that improvements will result from rigorous application of the laws of evidence and civil discovery. Key principles from these laws include authenticity, relevance, and cooperation. The results will serve assertion and defense of legal rights and benefit health care as a whole. This article, written by a diverse legal and medical team, assesses the current state of EHRs; analyzes relevant statutes, regulations, and court rules; and proposes a practical and cost-effective path forward.

ABOUT THE AUTHORS

Ralph Artigliere is a retired medical malpractice trial lawyer and former Florida circuit judge. He currently writes about legal issues and teaches civil procedure, case management, and electronic discovery to lawyers and judges around the country.

Chad P. Brouillard is a trial lawyer who practices medical liability defense and healthcare law. He is a writer and international speaker on liability issues pertaining to EHRs, healthcare electronic discovery, and Mobile Health (MHealth).

Reed D. Gelzer, MD, MPH, is a former primary-care physician. He advises Provider Resources, Inc.—an accredited, woman-owned small business advancing quality assurance and program integrity—on data quality, authenticity, and compliance as an HIT (Healthcare Information Technology) Policy and EHR (Electronic Health Record) Specialist. Dr. Gelzer is a co-facilitator of the HL7 EHR Systems Records Management and Evidentiary Support Profile Workgroup.

Kimberly Reich, MBA, MJ, PBCI, CEDS, CPHQ, FAHIMA, is a credentialed healthcare information professional who specializes in electronic discovery, privacy, and compliance. She serves as an expert witness in healthcare-related litigation and is the lead author of the 2012 AHIMA publication "E-Discovery and Electronic Records," a first-of-its-kind healthcare electronic discovery resource.

Steven Teppler is a partner at the Abbott Law Group and leads the firm's technology-based complex litigation and electronic discovery practice.

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PREFACE

Discovery of digital records has become complex and costly. Many industries are developing solutions. U.S. healthcare, the country's largest industry, is an exception. This article seeks to help correct this, recognizing two considerations. These are, first, that the U.S. health care and its information technology industry present uniquely resistant challenges requiring a systematic approach, and, second, that a proper emphasis on discovery will have major direct and indirect benefits. The focus is on the narrative record of patient care, clinical decision support functions, and the production of relevant, accurate outputs. The intended audiences are the legal, clinical, and healthcare policy communities whose interests include legal relevance, reliability, and accuracy. The intent is to provide those audiences with improved understanding of the current state of electronic health records (EHRs)[1] and the systems that generate them[2] in practical terms using familiar discovery concepts.

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1. The authors define an Electronic Health Record (EHR) as a data set purporting to document observations, measurements, acts, and events in the course of evaluating, advising, or treating a patient. The EHR system, and its component sub-systems, comprise procedures, devices, and applications to record and extract information to support clinical business operations and legal processes. These systems require reliable, efficient, and economic record production that complies with legal expectations of accuracy and authenticity.

2. *See generally, e.g.*, Bonnie Kaplan & Kimberly D. Harris-Salamone, *Health IT Success and Failure: Recommendations from Literature and an AMIA Workshop*, 16 J. AM. MED. INFO. ASSOC. 291 (2009), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2732244; Thomson Kuhn et al., *Clinical Documentation in the 21st Century: Executive Summary of a Policy Position Paper From the American College of Physicians*, 162 ANNALS INTERNAL MED. 301 (2015), http://annals.org/aim/article/2089368/clinical-documentation-21st-century-executive-summary-policy-position-paper-from; ECRI INSTITUTE, TOP 10 PATIENT SAFETY CONCERNS FOR HEALTHCARE ORGANIZATIONS, 7, https://www.ecri.org/EmailResources/PSRQ/Top10/Top10PSRQ.pdf (listing

For legal and clinical users, advanced understanding will provide means to more effectively and reasonably request and receive access to the appropriate scope of patient data. For those in policy, advanced understanding will support more effective oversight. All will benefit from understanding common means to improve systems with unusual vulnerabilities to errors or misuse. One special source of difficulty, an undue reliance in the healthcare community on self-defining their "legal health record," is also addressed. Others that may benefit include those concerned with security, privacy, cost, and burden as well as national initiatives for healthcare finance reform, population surveillance, and other uses of EHR data.

The recommendations require actors who are motivated to cooperate within a trusted framework; and, in that context, the Sedona Conference is uniquely qualified to provide such a setting.

in the top 10—and expanding upon—Data Integrity Failures with Health Information Technology Systems).

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I. INTRODUCTION

A. The Promise and Challenge of Electronic Health Records

Electronic health records (EHRs)[3] promise a future in which digital health information overcomes the limits of paper medical records.[4] Ideally, EHRs will be accessible to all authorized individuals and stakeholders involved in patient care. These stakeholders include patients as well as clinicians, lawyers, and businesspeople. Systems-controlled access protections will provide security controls for authorized users and viewers and protect patient privacy. EHRs have not yet reached these goals. They fall short for those who depend[5] on secure, timely, complete, accurate, and authentic information regarding patient health.[6]

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3. *See infra*, Sects. II.A. & II.B., for the use of "EHR" as a primary term as well as the distinction between EHR vs. EMR (electronic medical record).

4. Peter Garrett & Joshua Seidman, *EMR vs EHR—What Is the Difference?*, HEALTH IT BUZZ (Jan. 4, 2011, 12:07 PM), http://www.healthit.gov/buzz-blog/electronic-health-and-medical-records/emr-vs-ehr-difference ("EHRs focus on the total health of the patient—going beyond customary clinical data collected in the provider's office and inclusive of a broader view on a patient's care.").

5. People with authorized access to certain information in EHRs include healthcare providers as well as persons in the government, insurance, legal, and other fields.

6. Sue Bowman, *Impact of Electronic Health Record Systems on Information Integrity: Quality and Safety Implications*, PERSP. HEALTH INFO. MGMT. 1 (2013), http://perspectives.ahima.org/impact-of-electronic-health-record-systems-on-information-integrity-quality-and-safety-implications.

Government mandates[7] direct clinicians and hospitals to use EHR systems that lack basic clinical and business records-management tools.[8] These mandates do not require compliance with records-management Standards.[9] Since buyers were required to purchase and use EHR systems, few tested them for records-management fitness—particularly for discovery and Release of Information (ROI) process support. Two other major U.S. healthcare enterprises, the Veteran's Administration Health System[10] and the Department of Defense's Military Health System,[11] have undertaken new EHR systems, also in advance of uniformity in discovery and ROI. Still, all need and expect accurate information. In time these systems will support records-management requirements. Until that occurs lawful requests for

7. *See, e.g.*, *Are There Penalties for Providers Who Don't Switch to Electronic Health Records (EHR)?*, HEALTHIT.GOV (Jan. 15, 2013), https://www.healthit.gov/providers-professionals/faqs/are-there-penalties-providers-who-don%E2%80%99t-switch-electronic-health-record (last visited June 20, 2017).

8. The authors hope to mitigate confusion that often arises from the colloquial term "standard" vs. the term of art "Standard," the latter which refers to one or more of the reference documents applicable to EHR systems published by formally credentialed Standards Development Organizations such as Health Level 7, ISO, ASTM, IEEE, and ARMA. To further facilitate clarity, the authors use "requirements" instead of the colloquial "standard" throughout this article.

9. Examples include the ASTM E2017-99(2010) Standard Guide for Amendments to Health Information, ANSI/HL7 EHR RMESFP R1-2010 (HL7 EHR-System Records Management and Evidentiary Support (RM-ES) Functional Profile, Release 1), and applicable profiles derived from HL7 EHR-System Functional Model, Release 2.

10. Greg Slabodkin, *VA picks Cerner to replace legacy EHR system*, HEALTH DATA MANAGEMENT (Jun. 5, 2017, 2:49 PM), https://www.healthdatamanagement.com/news/va-picks-cerner-to-replace-legacy-ehr-system.

11. Tom Sullivan, *DoD awards Cerner, Leidos, Accenture EHR contract*, HEALTHCARE IT NEWS (July 29, 2015, 5:01 PM), http://www.healthcareitnews.com/news/dod-names-ehr-contract-winner.

electronically stored information (ESI) can speed progress and competition by pushing for improvements and for market transparency.

Absent a regulatory solution, applying sound legal principles of discovery and evidence to EHRs will normalize system requirements in the United States and other countries. Rigorous requirements for records creation, preservation, and production—which most EHR systems currently lack—will become normal product features. In the interim, it is vital to address EHRs' shortfalls.

B. Article Scope: Accuracy, Uniformity, and Efficiency

This article addresses known problems in a practical way. It offers recommendations for meeting basic needs for better access, uniformity, and effectiveness in the legal process. This approach stresses efficient and reliable utility for producing authentic, accurate outputs suitable for discovery. The intended audience is those engaged in EHR production and in ROI use. The intent is to offer an approach and spur its use, discussion, and improvement.

This article addresses EHR systems as "digital records systems," which are unregulated and vary widely.[12] Their discovery capabilities range from providing little or no support to meeting or exceeding discovery-supportive Standards.[13] EHR systems are used to do the following:

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12. *See, e.g.*, Richard Wasserman et al., *Comparative Effectiveness Research in EHRs Tower of Babel*, AM. ACAD. PEDIATRICS (April 2012), https://www.aap.org/en-us/professional-resources/Research/research-findings/Pages/Comparative-Effectiveness-Research-in-the-EHR-Tower-of-Babel-Creation-of-a-Multi-Vendor-EHR-Practice-Based-Research-Network.aspx.

13. *Id.*

1. Gather information from people reporting acts and observations of events in health-care services
2. Gather information from variably regulated or Standards-compliant devices intended to represent acts and observations of events in health-care services
3. Organize already-gathered information into representations of acts and observations deemed suitable for use in the operations of the healthcare enterprise, including the following:
    a. Clinical care
        - Information about the patient
        - Information about services the patient has received
        - Information about clinical-care providers' decision-making
    b. Organization operations
        - Managing clinical services
        - Reporting about clinical services
        - Reporting about the attributes of the digital-records systems (configurations, features, and functions that support the accuracy of data and authenticity of records)

Information systems that are validated by Standards and by regulatory processes, normalized as trusted data sources—such as most laboratory, imaging, and waveform devices—are beyond the scope of this article.

Many readers may assume that EHR systems produce trustworthy records. However, digital health-care records systems have configuration settings that can be problematic, or that can be changed at will, including settings that affect record integrity. Their outputs are constructs whose conformity to accuracy

and veracity depends on the system's design, configuration, implementation, and use. For users, these constructs also include access security that controls who can create, view, or alter records and even change how the system works. The 2017 False Claims Act settlement with the EHR system vendor eClinicalWorks illustrates a number of hazards. The vendor set up its system so it would pass inspection, falsifying its qualification for a federal subsidy program.[14] Two former high-level federal officials have said they know of more offenders.[15]

Regulated devices limit patient harms and liability by complying with accepted reference Standards and regulations. They also undergo rigorous validation by independent entities that ensure buyers actually get what is tested. This is not the case for the current EHR system marketplace. EHR improvements will benefit many, including patients, healthcare providers, health-information professionals, and anyone who needs access to accurate patient medical and health information.

14. *E.g.*, Evan Sweeney, *eClinicalWorks Settlement Hints at Broader Certification Infractions Throughout the EHR Industry*, FIERCEHEALTHCARE (June 2, 2017, 9:19 AM), http://www.fiercehealthcare.com/ehr/eclinicalworks-settlement-false-claims-act-ehr-certification-onc.

15. *Id*.

II. EHRS IN CONTEXT

A. EHRs in the United States

In recent years, federal initiatives and mandates have directed most hospitals and providers to use EHRs. These directives have emphasized speeding EHR systems into widespread use. The stated objective has been improving information exchange.[16] The Health Information Technology for Economic and Clinical Health Act (HITECH Act)[17] provided the framework for incentives, punishments, and exemptions. The first years of the program provided for rewards. Firms that delay implementation face penalties in the form of reduced Medicare payments.[18]

Before HITECH, the federal government tried other ways to hasten EHR adoption. It initially tried creating common functional requirements as a Health Level 7 (HL7) Standard.[19] Next,

16. Most public and private healthcare providers and other eligible professionals must have adopted and demonstrated "meaningful use" of electronic medical records to maintain their existing Medicaid and Medicare reimbursement levels by January 1, 2014. American Recovery and Reinvestment Act of 2009, Pub. L. 111–5, 123 Stat. 115 (codified at 16 U.S.C. § 2601 (2012) & 42 U.S.C. §§ 1201, 15801).

17. HITECH Act, 42 U.S.C. § 300jj (2012) & 42 U.S.C. § 17921.

18. American Recovery and Reinvestment Act of 2009 (ARRA), Pub. L. No. 111–5, div. B, tit. IV. (2009); *see also Are There Penalties for Providers Who Don't Switch to Electronic Health Records (EHR)?*, *supra* note 7.

19. For more information on the Department of Health and Human Services contract with HL7 to develop the EHR System Functional Model, *see generally* HEALTH LEVEL 7 INT'L, HL7 EHR SYSTEM FUNCTIONAL MODEL: A MAJOR DEVELOPMENT TOWARDS CONSENSUS ON ELECTRONIC HEALTH RECORD SYSTEM FUNCTIONALITY: A WHITE PAPER (Health Level Seven, ® Inc., 2004), https://www.hl7.org/documentcenter/public_temp_BDFDBDC4-1C23-BA17-0CD07E20AB751FE8/wg/ehr/EHR-SWhitePaper.pdf.

it moved on to EHR system certification based on formal stakeholder consensus.[20] Most recently it changed to the minimalist of the Meaningful Use program.[21] Support for legally-required disclosure and discovery activity remains absent. The federal government intentionally omitted such support[22] and, until recently, omitted reference to pertinent Standards.[23] Recent events

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20. *About CCHIT*, CERTIFICATION COMM'N FOR HEALTH CARE INFO. TECH., https://www.cchit.org/about/ (lasted visited June 15, 2017).

21. Electronic Health Record Incentive Program—Stage 1, Final Rule, 42 C.F.R. pt. 495 & 45 C.F.R. pt. 170; Electronic Health Record Incentive Program—Stage 2, Final Rule, 77 Fed. Reg. 53,968–54,162 (September 4, 2012); Electronic Health Record Incentive Program—Stage 3, Final Rule, 80 Fed. Reg. 62,761–62,955 (October 16, 2015).

22. *See, e.g.*, DANIEL R. LEVINSON, U.S. DEP'T. OF HEALTH & HUMAN SERVS. OFFICE OF INSPECTOR GEN., NOT ALL RECOMMENDED FRAUD SAFEGUARDS HAVE BEEN IMPLEMENTED IN HOSPITAL EHR TECHNOLOGY (2013), https://oig.hhs.gov/oei/reports/oei-01-11-00570.pdf.

23. *See Oh, the Places Data Goes: Health Data Provenance Challenge*, CCI INNOVATION CENTER, https://www.cccinnovationcenter.com/challenges/provenance-challenge/ (last visited June 20, 2017). The Dep't. of Health and Human Servs. Office of the Nat'l Coordinator for Health Info. Tech. (ONC) announces winners and description of its Health Data Provenance Challenge. The ONC appears to provide the first formal reference by a Federal Health IT authority to a Standard addressing EHR reliability for legal processes—the HL7 EHR System Functional Model:

> Several standards activities help frame "record lifecycle events," which represent key points at which audit or provenance data should or could be applied. Such standards include, but are not limited to:
>
> - The electronic health record system functional model (EHR-S FM).
> - The HL7 Fast Healthcare Interoperability Resources (FHIR®) EHR-S Record Lifecycle Event Implementation Guide (RLE IG) for FHIR's second and third trial use releases.

Id.

may signal growing federal oversight of the Meaningful Use program[24] and to EHR system accountability.[25] But, for the foreseeable future, healthcare providers will still use varied, non-interoperable technologies for their records.

Meanwhile a healthcare entity must still meet its records-keeping obligations. It remains essential to maintain complete and accurate medical records. Healthcare-provider licensing and certification laws still enforce the proper upkeep and preservation of health-care records. Health-care quality and continuity remain the primary rationale for promoting EHRs,[26] although the law does not yet require robust safety, security, privacy, and records-management functions.[27] Until these are

24. *See, e.g.*, DANIEL R. LEVINSON, U.S. DEP'T. OF HEALTH & HUMAN SERVS. OFFICE OF INSPECTOR GEN., MEDICARE PAID HUNDREDS OF MILLIONS IN ELECTRONIC HEALTH RECORD INCENTIVE PAYMENTS THAT DID NOT COMPLY WITH FEDERAL REQUIREMENTS (June 2017), https://oig.hhs.gov/oas/reports/region5/51400047.pdf.

25. *See* Evan Sweeney, *eClinicalWorks settlement hints at broader certification infractions throughout the EHR industry*, *supra* note 14.

26. Additional potential advantages include the ability to exchange complete health information about a patient in real time; automatic reminders for alerts, visits, and screenings; electronic prescribing, which allows physicians to communicate directly with pharmacies, thereby reducing errors and saving time by eliminating lost prescriptions; and automatic checks for allergies or potentially dangerous drug interactions.

27. The law does not fully specify safety, security, and privacy functions, and where they do exist in stated requirements such as in the federal Meaningful Use program, there is no field-inspection regime to ensure deployed systems in patient care have enabled them. The Office of Civil Rights has no mandate to evaluate prospectively or otherwise assure EHR systems' privacy and security competences—it is only required to respond to individuals' complaints. *See* LEVINSON, *supra* note 22, at 11 (referencing incapacitated or vulnerable audit functions).

required, they remain underdeveloped.[28] Therefore discovery management will remain a challenge for a long time, demanding a systematic approach.

B. "EMR" vs. "EHR"

The terms "electronic medical record" (EMR) and "electronic health record" (EHR) sometimes cause confusion. EMR and EHR can have discrete meanings. According to HealthIT.gov, an EMR contains the medical and clinical data gathered in one provider's office, while an EHR includes more comprehensive patient information.[29] An EMR is still more useful than a paper record because it allows providers to:

- track data over time;
- identify patients who are due for preventive visits and screenings;
- monitor patients' well-being by comparing certain parameters such as vaccinations and blood pressure readings against recommended ranges; and
- improve overall quality of care.

An EMR is a digital version of a paper chart that contains a patient's complete medical history for a single organization. Information may be difficult to share with providers outside of the practice since integrating information from multiple settings isn't within the scope of an EMR. For example, a provider might

28. These persistent gaps may provide additional incentives for EHR improvements, but they are outside the scope of this article.

29. For more information about EMRs and the differences between EMRs and EHRs, *see What Is an Electronic Medical Record (EMR)?*, HEALTHIT.GOV, http://www.healthit.gov/providers-professionals/electronic-medical-records-emr (last updated Sept. 22, 2016).

have to save a patient's record on physical media such as a USB drive or print it out for mail delivery.

By contrast, an EHR contains an information set that may include contributions from independent cooperating organizations. Authorized providers and staff across more than one healthcare organization can create, manage, and consult EHR data. Unlike EMRs, EHRs can also allow a patient's health record to follow them to other healthcare providers, specialists, hospitals, nursing homes, and geographic regions.

EHRs and EMRs share the same challenges in discovery and the ROI process, so their differences aren't material here. In this article, for simplicity, we adopt the HITECH convention and use only the term "EHR."

C. How EHR Systems Work

Generally speaking, when a patient interacts with a clinical organization and when they receive medical care, an event is recorded in the EHR. An individual from the healthcare provider's practice may supplement or create a record of that visit in the provider's computer system by selecting the patient's name and inputting data using screen prompts. Input timing can vary, as can its format. For example, the input may involve checking a box; highlighting and entering a character or message; entering a number or value; answering yes or no; typing, dictating, touching, or voice commanding a response; or a combination of these methods. Additional personnel or the individual patient may also input data into records. In addition, the system may place machine-created data, like dates and times, directly into the patient's record. ESI in the database may not always include what the user saw in the input process, including prompts. Likewise, previously existing information entries scanned into a record may lack sources, context, or other important indicia describing the information. Under these and

other circumstances, the date and time of the event reported may be different from the date and time the EHR actually records.

If anyone properly requests a patient's record, the practice organization uses the computer system to produce a report. It may be produced by the "main" EHR software with dedicated report-generating software that queries other systems. The report may be a hybrid that includes information collected manually from multiple data repositories. The report may not resemble the screens the inputters used to create the record. The report itself may vary in content and appearance depending on who generated it, when they generated it, and what system version and settings they generated it with.

Large-scale practices and hospitals now create the bulk of their records electronically. These large organizations are more likely to aggregate data from multiple systems into their EHRs. Hospitals increasingly integrate or own medical-office practices, which means further combining of records systems. Additional healthcare-provider entities, such as extended-care settings, rehabilitation facilities, and home-health services, add to the variability of EHR storage and production. The expanding list of professionals who provide direct care—including pharmacists, care coordinators, and alternative-care consultants—adds to the challenges because each professional may have a "personal device" for accessing and contributing to the records of care.

A healthcare organization may have several different EHR systems because of wide-ranging business requirements, payment sources, professional guidance, regulations, and reporting duties. Each of their EHR systems may support a part of their production obligations. Data exchanges among these systems further complicate trust, especially because each system is likely

to be unregulated and to vary in design, configuration, implementation, training, and use. Thus, even when someone requests the production of an EHR, he or she probably lacks the software to process the information into an accurate and usable record.

Patient data can be inconsistent in form and location.[30] It can also be under multiple different records managers. It may even reside outside the healthcare organization itself, as illustrated by Table 1, *infra*. Even if it is relevant, some types, such as peer-review and quality-assurance records, may not be accessible due to rules that prevent disclosing such information.

Health-Care Record	Maintaining Organization
Peer-review activities including meeting minutes, records, and reports	Healthcare organizations, providers, accountable care organizations (ACOs), patient centered medical homes (PCMHs), and health plans
Incident reports and risk-management data	Healthcare organizations, providers, ACOs, PCMHs, and health plans
Patient complaints	Healthcare organizations, providers, ACOs, PCMHs, and health plans
Patient-safety data	Healthcare organizations, providers, ACOs, PCMHs, and health plans
Utilization-management and profiling data	Healthcare organizations, providers, ACOs, PCMHs, and health plans

30. *See infra* Sect. III.A. (addressing terminology regarding attentiveness to the means by which parties create and store data, evolving within Standards Development Organizations).

Health-Care Record	Maintaining Organization
Case-management records	Healthcare organizations, providers, ACOs, PCMHs, and health plans
Clinical-documentation-improvement communication records	Healthcare organizations, providers, ACOs, PCMHs, and health plans
Quality-improvement records, including meeting minutes and reports	Hospitals, health departments, and the National Institute of Health (NIH)
Morbidity and mortality records, including meeting minutes and reports	Hospitals, Ambulatory Surgical Centers (ASCs)
Surgical-case-review reports	Hospitals, ASCs
Operating room records such as logs and call schedules	Hospitals, ASCs, and health departments
Infection-control committee records, including meeting minutes and reports	Hospitals and providers
Grand rounds presentations	Accrediting agencies and healthcare organizations
Survey reports and recommendations from the Joint Commission and other accrediting agencies	Healthcare organizations, providers, ACOs, PCMHs, and health plans
State inspection reports and recommendations	States and healthcare organizations
Credentialing committee records, including meeting minutes and reports	Healthcare organizations
Licensing applications	Licensing agencies and healthcare organizations
Health Information Portability Accountability Act (HIPAA) audit and system access logs	EHR systems and patients

Health-Care Record	Maintaining Organization
Clinical pathways and care protocols	Providers and healthcare organizations
Patient ombudsman records	Hospitals, ASCs, ACOs, PCMHs, providers, health departments, and health plans
Continuing education and training programs and materials for providers and staff	Providers and healthcare organizations
Policy and procedure manuals	Providers and healthcare organizations
Databases	Providers; healthcare organizations; patients; and EHR, personal health record (PHR), and other clinical biomedical systems
System metadata	EHR and clinical biomedical system data
System ephemeral data	EHR and clinical biomedical system data
Clinical-decision-support system protocols	Healthcare organizations, providers, EHR systems
Personal health records (PHRs)	Patients, providers, third-party service providers, healthcare organizations, and EHR systems
Texts and instant messages	Providers, patients, staff, healthcare organizational and personal devices (such as laptops, smartphones, and tablet computers), and third-party service providers

Health-Care Record	Maintaining Organization
Voicemail records	Providers, patients, staff, and healthcare organizations (organizational and relevant personal voicemail files)
Email records	Providers, patients, staff, and healthcare organizations (organizational and relevant personal email files)
Information from social-media websites, including Facebook, LinkedIn, Twitter, Yammer, and YouTube	Healthcare organizations, providers, patients, and third-party service providers

Table [1]: Examples of Health-Care Records That May Contain Litigation-Relevant Information[31]

In addition to the large number of record types a healthcare organization may collect, generate, or maintain, there may be just as many sources and/or repositories storing—and sometimes losing—this data, as indicated in Table 2. Like the record types in Table 1, the organization may not include information from the sources in Table 2 in its definition of its official EHR, even though it could be relevant in civil litigation or a regulatory investigation. Because an organization's EHR system is likely a compilation of multiple systems even in office settings, traceability back to the entry origination for each input will become increasingly necessary. These originations will include relevant communications or accessory records in legacy formats, consistent with existing EHR Normative Standards.[32]

31. Kimberly Baldwin Stried Reich, *The Electronic Health Record as Evidence*, 297, HEALTHCARE INFORMATION TECHNOLOGY EXAM GUIDE FOR COMPTIA HEALTHCARE IT TECHNICIAN & HIT PRO CERTIFICATIONS, 312-313 (Kathleen A. McCormick & Brian Gugerty eds., 2012).

32. *See, e.g.*, HEALTH LEVEL 7 INT'L, HL7 EHR-SYSTEM FUNCTIONAL MODEL, RELEASE 2 § RI.1.1.1 (2014).

Data Sources to Consider in the Healthcare Institution		
Enterprise EHR System(s)		
	☐ Native Display	
	☐ Audit Trails	
	☐ Metadata	
	☐ Annotations	
	☐ Clinical-Decision Support	
	☐ Discrete Departmental Systems	
		☐ Radiology
		☐ Lab/Pathology
		☐ Anesthesiology
		☐ Labor and Delivery
		☐ Reporting Systems
		☐ Security Systems
		☐ Auditing/Metadata Management Systems
		☐ Radiation Oncology Record Systems
		☐ Emergency Department Record Systems
Health Information Exchange Functions		
	☐ Import/Receive Management	
	☐ Export/Send Management	
	☐ Records Constructed for Interoperable Transfer of Data	
Pharmacy/Prescribing		
	☐ Orders Management (capture, fulfillment)	
	☐ ePrescribing to External Resources	
	☐ Medication Reconciliation	
	☐ eRx Decision Support settings, prompts, and warnings	
Paper Sources (internal)		
	☐ Remaining Paper Sources (e.g., handwritten sheets in radiology folders, writing on fetal monitoring strips, crib sheets)	
	☐ Legacy Paper Charts	
Billing/Coding		

Data Sources to Consider in the Healthcare Institution		
Emails		
	☐ Patient/Provider	
	☐ Provider/Provider	
		☐ Non-provider Clinical Staff
		☐ Provider/Patient-authorized Support Personnel (family and home-health organizations)
	☐ Communications with the Vendor	
External Health Records		
	☐ Paper	
	☐ Scanned	
	☐ PHR	
	☐ Apps	
Raw Data		
	☐ Lab Values	
	☐ Imaging Studies	
		☐ Transcription Recordings
		☐ Voice-recognition Audio Files
Legacy Data		
	☐ Outdated Systems	
Administrative Data		
	☐ Scheduling	
	☐ Follow-up Letters	
	☐ Reporting	
		☐ Quality Measures
		☐ Adverse Events
		☐ National Notifiable Conditions
Other Potential Sources		
	☐ Cloud-based Systems	
		☐ Patient Portals
	☐ Social Networking	
	☐ Video Conferences	
	☐ Audio Conferences	

Data Sources to Consider in the Healthcare Institution	
	▯ Medical Devices
	▯ Texts
	▯ Smartphones
	▯ Tablets
	▯ Internet Advertising
	▯ Dictation Transcriptions
	▯ Research Projects
	▯ Patient Mobile Devices

Table [2]: Data Sources to Consider in the Healthcare Industry

D. "Authenticity" in EHRs

Defining "authentic" is a cornerstone for digital records discovery. "Authentic" means "[g]enuine; true; having the character and authority of an original; duly vested with all necessary formalities and legally attested; competent, credible, and reliable as evidence."[33] Evidence is required "sufficient to support a finding that the item is what the proponent claims it is."[34]

Therefore, authenticity has three parts:

1. For what purpose is the record offered?
2. Is the record what it claims to be?
3. What evidence authenticates the reliability of the record's claim?

How do parties in litigation reach agreement on all three, especially on supporting evidence? Healthcare often confronts this problem because, as a regulated industry, there are many records-keeping duties. The descriptions of necessary records

33. *Authentic*, L. DICTIONARY, http://thelawdictionary.org/authentic (last visited June 9, 2017) (citing Downing v. Brown, 3 Colo. 590 (1877)).

34. FED. R. EVID. 901(a) ("To satisfy the requirement of authenticating or identifying an item of evidence, the proponent must produce evidence sufficient to support a finding that the item is what the proponent claims it is.").

may only have content requirements and provide no information about data supporting authentication, such as the identity of the information source, date and time stamping, or cross-check verification.[35]

The Joint Commission's Hospital Accreditation Standards include minimum content requirements[36] and guidelines for accuracy.[37] Proving legal authenticity, however, may require more specific and complete information. Eventually records requirements will include both content and authentication specifications. Until then, discovery will improve using the approach proposed in this article.

One part of that approach uses the organization's information governance[38] policies, procedures, and bylaws. These

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35. For an example of a content-only authoritative records requirements description, *see* THE JOINT COMM'N, 2016 HOSPITAL ACCREDITATION STANDARDS, RC-1 (2016), Discharge Summary:

> (T)he medical record includes a concise discharge summary that includes the following:
>
> - The reason for hospitalization
> - The procedures performed
> - The care, treatment, and services provided
> - The patient's condition and disposition at discharge
> - Information provided to the patient and family
> - Provisions for follow-up care

36. THE JOINT COMM'N, 2016 HOSPITAL ACCREDITATION STANDARDS, RC-6 (2016).

37. *Id*. at RC-5.

38. "Information governance" is "an organization's coordinated, interdisciplinary approach to satisfying information compliance requirements and managing information risks while optimizing information value." The Sedona Conference, *Commentary on Information Governance*, 15 SEDONA CONF. J. 125, 126 (2014). The *Commentary on Information Governance* provides principles and useful guidance to organizations for setting up efficient & effective systems responsive to the competing needs for them.

describe how the entity assures records reliability. For example, these may stipulate the minimum professional credentials for creating and changing certain clinical records. Examples include the following:

- Problem List: Commonly intended to inventory the physiologic, behavioral, and/or social challenges that a patient is addressing
- Medication List: Commonly intended to inventory the patient's current and past medications

The security audit—showing records' creation and changes—then becomes another key to authentication.

In an ROI, the record produced also claims to be responsive to the recipient's request. What if the released record is designed to be authentic for one purpose but gets used for another purpose? What if it appears to be in compliance, imitating but not achieving authenticity? This can be an unintended consequence of EHR systems, as generated information may be used for many purposes. It may increase the risk that records will correctly support authenticity for one use but not for another use. For example, information recorded in writing a prescription automatically populates other records (e.g., Medication List). In this instance the Medication List is no longer a record created by a single individual in the regular course of documentation. It is compiled from records for prescriptions written elsewhere in the system and captured automatically into other records. It may also include information received from a different organization (such as another clinical facility or a pharmacy). This isn't a problem unless there can be misunderstanding. If the automatically compiled Medication List is confused with a Medication List carefully gathered and accuracy-checked by a medical professional, then an authenticity problem may arise.

As a result, an ROI for a Medication List can draw on two significantly different records:

1. an inventory of the medications a patient is taking, assembled carefully by an individual professional, with each item verified against the patient's collection of medications, and confirmations with pharmacies; and
2. an electronic compilation assembled by the EHR system gathering information from various input sources, then designated by the organization as the "official Medication List" for ROI responses.

The second example, a machine's automated list, is correct in an ROI as long as it claims only to be an electronically assembled Medication List. If this compiled list is mistaken for or claims to be a verified inventory of the patient's medicines (example no. 1 above), it may not provide evidence of authenticity. If both Medication List types are used, both can be relevant and can be authentic if each properly claims what it is, adequately differentiated. Each will require sufficient evidence to support its correct use, especially when one is considered more useful for clinical decisions than the other.

Medication List differences can be further complicated because one part of an EHR system may create a record that another part of the system doesn't recognize. For example, a provider's record of the cancellation of a prescription may fail to get to the pharmacy record. The provider's Medication List will show that the pharmacy was told to stop the drug and will show the drug has been stopped. The pharmacy Medication List will still include the drug and the patient will continue to get it. The provider and the pharmacy will both have a Medication List that is supposed to be the same, but they will not be the same.

Another common record is the Operative Note. Since each one is a record of a routine procedure each may appear very

similar. This repetition is reasonable and intentional. For instance, an Operative Note for a common procedure will look similar to Operative Notes for other patients. The Operative Note might be partially or entirely completed before the surgery, with the intent to amend it if something non-routine occurs. A proper audit-trail record will show whether or not it was written before the surgery. Evidence about authentication can also show other potentially discrediting anomalies. For example, the audit trail may show the Operative Note was created at an unlikely day and time by an unlikely individual, e.g. "signed" by someone on vacation. The version of "Operative Note" produced by a given EHR system may not meet the requestor's reasonable expectations. A system's designated general-purpose "Operative Note" output may have too little detail or insufficient supporting data to be considered reliable, and so it will be insufficient for use in litigation. It may require several additional queries from the requestor to receive sufficient information in enough detail to, collectively, provide a reliable Operative Note.

In time, EHRs will achieve their full value by providing sufficient information to explain what it is, fully meet content specifications, and include the basis for its authentication.

E. ROI Authenticity

Once record authenticity is addressed, the next challenge is evaluating the ROI process. Since electronic records systems also produce these in different ways, as a type of report, it is also a record. As a kind of record, produced by automated processes, questions may arise regarding the authenticity of the ROI product itself. Key elements are the same. What does the ROI response claim to be? Is it a general ROI in response to a patient request or a more detailed ROI response, such as for litigation? Ultimately, in the context of using records in litigation, when

there's a challenge to authenticity, the producer of the information must be prepared to meet foundation and admissibility challenges.

In most circumstances, authenticity of an ROI may not be in question. However, in complex and detailed discovery projects, assuring mutual understanding of the specific nature of the electronic record becomes important in order to avoid incidental differences between what the ROI response represents and what parties believe it to be. When circumstances arise that merit this additional layer of clarity, the recipient asks questions about where the record came from, and how it was originated, retained, and produced. This will speed parties past misunderstandings that can cause contentious challenges to authenticity.

F. EHR System Characteristics Impeding Data Quality and Records Consistency

The widespread use of EHR systems in the United States is relatively recent, even though they have been developing for decades, primarily to facilitate expedited records creation and recovery as well as billing and payment support. Increasing speed in records creation at the expense of thoughtful input[39] has resulted in a greater risk of degrading the reliability, accuracy, and authenticity of patient-care records.

Unexpected problems have included copying functions that risk reproducing information from record to record in ways that result in incorrect author, date, and time attributions, or functions that misrepresent amended records as unaltered.[40]

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39. Robert S. Foote, *The Challenge to the Medical Record*, 173 JAMA INTERNAL MED. 1171–72 (2013).

40. Evan Sweeney, *EHRs Assist Home Health Provider in $21.5 Million Overbilling Scheme*, FIERCEHEALTHCARE (July 8, 2016, 11:51 AM), http://www.fiercehealthcare.com/antifraud/ehrs-assist-home-health-provider-21-5-million-overbilling-scheme.

Healthcare payment systems, including recently introduced value and merit-based payment models, have added another hazard: the risk of receiving an inappropriately high payment for health-care goods and services.[41] However, EHR system design did not prioritize reliable records production for legal and regulatory processes, and purchasers' specifications often excluded it.

The lack of controls for appropriate records creation and management has permitted—and, in some respects, rewarded—variances from accepted requirements for clinical and business records.[42] Other contributors to variances in healthcare digital-records systems include the following factors:

1. Initial development of these systems predated inexpensive data-processing and data-storage (memory) capabilities.
2. Development of these systems were initiated in highly professionalized environments with relatively strong cultures of ethics, peer review, and professional norms conducive to reasonable presumptions of honesty and integrity among uses and users.
3. National policy and programmatic incentives accelerated the adoption of digital patient records systems without constraints, oversight, or market transparency for product qualities or defects.[43]

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41. *Id*.

42. Barbara Drury et al., *Electronic Health Records Systems: Testing the Limits of Digital Records' Reliability and Trust*, 12 AVE MARIA L. REV. 257, 257–89 (2014).

43. Dan Bowman, *EHR Fraud Recommendations Remain Unimplemented, HHS Inspector General Says*, FIERCEHEALTHCARE (April 13, 2016, 12:29 PM), http://www.fiercehealthcare.com/ehr/ehr-fraud-recommendations-remain-unimplemented-hhs-inspector-general-says; U.S. DEP'T OF HEALTH &

4. Case law always lags behind new technologies. It has taken time for courts to generate sufficient rulings to inform courts on the unique attributes of EHRs.
5. EHR system contractual obligations may impede reporting of anomalies except to the vendor.[44]

Advancing EHRs as reliable records will also improve the systems' abilities to provide the right information (data sets) in the right way (format) at the right time. To achieve this in the absence of national requirements, it is important for producing entities to test their EHR systems and meticulously review (and periodically reassess) outputs to understand what their systems will produce. Determining reasonable expectations of ROI production requests can be challenging, although at least one commentator notes that it is reasonably likely that the producing entity's efforts will be a "failure."[45]

A proactive approach is necessary to identify and mitigate potential data-quality and record-consistency risks. To guard against and minimize miscommunications consistently with *The Sedona Conference Cooperation Proclamation*,[46] parties in litigation should agree to initial steps that maximize opportunities to

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HUMAN SERVS. OFFICE OF INSPECTOR GEN., COMPENDIUM OF UNIMPLEMENTED RECOMMENDATIONS 45 (2016), https://oig.hhs.gov/reports-and-publications/compendium/files/compendium2016.pdf.

44. Ross Koppel & David Kreda, *Health Information Technology Vendors' "Hold Harmless" Clause: Implications for Patients and Clinicians*, 301 JAMA 1276, 1276–78 (2009).

45. CRAIG BALL, THE PLAINTIFF'S PRACTICAL GUIDE TO E-DISCOVERY, Part I, at 2 (2005), http://www.craigball.com/EDD-The%20Practical%20Plaintiffs%20Guide.pdf.

46. *See generally The Sedona Conference Cooperation Proclamation: Resources for the Judiciary*, THE SEDONA CONFERENCE (2014), https://thesedonaconference.org/publication/The%20Sedona%20Conference%C2%AE%20Cooperation%20Proclamation%3A%20Resources%20for%20the%20Judiciary.

demonstrate equal commitments to transparency and good faith. As experience with EHRs increases, the bar for "reasonable expectations" will rise. In the meantime, recommendations to act early and often to facilitate communications and engage relevant expertise are particularly important to situations involving EHRs in discovery.

III. EHRS IN DISCOVERY

A. Discovery of Electronically Stored Information (ESI) in General

Four overarching observations govern our discussion of the role EHRs play in discovery:

1. Information sheds light on the truth.
2. Electronic discovery (eDiscovery) affords access to information in more locations than were ever previously possible.
3. Judges determine the scope of access to the information.
4. Lawyers must know about where information resides, the culture of information, the rules and laws that govern access, and how to gain or restrict access to information.

The legal system depends on information to achieve justice. Judges and juries must be impartial arbiters and factfinders, and they depend on the information that parties and their representatives present to do so. Logically, increasing the amount of relevant, accurate information available to factfinders in an organized and comprehensible fashion will also increase the chance that they can achieve justice.

The availability of ESI in the digital age creates the opportunity to provide greater access to searchable, relevant information and maximize its quantity, quality, accuracy, clarity, economy, and availability. People can systematically and properly create, store, preserve, update, correct, and share the information in digital media in well-designed, well-operated systems.

In theory, all these advantages may apply to EHRs and support their reasonable use without compromising security, privacy, and accuracy. "Reasonable use" means the ability to offer

economical, efficient, and timely access, searching, and understanding of accurate information. The users or stakeholders include patients, healthcare providers, insurers, and other entities or persons with legitimate legal and business needs for the information. Accuracy is critical to all these functions. Users can only attain it by receiving and understanding complete and authentic records validated to their requirements.

Healthcare-sector ESI systems could be major factors in achieving economical and efficient justice. To attain this goal, stakeholders must properly design, implement, train, and govern these systems. This is the only way to assure they properly create information, paying attention[47] to how it originated[48] and how the systems retain,[49] preserve, access, and produce it.

The same diligence, applied with an equal level of rigor, in managing a system's ability to produce ROI responses (e.g., to create, store, preserve, update, correct, and share ROI responses) can make the interaction between the producing party and the justice system easier, faster, and less expensive.[50] To ac-

47. Improved specificity, using for example "originate" and "retain," offers means to differentiate the multiple meanings of "originate," for inputting by keyboard, mouse, template, or voice, including discarding as ephemera erroneous initial data capture or other "draft" records. Detailed treatment of these terms is outside the scope of this article.

48. *See Lifecycle Events in PROV Model format with definitions as EHR-LC Events_Vocab_v0.5.5*, 5, HEALTH LEVEL 7 INT'L , http://wiki.hl7.org/index.php?title=Record_Lifecycle,_Security,_Privacy,_and_Provenance_Vocabulary_Alignment (downloadable resource document defining "To Originate") (last visited June 16, 2017).

49. *See id.* at 6 (defining "To Retain").

50. Conversely, litigants have attempted to abuse the eDiscovery process to increase the burdens and costs for a responding party. A well-designed system curbs such abuse by creating transparency in the process of search

complish these goals, organized and effective information governance can enhance the management of information in a given healthcare-sector ESI system.[51]

Metadata is one tool in ROI production and management that provides the contextual corroboratory information necessary for a finding of authentication and admissibility. In the authors' opinions, well-designed systems will eventually verify and confirm ESI accuracy using contextual metadata.[52] However, if people do not conscientiously design and operate ESI systems,[53] the systems will not properly and efficiently retain, preserve, and produce data. Costs will increase, which will deny or delay access to relevant information. In the legal system, justice delayed is often justice denied.

The challenge is the current variability in systems' abilities to create, store, preserve, update, and correct data. This creates opportunities for controversy, as well as potential vulnerabilities to misinterpretation or anomalies and defects in records and records management.

The benefits of all advances in trust—discussed here in the context of discovery—will also extend to patient care and clinical operations, in addition to secondary and tertiary benefits for pharmaceutical trials and population health. Until healthcare

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and production which permits the producing party to defend the compliance process to the opposing party and, if necessary, the court.

51. The Sedona Conference, *Commentary on Information Governance*, *supra* note 38.

52. *See, e.g.*, James G. Meyer et al., *Electronic Medical Records: Metadata as Evidence in Litigation*, 101 ILL. B.J. 422, 424 (2013) ("The file Metadata compared to the DICOM video clip embedded Metadata implied an intentional manipulation of the data in order to alter the events that actually occurred.").

53. People must also properly configure and implement well-designed systems and train users to achieve reliability, accuracy, authenticity, and efficiency.

ESI systems achieve reasonable use in discovery as a matter of course, early and systematic communications between parties will be prudent and necessary to minimize burdensome controversies and costly misunderstandings. To this end, the proposed use of eDiscovery agreements, conferences, and the hierarchical model of EHR disclosure are proposed below.

B. EHR Discovery Challenges and the Necessity of Expertise

Privacy interests, proportionality, and economical practicalities may constrain or expand discovery. In the case of medical records, relevant, non-privileged, and otherwise discoverable documents and other EHR system-generated data should be reasonably accessible to parties and, ultimately, factfinders. To effect disclosure in an economical and efficient manner, the information must be in a reasonably usable format.[54] In the case of digital medical records, this is generally easier to say than do because people inconsistently manage EHRs. Again, early communication will facilitate ease of use.

Expertise is necessary for effective analysis and communication, especially for determining when reliability and accuracy variations matter. A broad spectrum of potential causes of action is relevant to assessing the materiality of reliability and accuracy variances in EHRs. Personal-injury cases are just one category of legal needs for EHRs. These records may also be critically relevant to criminal prosecutions for rape, child abuse, or physical assault. Family-law matters may involve medical is-

54. Federal and many state rules anticipate the need for and importance of a "reasonably usable form" of production. *See* FED. R. CIV. P. 34(b); FLA. R. CIV. P. 1.350(b) ("If a request does not specify a form for producing electronically stored information, a party must produce it in a form or forms in which it is ordinarily maintained or in a reasonably usable form or forms."); MASS. R. CIV. P. 34(a)(1)(A).

sues requiring EHR production. Medical-malpractice and medical product-liability actions almost universally require medical-record evidence production. In such cases, the defendant healthcare provider or product manufacturer may need broad access to relevant EHRs as much as or more than the patient does.

EHR production is essential to—and provides diverse challenges in[55]—many administrative actions, including workers' compensation, disability determination, entitlement to Veterans Administration services, and healthcare oversight. EHRs may also serve as critical evidence in False Claims Act litigation against healthcare providers.

The need for trustworthiness assurance will vary, and, in some contexts, veracity is not essential. When such assurances are pertinent, the extraordinary variations in deployed EHR systems further underscore the importance of having or retaining special expertise to understand fully and process the information—as well as the attributes of the systems—to authenticate and determine its admissibility to a legal proceeding. The patient normally requires legal representation and may need medical or technical experts to assist with preservation and authentication tasks when an EHR is involved.[56]

At the outset of discovery, the requesting party's attorney may not have the technological know-how to formulate a proper request that encompasses what he or she needs. The attorney may also lack the technical expertise to understand the

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55. *See, e.g.*, *Position Statement by the Texas Medical Board on Electronic Medical Records*, TEX. MED. BD. (April 2015), http://www.tmb.state.tx.us/idl/1FDE72F2-F7E7-781B-986A-B5F1AD32BC3D.

56. Patient requests for information for non-legal needs are clearly not "discovery," but will nonetheless lead to the production of records similarly at risk for uncertainties or misinterpretation, which would similarly benefit from accuracy and economy.

difficulty and cost of production to comply with the request. He or she may not even know what information to request or how to request it. This difficulty may, in part, originate from the ambiguity and variation among healthcare providers' EHR systems.

The receiving party's attorney may also observe anomalies or discrepancies in the information produced or non-uniformity of records among multiple healthcare providers. He or she may correctly or incorrectly conclude that these issues demonstrate intentional withholding or alteration rather than lack of uniformity for generating, maintaining, and producing EHRs. Such presumptions impede effective communication between the parties and increase discovery costs as the requesting party will very often resort to wide-ranging discovery requests in response to these discrepancies.

Absent depositions, the requesting party's attorney in non-party discovery may have little to no information about how the producing party creates, keeps, and produces the released records. Depositions can be expensive and sometimes yield scant information about the same matters.

In the medical–legal context, the requesting party is entitled to a reasonably useful electronic format, but it is difficult to define a "complete medical record" or "legal health record" or explain how anyone can properly produce such a record.[57] It is also hard for the requesting party to confirm that this produc-

57. *See infra*, Sect. VI, for a full discussion of who appropriately determines what is a "complete medical record" or "legal health record." Determining what composes a complete medical record for discovery is a legal issue that statute, common law, the scope of relevant discovery as determined by rule or law, agreement of parties to a case, or a combination of those factors may define. It does not depend on the discretion of the record producer or requestor alone.

tion has occurred. For example, a healthcare provider may consider its reports to compose a complete record, even though they exclude or transform information entered into that record. Production of such a report may not comply with a producing party's legal obligations without a record set definition and description. These make sure producer and receiver have the same understanding of the released material. In their absence, a producing doctor or healthcare provider may have little to no firsthand knowledge of the reason or context for the record request and the actual needs of the requesting party. The legal request for production is generally silent about the intended use of the records, or it is couched in vague, overly broad terms on the scope and type of documents requested. Even given sufficient details, healthcare providers may have neither the legal training nor the time and motivation to discern the meaning of the lawyers' requests. They are even less likely to consider whether their EHR system has the accuracy or production capabilities the lawyers presume.

The person responsible for executing production may be unfamiliar with how the EHR system works. He or she may release the production output without close inspection or lack the ability to recognize anomalies or disparities (e.g., partial, truncated, improbable, or impossible statements, and bizarre date and time sequences) or even the "completeness" of the request. These anomalies and incomplete productions may be innocent or intentional. However, current methodologies, coupled with attorney technological ignorance, will not serve to identify these issues or ascertain the reasons for them.

In addition to a lack of understanding on both sides of the document-request transaction, differences in vocabulary often lead to ambiguity and fail to meet production needs. Although semantic and definitional issues are problematic in many areas,

they are especially prevalent in the medical–legal arena. The migration to digital records adds an additional component of technical vocabulary that the parties may lack. These complexities are not unique to healthcare litigation. However, parties must consider requesting special expertise whenever an EHR system's variability introduces complications. Again, early, systematic, and effective communication, coupled with cooperation between parties,[58] are the keys to optimizing EHR discovery.

C. EHR Discovery Processes

The legal system accounts for the need for medical information in statutes, regulations, procedural rules, and common law.

Discovery rules are generally procedural rules and may vary in criminal, family, and civil actions, and in federal or state courts. The rules of civil procedure largely determine the scope of discovery that parties are entitled to seek from each other and third parties.[59] These rules also limit scope through protections such as relevance, privilege, privacy, undue burden, or proportionality. In certain circumstances, a court may award a producing party compensation for the cost of production. The subpoena power of the courts generally governs how a party may demand production of discoverable information from third parties.[60] The rules of procedure, as interpreted in the common law,

58. The Sedona Conference, *Cooperation Proclamation*, 10 SEDONA CONF. J. 331 (2009 Supp.), *available at* https://thesedonaconference.org/publication/The%20Sedona%20Conference%C2%AE%20Cooperation%20Proclamation.

59. *See, e.g.*, FED. R. CIV. P. 26(b)(1); FLA. R. CIV. P. 1.280(b)(1); MASS. R. CIV. P. 26; N.Y. C.P.L.R. 3101 (MCKINNEY 2017).

60. A party serving a subpoena requiring the production of ESI must take reasonable steps to avoid imposing undue burden or expense on a person

govern the scope of discoverable information,[61] and the subpoena power provides the mechanism for entitlement and, if necessary, court enforcement.[62]

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subject to the subpoena. FED. R. CIV. P. 45(c)(1). A non-party may submit objections to the subpoena based upon undue burden, and when a court issues a subpoena as a discovery device, it measures relevance for purposes of the undue-burden test using the requirements of FED. R. CIV. P. 26(b)(1). *See* Am. Fed'n of Musicians of the United States & Canada v. Skodam Films, LLC, 313 F.R.D. 39, 44–45, (N.D. Tex. 2015); *see also* FLA. R. CIV. P. 1.410(c); MASS. R. CIV. P. 26(c); N.Y. C.P.L.R. 3103 (MCKINNEY 2017).

61. S*ee, e.g.*, Charles v. S. Baptist Hosp. of Florida, Inc., 209 So. 3d 1199 (Fla. 2017) (widening the scope of discovery in interpreting federal peer review or adverse information privilege pursuant to the federal law protection for certain information under the Federal Patient Safety and Quality Improvement Act ("FPSQIA")). The intermediate appellate court ruled that adverse medical-incident reports that plaintiffs requested pursuant to Article X, § 25 of the Florida Constitution ("Amendment 7") in their medical-malpractice action constituted privileged and confidential "patient safety work product" pursuant to the FPSQIA and that the FPSQIA preempted Amendment 7. S. Baptist Hosp. of Florida, Inc. v. Charles, 178 So. 3d 102 (Fla. Dist. Ct. App. 2015). Amendment 7 gives patients the right to their health-facility or provider records, including adverse events that could have caused injury or death. On appeal, the Florida Supreme Court ruled that Congress never intended the FPSQIA to shield document production that Amendment 7 and other provisions of Florida law required, and that it did not preempt these Florida laws. *See, e.g.,* Jean Charles, JR., etc., et. al., vs. S. Baptist Hosp., Inc., etc., et. al., 15 Fla. 2180 (Fla. 2017), *available at* http://www.floridasupremecourt.org/decisions/2017/sc15-2180.pdf (last visited June 16, 2017).

62. *See, e.g.*, FED. R. CIV. P. 37. The availability and propriety of sanctions for failure to produce ESI requested in discovery or by subpoena is beyond the scope of this article. Judges have the authority and power to coerce production or sanction the failure to produce commensurate with the circumstances of the case under Rule 37, its state equivalents, common law, and the court's inherent authority and contempt power. Dan H. Willoughby, Jr. et al., *Sanctions for E-Discovery Violations: By the Numbers*, 60 DUKE L.J. 789 (2010) (finding increasing numbers of cases in which judges applied sanctions for discovery violations in 2009 over prior years).

The judge's role is to be neutral regarding the parties and non-parties, applying the law fairly to achieve a just result. A court might order the production of relevant evidence, or it could protect a party or witness from his or her production obligation because of an undue burden or substantial prejudice. A party or non-party should attempt to agree with the other side before seeking the judge's help on insoluble issues of discovery, particularly considering the complexity and variance of modalities that ESI and EHR afford. Under these circumstances, the rules for most courts require the parties to "meet and confer." Meet-and-confer conferences provide an opportunity for the parties to communicate about their concerns relative to both requesting information and the burdens of any particular production. The parties can be in the best position to reach agreements concerning the scope and form of electronic discovery that is best tailored to the contours of the particular case.

The Federal Rules of Civil Procedure encourage cooperative, rational behavior that leads to efficient, proportional, and economical discovery. For example, a party is entitled to information produced in the format he or she requested, if that format is reasonable and necessary to yield relevant information. If that is impossible, and there is no court order to the contrary, the requesting party is entitled to produce the information in another reasonably usable form, unless the parties agree otherwise.[63]

A court may tax a party that inexplicably fails to maintain its information in a manner that allows production without undue

63. *See* FED. R. CIV. P. 34(b); FLA. R. CIV. P. 1.350(b); MASS. R. CIV. P. 34(a)(1)(A).

burden with costs of production.[64] Rules of professional responsibility ethically bind lawyers to be competent in technology and eDiscovery.[65] This includes having a sufficient understanding of ESI to understand how to produce EHRs in legal matters. In the context of EHRs, counsel must understand the EHR system(s) and the lifecycle of records or associate with someone with that expertise. For their part, judges can only remain fair and neutral when they are competent in technology and eDiscovery law. Court action against litigants based on misconceptions of new technologies not only frustrates the purpose of the rules, but also sets unfair precedent that may stifle the adoption of life-saving technologies.

D. Relevance and Proportionality in EHR Discovery

Proportionality limits the scope of discovery to boundaries consistent with the requesting party's need, as well as the importance of the matters at issue, to protect a producing party from undue hardship.[66] The proportionality factors are separate

64. Mazzei v. Money Store, 2014 WL 3610894, at *1–2 (S.D.N.Y. July 21, 2014); Romero v. Allstate Ins. Co., 271 F.R.D. 96 (E.D. Pa. 2010).

65. *See* MODEL RULES OF PROF'L CONDUCT R. 1.1 (Am. Bar Ass'n 1983); *In re* Amendments to Rules Regulating the Florida Bar 4-1.1, 6-10.3, 200 So. 3d 1225 (Fla. 2016) (Beginning January 1, 2017, all Florida licensed attorneys must take three hours of technology-accredited continuing legal education credits.).

66. Federal and state common law honored requests for information unquestionably relevant to the legal issues, but when the requests approach the outer bounds of relevance and the information requested may only marginally enhance the objectives of providing information to the parties or narrowing the issues, the court weighed that request against the hardship to the producing party in light of the issues at stake. *See*, *e.g.*, Carlson Cos. v. Sperry & Hutchinson Co., 374 F. Supp. 1080, 1088 (D. Minn. 1974); Chrysler Corp. v. Miller, 450 So. 2d 330, 331 (Fla. App. Ct. 1984) (granting certiorari and quashing discovery order as unduly burdensome where the cost of complying with discovery was more than the value of the matter at issue).

from the issue of whether producing the information is cumulative or unduly burdensome, or the information may be available from another less burdensome source. Communication between the parties achieves discovery that is proportional but sufficient for a given case.[67]

The December 1, 2015 amendments to the Federal Rules of Civil Procedure elevated proportionality to a scope co-conditional with relevance. Rule 26 now provides that discovery must be "proportional to the needs of the case, considering the importance of the issues at stake in the action, the amount in controversy, the parties' relative access to relevant information, the parties' resources, the importance of the discovery in resolving the issues, and whether the burden or expense of the proposed discovery outweighs its likely benefit."[68]

Rule 26(b)(2)(C)(iii) requires a court to limit the frequency or extent of discovery when "[iii] the proposed discovery is outside the scope permitted by Rule 26(b)(1)." The recent amendments did not change Rules 26(b)(2)(C)(i–ii). They limit discovery that is "unreasonably cumulative or duplicative" or that the requesting party may be able to obtain from "other less burdensome sources." There was also no change to Rule 26(c), under

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67. Judge Paul Grimm opines that:

> [i]t cannot seriously be disputed that compliance with the "spirit and purposes" of these discovery rules requires cooperation by counsel to identify and fulfill legitimate discovery needs, yet avoid seeking discovery the cost and burden of which is disproportionately large to what is at stake in the litigation. Counsel cannot "behave responsively" during discovery unless they do both, which requires cooperation rather that contrariety, communication rather than confrontation.

Mancia v. Mayflower Textile Serv. Co., 253 F.R.D. 354, 357–58 (D. Md. 2008).

68. FED. R. CIV. P. 26(b)(1).

which the producing party may seek a protective order against "undue burden." Rule 26(c) retains its utility as an alternative method for challenging requests that seek irrelevant or disproportionate information.[69]

Healthcare litigation is a prime area for the federal courts to apply proportionality requirements, as well as considerations of undue burden and cost. There is no doubt that the increased prominence of proportionality in the amended Federal Rules of Civil Procedure will impact eDiscovery, including EHR discovery, in federal (and ultimately state) courts.[70] However, the extent to which the amended rules will affect the scope of medical discovery remains undetermined.[71]

Despite this increased emphasis, relevance remains the primary or threshold issue concerning proportionality for determining EHR discoverability. Establishing relevance involves an

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69. Thomas Y. Allman, *The 2015 Amendments: Revitalizing the Proportionality Principle*, 2 (2016), http://www.lfcj.com/uploads/3/8/0/5/38050985/2016 proportionalitytoday_4_19_16.pdf.

70. In state court, applying proportionality may vary from or mirror federal law depending on the jurisdiction's common law and rules. Florida, for example, made proportionality a matter of scope of discovery from the inception of its eDiscovery civil rules in 2012, which preceded the federal rules' promotion to that level in 2015. *See* FLA. R. CIV. P. 1.280. Federal law strongly influences developing state law, especially where the state rules are like the federal rules. In these instances, federal cases in the absence of controlling state cases are persuasive but not controlling authority. This is important because federal magistrates and judges author the overwhelming majority of eDiscovery published opinions.

71. The proportionality mandate in amended FED. R. CIV. P. 26(b)(1), in conjunction with FED. R. CIV. P. 26(g), assumed greater significance after the 2015 amendment to FED. R. CIV. P. 1, which explicitly states that parties and counsel "share responsibility" with the court to employ the rules to achieve the just, speedy, and inexpensive determination of every action. Craig B. Shaffer, *The "Burdens" of Applying Proportionality*, 16 SEDONA CONF. J. 76 (2015).

analysis of whether the information sought is likely to make the existence of a consequential fact probable.[72] The court must consider the breadth (length of time) and depth (types of documents relevant within the time frame) of the information sought.

For example, a court may screen a plaintiff's medical records in a medical-malpractice case for relevance and scope based on whether they relate to care that impacts liability or damages and whether the record type (i.e., a summary chart, complete chart, or record beyond the traditional chart) may be relevant. Parties may also ask the court to determine the importance of the issues at stake in the action, the amount in controversy, the parties' relative access to relevant information, the parties' resources, the importance of the discovery for resolving the issues, and whether the burden or expense of the proposed discovery outweighs its likely benefit.[73]

E. The Proportionality Analysis in the Healthcare Context

Healthcare entities are now part of a long-term experiment in healthcare provisioning and financing. However, they remain burdened with systems ill-designed for eDiscovery, which fail to deliver many advantages of electronic media. A discussion of eDiscovery obligations and EHRs must account for these shortcomings and realistically consider the additional burdens they place on the healthcare industry.

The inadequacy of many EHR systems for legal purposes is not entirely the fault of healthcare providers. Institutions and practices refined their paper records processes over decades of use while digital systems first proved their utility in practice management and billing, not in clinical records of care. Many

72. *See* FED. R. EVID. 401.

73. *See* FED. R. CIV. P. 26(b)(1).

institutions and providers nonetheless had to switch to digital systems given government mandates. Clever litigants can turn this situation back on healthcare providers by exploiting the inadequacy of the existing systems and increasing costs by attempting to impeach or diminish data that often unknowing—and at least incrementally innocent—healthcare providers produce.

At the same time, several features that clinicians favor for efficiency are risk laden. Providers embraced them in part due to insufficient due diligence and undervaluing the input of experts in compliance, internal auditing, clinical-data quality assurance,[74] and information management.[75] Because the need for EHRs in litigation is ubiquitous and will only increase, software designers and vendors must embrace discovery and evidentiary purposes. This will assist their clients with minimizing litigation costs while preventing distortions of the record of care. For now, litigants on all sides of the process are in the difficult position of trying to piece together any information they can from a highly imperfect documentation process.[76]

74. Marla D. Hirsch, *CMS: EHRs Not Mature Enough to Report eCQMs Correctly*, FIERCEHEALTHCARE (June 20, 2016, 12:33 PM), http://www.fiercehealthcare.com/ehr/cms-ehrs-not-mature-enough-to-report-ecqms-correctly; *see also* MATHEMATICA POL'Y RES. & LANTANA CONSULTING, HOSPITAL INPATIENT QUALITY REPORTING (IQR) ECQM VALIDATION PILOT SUMMARY, http://tinyurl.com/gsxlydk (last visited June 9, 2017).

75. Reed D. Gelzer, *Record Entry Origination: Risks That Lurk in Your EHR*, 34 NEW PERSP. 12, 12–18 (2015).

76. Chad P. Brouillard, *The Impact of E-Discovery on Health Care Litigation*, 49 FOR DEF. 48, 49 (2007).

IV. APPLYING DISCOVERY PRINCIPLES AND RULES TO EHRS

A. Key Problems with Producing EHR Data

One continuing problem in medical-liability matters is a pervasive disconnect between native displays of EHR data and the exported print function in either paper or electronic form.[77] The exported record is most commonly produced for discovery purposes as it appears like a paper chart, which conforms to the expectations of legal participants. Moreover, printed representations are more conducive to the practical legal uses of the record. Producing parties in EHR discovery provide lawyers with paper or imaged printouts that bear no resemblance to the screens that originally captured the data, however. The exported printouts may be cluttered and difficult to work with and may generate an enormous quantity of unusable pages compared with their paper equivalents or the simple graphic interfaces that clinicians use in native EHRs.[78] It is common for a clinical-care episode on one date to generate hundreds of pages of paper when someone exports it from an EHR, while a similar encounter documented in a paper chart may generate less than thirty pages.

The phenomenon of export distortion raises an important conceptual difference between the function of EHRs and the paper charts many grew accustomed to in medical litigation. Litigants, counsel, and experts retained to review records must understand that the version of the EHR that any given facility

77. Chad P. Brouillard, *Emerging Trends in Electronic Health Record Liability*, 52 FOR DEF. 39, 42 (2010).

78. *See* Ulman v. Commissioner of Social Sec., 2011 WL 4434880 (W.D. Mich. Sept. 8, 2011) (agreeing that "the [administrative judge] mistook the date a copy of the hospital's electronic medical record of the incident was printed . . . as the date of plaintiff's accident, and then drew an adverse credibility inference based on the error").

provides them is an exported representation of only a *portion* of the data on the facility's servers. The EHR outputs produced in response to a document request are a limited construct.

In paper charting, clinicians keep the paper forms they use to document care contemporaneously in tangible, centralized, "original" charts (usually with original ink handwriting). Paper charts contain the pages used or created in real time. In contrast, the "original" in EHR systems is intangible and more complicated. It comprises two functional components. First, the EHR system captures data that the clinician inputs. Second, the EHR system displays information and documentation choices to the clinician. The documentation choices range from limiting potential responses (e.g., fixed data, drop down selections, precanned text, etc.) to allowing free text narrative entries. Databases on the EHR server store the captured data. The captured data in its native state is fragmented and useless for human review. The databases rarely preserve the information displayed to the clinician during documentation creation.

For many EHR system vendors, converting data into an exported, printable form is a distraction from the purpose of the EHR. The EHR offers functions beyond those possible with paper records (e.g., instantaneous communication of a critical finding to all relevant providers who may be miles apart at different facilities, or participation in state or national health information exchanges). Transforming EHR data in a printable representation is an awkward contortion because the vendors did not design them for paper. Nonetheless, end-user expectations and processes evolved from a long-standing use of paper records, which incentivized designers to generate outputs that sufficiently resembled familiar paper documents.

The most serious issue from an eDiscovery perspective is the difference between the exported record and the native environ-

ment that the provider perceives, in terms of design and accessible data. It is common for authoring medical professionals to have trouble recognizing the yield of a print or export function even when it purports to be their own electronically-signed documentation. The export often lacks any coherent organization and almost never tracks the native electronic-data display. Sometimes the export lacks information displayed in the EHR or vice versa. The result of a printed export depends on the templates that the vendor created. Specific medical entries may auto-populate the template, or it may contain boilerplate language that the clinician may not read or input during care—even though he or she ultimately signs off on it.[79] EHR systems may also contain undocumented functionality such as critical alerts for dangerous drug interactions or automatic tracking of outstanding screening tests.

Access to the original display is sometimes impossible from a technical point of view when the software had not been designed to preserve the original display. While EHR systems focus on retaining the data that the clinician input, they do not preserve the display that the clinician used.

Given the available technology, EHR systems cannot preserve historic, graphic displays that parties could use during litigation. This capability is critically important because EHR system developers often change the display without preserving historic screens or settings necessary to reproduce them reliably in the future. The native display for a patient in 2010 compared with the 2016 display for the same patient in the same EHR might vary greatly from upgrades and patches. The result may

79. Pranter v. United States, 2012 WL 2060632, at *5, n.9 (D. Minn. June 7, 2012).

distort the care record and destroy the old display form.[80] Several systems also have role-based data displays (i.e., they display different—and possibly limited—data to physicians, nurses, and medical assistants). This further complicates production of authentic, complete, and accurate displays. For example, in a case involving physician care, providing an EHR display based on medical-assistant credentials might be more limited than a display based on physician credentials.

In this context, EHR production for eDiscovery can be problematic. Production of a paper chart often was simpler if a medical-records department had organized, centralized, and secured the tangible original. The caretaker carefully made an imaged photocopy of each piece of paper in the original inked paper chart as well as the folder. Often, that photocopy—if complete, legible, and reasonably comprehensible—would represent the end of the inquiry. If not, a litigant could obtain access to the single, tangible original to inspect it and for witnesses to decipher entries, if necessary. If ten litigants requested the same document, all of them would likely receive photocopies of the same set of records.

EHR data production is a more complicated process. There is no organized and centralized tangible record. Typically, there are multiple systems. A clinician creates, prints, and produces an exported paper record in accordance with the parameters of the request. However, an exported EHR is not the complete data set available in the original EHR. Incredibly, it may neither be feasible nor possible to produce an EHR data set in its entirety. If such a record were possible, it may not be usable. Because there is no fixed, imaged chart, the formatting of the EHR paper export often changes over time. The vendor's upgrades and

80. Chad P. Brouilliard, *Electronic Health Record Liability: Further Evolving Trends*, 58 FOR DEF. 80, 82 (2016).

patches may add or delete tables or make other design decisions that change the look and feel of the output or even the dimensions of the paper record.

Healthcare litigants, advocates, and judges may falsely expect, based on their experience litigating within the paper-chart environment, that the paper chart for a given patient should always be the same if it is complete, regardless of who requested the record and when he or she made the request. In an electronic environment, people often encounter different versions of exported paper productions of the same record. Some commentators have argued that EHR systems should do a better job at producing a consistent paper record—an immutable artifact that can stand scrutiny over time as a legal health record.[81] In truth, EHRs are challenging litigants to move beyond preconceptions about the paper copy and instead treat the system as a proper object of eDiscovery inquiry. What is integral in an eDiscovery inquiry is whether the electronic data is intact and unchanged—how it prints out over time is irrelevant. Multiple paper export versions are merely a symptom of the seismic shift in documentation processes toward digital sources.[82]

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81. Donna Vanderpool, *EHR DOCUMENTATION: How to Keep Your Patients Safe, Keep Your Hard-Earned Money, and Stay Out of Court*, 12 INNOV. CLIN. NEUROSCI. 34, 34–38 (2015); Chris Dimick, *EHRs Prove a Difficult Witness in Court*, J. AHIMA (Sept. 24, 2010), http://journal.ahima.org/2010/09/24/ehrs-difficult-witness-in-court/.

82. Smith v. Hayman, 2012 WL 1079634, at *3 (D.N.J. March 30, 2012) (declining to impose an injunction or sanctions on a physician when the plaintiff claimed that entries from the "Problem List" were modified based on different record sets outputted four months apart, because the physician explained that the Problem List was not a static timed entry but was dynamic as to present concerns); s*ee* Picco v. Glenn, 2015 WL 2128486 (D. Colo. May 5, 2015); Hall v. Flannery, 2015 U.S. Dist. LEXIS 57454, 2015 WL 2008345 (S.D. Ill. May 1, 2015); Cason-Merenda v. Detroit Medical Center, 2008 WL

One impediment to this shift is that paper charts remain the convention. Stakeholders such as clients, counsel, subrogees, witnesses, judges, and juries prefer and commonly use paper charts in the healthcare litigation process. This preference largely reflects the perceived high-burden cost of digital production and admissibility challenges that arise from current, widely-variable systems. If the original data remains intact and available for testing, its presentation in a printable form is a secondary concern from an EHR system developer or custodian's point of view. The printable form (or on-screen "print-like" PDF or TIFF renderings) may be highly important for counsel only in the short term to the extent needed to fulfill "appearance" expectations of litigation stakeholders.

For most purposes, the electronic paper export—despite its high cost in dollars and time—functions only as a limited and marginally adequate stand-in for a paper chart. This is especially true where the documentation is not the true focus of the litigation, and the parties do not challenge it. For now, trustworthy and accurate EHR system outputs—digital or printed—remain elusive due to the absence of technological and legal discovery support.

The paper-chart convention breaks down further if one of the litigants questions the authenticity of the EHR. Such a challenge means that the parties will require corroborating information about the producing institution's process, including

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2714239, at *6 (E.D. Mich. July 7, 2008) (denying eDiscovery cost-shifting motion on behalf of two health-system subsidiaries in an antitrust class-action lawsuit resulting in a burden placed solely on the health system); United Med. Supply Co. Inc. v. United States, 77 Fed. Cl. 257, 258 (Fed. Cl. 2007) (sanctioning the government for failing to have medical treatment facilities preserve eDiscovery); Regan-Touhy v. Walgreen Co., 526 F.3d 641, 644 (10th Cir. 2008) (upholding the district court's determination that the provider met its eDiscovery obligations without producing an audit trail showing who had viewed EHR as opposed to who conducted transactions).

data display, data capture, metadata, and audit reporting. This inquiry level raises litigation costs because both sides may need technical and forensic experts to analyze the data in its native form. Litigants traveling this path should utilize the rules of civil procedure and associated protections applicable in their jurisdictions.[83] Those who treat the EHR like a paper chart in the face of electronic demands will miss key opportunities to limit the scope and nature of the inquiry. They also will miss opportunities to challenge the authenticity of EHRs before admission, or their integrity and accuracy at trial.

It is imperative to try to confirm and memorialize the specifics of the requesting party's electronic demands in writing as part of an eDiscovery agreement (also called a "Stipulated Electronic Discovery Protocol") before embarking on production. Courts weighing over-burdensome eDiscovery demands will have little sympathy for responding parties who jumped the gun and expended resources without seeking to confer with the other side and reducing the parameters to writing.[84] Most jurisdictions require a meet and confer and written plan between the parties before they can present eDiscovery disputes for judicial resolution.

B. Production Form

Production of native ESI data from an EHR system is problematic for several reasons. First, a proprietary system generates the raw data. Thus, it is almost always unusable without the proprietary EHR software that generated and organized it for human review. Most medical institutions cannot simply share a

83. Bentley v. Highlands Hospital, 2016 U.S. Dist. LEXIS 23539, at *2 (E.D. Ky. Feb. 23, 2016); Myers v. Riverside Hospital, Inc., 2016 Va. Cir. LEXIS 53, at *4 (Va. Cir. Ct. April 21, 2016).

84. *See Picco*, 2015 WL 2128486, at *5.

copy of their EHR because of contractual limitations and the exorbitant cost of replicating their native installation.[85] Depositions of in-house technical staff and software vendors are common, resulting in significant legal costs for all involved. Advocates also use third-party subpoena requests directed to software vendors to seek relevant information. In some cases, counsel have demanded that producers make EHR systems available in court, at trial, to show the native display to the jury.[86] This may be costly and difficult to manage from a security point of view, considering patients' privacy rights.

Continued reliance on printable exports of EHRs in litigation is one symptom of a greater problem inherent in EHR-based eDiscovery. This outdated modality results from the inherent lack of utility of native digital EHR data, absent its source software. Under the Federal Rules of Civil Procedure, a producing party has a general obligation to produce data in "a reasonably

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85. Mitchell v. Reliable Sec., LLC, 2016 U.S. Dist. LEXIS 76128, at *3 (N.D. Ga. May 23, 2016). In this employment discrimination case, the plaintiff requested ESI in its native format, with metadata intact, to verify that nobody had tampered with the documents. The defendant attempted to avoid production by stating that it should not have to produce the files in native format because it would cost an additional $3,000, and the case had low value. Relying on FED. R. CIV. P. 26(b)(2)(b), the court ordered the defendant to produce the files in their native format because the defendant never offered any explanation about why native production would cost more than PDF production. The court also rejected the argument that the cost was prohibitive on such a low-value claim because it determined that the plaintiff had a good reason for seeking the native files, stating that "the Court finds that the public value of allowing a civil-rights plaintiff opportunity to access [relevant] information . . . far outweighs the asserted $3,000 cost."

86. Chris Dimick, *EHRs Prove a Difficult Witness in Court*, *supra* note 81; Rauchfuss v. Schultz, 2014 Va. Cir. LEXIS 112 (Nov. 20, 2014), 2015 Va. Cir. LEXIS 145 (Aug. 7, 2015), 2015 Va. Cir. LEXIS 185 (Dec. 15, 2015) (series of motions in same case where plaintiff made escalating requests for EHR data including demand for live EHR in Court).

usable form."[87] Native digital EHR data generally is not usable outside its own software environment due to the lack of universal technical design conventions or Standards that would enable interoperability. This is true even for the purely extralegal, clinical use of EHR data.[88]

The lack of EHR system interoperability is also a key controversy in the EHR industry's software market.[89] Vendors generally do not design[90] EHR software to transfer data smoothly to

87. FED. R. CIV. P. 34(a)(1)(A).

88. Jeff Byers, *Interoperability Is a Four-Letter Word: Inching Toward True Exchange*, HEALTHCARE DIVE (July 11, 2016), http://www.healthcaredive.com/news/interoperability-data-integration/421307/?sf30769957=1&sf30807216=1 ("'The biggest problem with interoperability is, like many aspects of health care, the demand curve does not mitigate towards integration,' Jonathan Bush, CEO of athenahealth, told Healthcare Dive, adding[,] 'In fact, the way health care payment and delivery is structured, the demand curve pulls people toward isolation.'").

89. *See* Letter from James L. Madara, Exec. V.P. & C.E.O., Am. Med. Assoc., to Marilyn B. Tavenner, Adm'r, Ctrs. for Medicare & Medicaid Servs., U.S. Dep't of Health & Human Servs., & Karen B. DeSalvo, Nat'l Coordinator for Health Info. Tech., U.S. Dep't of Health & Human Servs. (Oct. 14, 2014), *available at* http://mb.cision.com/Public/373/9661589/9185dfb838c6fe9c.pdf; AM. HOSP. ASSOC., WHY INTEROPERABILITY MATTERS 2 (2015) ("[O]nly about a quarter of all hospitals can find, send, receive and use electronic information due to substantial barriers."); S. Pringle & A. Lippitt, *Interoperability of Electronic Health Records and Personal Health Records: Key Interoperability Issues Associated with Information Exchange*, 23 J. HEALTHCARE INFO. MGMT. 31, 31–37 (2009).

90. *See, e.g.*, DEP'T. OF HEALTH AND HUMAN SERVS. OFF. OF THE NAT'L COORDINATOR FOR HEALTH INFO. TECH., REPORT ON HEALTH INFORMATION BLOCKING 12 (2015) (citing "[d]eveloping or implementing health IT in nonstandard ways that are likely to substantially increase the costs, complexity, or burden of sharing electronic health information, especially when relevant interoperability standards have been adopted by the Secretary" as one cause of their representation of the alleged problem), https://www.healthit.gov/sites/default/files/reports/info_blocking_040915.pdf.

other systems. It is common for EHR systems to be unable to send and receive even Standards-compliant data forms such as patient summaries, problem lists, or medication lists. While commentators have highlighted the impact of interoperability[91] as a problem for the clinical use of EHRs, its substantial impact on the usability of native EHR data in litigation has not received as much attention. Further, current initiatives to develop an interoperability standard for clinical purposes do not account for eDiscovery as an end use.

Without universal data requirements consistently referencing Standards, litigants must manage data from every EHR system, dealing with unique terms and idiosyncrasies. Access to native data may be impossible without employing the proprietary EHR software version implemented at the facility. Erroneous assumptions about the discovery capabilities of EHR systems that no one has tested further exacerbate the expected presence of idiosyncrasies.[92] Without industry-wide interoperability Standards for EHR clinical data sets, normalizing the process for eDiscovery purposes may be cost prohibitive. Absent standardized processes, litigation costs attributable to eDiscovery demands quickly escalate as ad hoc solutions occur on case-by-case bases. Considerations of undue costs and burdens under Fed. R. Civ. P. 26(b) may limit such eDiscovery. The current state of EHR systems raises a knotty question that litigants and judges must resolve in essentially every case—how can litigants

91. *See* Letter from James L. Madara, Exec. V.P. & C.E.O., Am. Med. Assoc., to Marilyn B. Tavenner, Adm'r, Ctrs. for Medicare & Medicaid Servs., U.S. Dep't of Health & Human Servs., & Karen B. DeSalvo, Nat'l Coordinator for Health Info. Tech., U.S. Dep't of Health & Human Servs. (Oct. 14, 2014), *available at* http://mb.cision.com/Public/373/9661589/9185dfb838c6fe9c.pdf.

92. *See, e.g.*, LEVINSON, *supra* note 22, at 11 (referencing incapacitated or vulnerable audit functions).

produce information for eDiscovery purposes from systems that do not render reasonably usable data?

The obligations of providers to retain and produce all record types—including, for example, scanned or imaged documents from other facilities—are matters of dispute.[93] Healthcare institutions do not agree on whether, in discovery, they must release information other healthcare institutions originally provided them. However, courts will likely require them to produce these documents in litigation, which their document-retention and litigation-hold policies should cover.

C. Access Modalities

In addition to formal document-production requests, subpoenas, or discovery meet and confers, other circumstances permit access to patient records. Patients have rights of legal access, independent of litigation, to a portion of their medical information under the Health Insurance Portability and Accountability Act of 1996 (HIPAA) privacy rules via an authorization procedure.[94] In practice, plaintiffs and defendants use HIPAA authorizations to access their patient information prior to filing a lawsuit and during litigation.

In certain jurisdictions, state judges will not entertain subpoenas or document requests for patient information directed to healthcare providers. Instead, they will force litigants to secure HIPAA-compliant authorization from patients. Federal law governs facility responses to patient authorizations (whether plaintiff or defendant), which limits production to a

93. *See* Shambreskis v. Bridgeport & Port Jefferson Steamboat Co., 2008 WL 2001877, at *2 (E.D.N.Y. May 8, 2008) ("Scanned documents are an intricate component of the electronic health record and are utilized in the medical decision process.").

94. 45 C.F.R. 164.524 (2017).

designated record set. A designated record set includes most patient health information stored in any medium. In accordance with 45 C.F.R. 164.501 a designated record set is defined as:

1. A group of records maintained by or for a covered entity that is:
    i. The medical records and billing records about individuals maintained by or for a covered health care provider;
    ii. The enrollment, payment, claims adjudication, and case or medical management record systems maintained by or for a health plan; or
    iii. Used, in whole or in part, by or for the covered entity to make decisions about individuals.

The rule does not require healthcare entities to produce all discoverable data to the requesting patient.[95] For instance, the designated record set does not include metadata, audit-trail reporting, pending reports, and prior record versions, although they may fit most jurisdictions' definitions of discoverable material. Thus, the principal process employed in litigation in some states to secure medical records is at odds with the scope of permissible discovery laid out in the applicable rules of civil procedure.

D. Audit Trails

Advocates expected audit trails to serve as a definitive provenance for the record—proof to guarantee that no one had modified or deleted the digital record. Most existing audit trails, as implemented, fall far short of achieving that goal.[96] Audit trails

95. *See* 45 C.F.R. 164.501 (2017).

96. Chad P. Brouillard, *EHR and Audit Trails Might Reveal More Than You Think*, INSIDE MED. LIAB., Sept. 2015, at 18, *available at* http://www.mgma-gkc.com/wp-content/uploads/2015/10/IML-3Q-2015-pp-18-20.pdf.

are reporting functions built into EHR systems that can operate like metadata. Under federal requirements, vendors should construct audit trails at minimum to generate a log of user access to patient charts to comport with an entity's HIPAA security obligations. Until there is an enforced regulatory requirement to define and implement an audit trail adhering to given specifications, the reliability, comprehensiveness, and level of detail captured in audit trails will vary in form and effectiveness for any given EHR. Design can limit the granularity of audit data, particularly in older systems, to accommodate the processing and storage limitations of the systems in use. The utility of audit trails will likely diminish further to the extent that organizations disable or edit them.[97]

There is quite a bit of confusion about audit trails and their related capabilities, which vary by product. Software-design companies choose the types of reports their systems can generate based on this underlying data and metadata. Audit-trail functions are not uniform across systems or even within the same system installed at different sites. Furthermore, an audit trail is a report that is *generated* for a purpose—for example, to discharge HIPAA-based access reporting and other privacy obligations.

There are several considerations impacting the usability of audit-trail reporting for legal purposes. First, in practice, some vendors and institutions cannot certify that audit-trail outputs are valid.[98] Without this additional layer verifying the accuracy

97. *See, e.g.*, LEVINSON, *supra* note 22, at 8.

98. *Id.*; *see also* 45 C.F.R. 170.315 (2017); ONC Health IT Certification Program: Enhanced Oversight and Accountability, 81 Fed. Reg. 72,404 (Oct. 19, 2016) (to be codified at 45 C.F.R. 170 (2017)). Congress has not designated an agency to enforce healthcare information technology (HIT) compliance of deployed systems with requirements relating to evidentiary support, and there is no apparent enforcement in deployed systems.

of the audit trail, admissibility is questionable. Second, audit trails vary based on the choices made by the vendors designing the reports. Obviously, some variation in audit trails is to be expected based on the needs of the software developers and implementing institutions. However, from a legal perspective, a bare minimum nationally imposed Standard would provide a level playing field for vendors, improve the utility of audit trails, and ease data and record authentication. At a minimum, the audit reports could log users' access and include timestamped, changed, and deleted values.

One controversial topic concerns systems lacking a built-in audit-trail report that drills down to the specificity that the adverse party requires (e.g., documenting the notations a nurse changed in a progress note for a given date and time). This means that the requesting party is asking the producing party to create a custom-built report—or worse, engage in an in-house forensic process. The legal analysis would generally include weighing the eDiscovery considerations of providing data in a reasonably usable format against the undue burdens and costs of production.[99]

In *Picco v. Glenn*, the defendant hospital argued that the court should not force it to produce an audit-trail report because it had already provided underlying data to the plaintiff, which constituted the "building blocks" to construct the audit trail. The plaintiffs asked the hospital to go beyond the audit-trail report and perform a forensic examination of the audit databases to extract audit and patient-specific data manually—a costly proposition. Ultimately, the court found against the hospital, likely because it was a party to an agreement to provide the "complete audit trail" for the patient. This agreement triggered

99. *Compare* Picco v. Glenn, 2015 WL 2128486 (D. Colo. May 5, 2015), *with* Regan-Touhy v. Walgreen Co., 526 F.3d 641 (10th Cir. 2008).

the hospital's duty to render the data in a reasonably usable format, despite the cost. When negotiating with an adverse party requesting audit information beyond the standard report, a meet and confer or other discovery device to memorialize party expectations in writing would help in resolving the issue efficiently and economically.

V. A HIERARCHICAL APPROACH

The basis for a new, practical, and empirically sound "initial scope" of an effort to achieve uniform procedures is a logical order that exists for trust attributes and associated support functions and can provide a framework for sequential discovery in EHRs.

We provisionally term this hypothetical "framework" the discovery Logical Model. It aligns with discovery goals because it highlights requirements for trusted EHR production and associated vulnerabilities. If there are concerns about authenticity, then the framework will address vulnerabilities (or risk sources) as needed for the case and context. The Logical Model offers a sequenced approach applicable to producers who may confront previously unknown gaps and recipients who may identify anomalies in the records' representation of patient-care history.

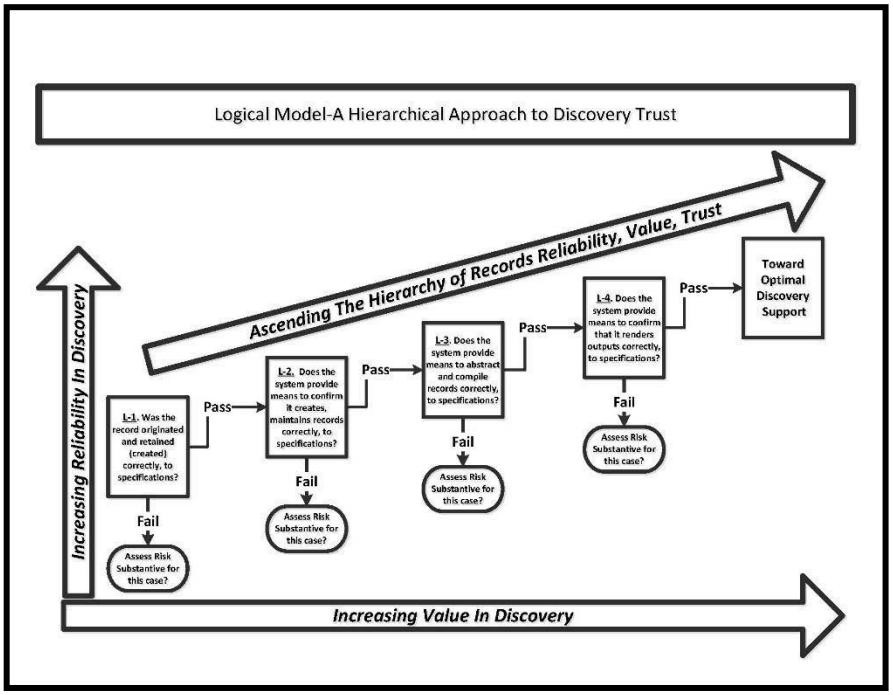

Figure [1]: Logical Model–A Hierarchical Approach to Discovery Trust. For a clearer version of this diagram, see https://s3.amazonaws.com/IGG/publications/Logical+Model_A+Hierarchical+Approach+to+Discovery+Trust.pdf.

For the purposes of ROI outputs, the challenges that arise in EHRs form a capabilities and risk hierarchy within the Logical Model. Figure [1] illustrates this hierarchy with a simple schematic representation. It highlights record origination as the capture of acts or events in the "real world," the resulting records' retention and management over time, subsequent episodic ROI production, and the system's ROI production support. The first element is the most critical dependency for discovery trust, and each element thereafter preserves, protects, and provides evidence-supporting trust.

A. Hierarchy Rationale

First, an EHR system captures data for any purpose or use by originating and retaining records. It must then manage these records over time to ensure data accuracy and authenticity in a

manner that meets the needs and specifications of the organization and other stakeholders and end users (e.g., peer review and the legal system). Improperly originated or received records[100] have uncertain validity and authenticity for both their primary use in patient care as well as any derivative, secondary, or tertiary functions such as informing business operations, including ROI processes. In Figure [1], this is represented by the first level 1 (L-1), the foundation for reliability and value in this context. Weak foundations may be crippling and substantially diminish achievable value.

Second, specific actors (individuals or devices) synthesize all records in EHR at specific times.[101] Therefore, the system must provide resources to understand those processes (e.g., record-

100. *See Lifecycle Events in PROV Model format with definitions as EHR-LC Events_Vocab_v0.5.5*, 5, 24, HEALTH LEVEL 7 INT'L, http://wiki.hl7.org/index.php?title=Record_Lifecycle,_Security,_Privacy,_and_Provenance_Vocabulary_Alignment (downloadable resource document defining "To Originate" and "To Receive") (last visited June 16, 2017).

101. Note that different authoritative references' vocabularies address key terms such as "actor" for representing the "who" or the "what" that executes an act or action differently. For example, in HL7 EHR System Functional Model Release 2, "Actor" (in the healthcare system) references ISO TS 18308 as "[h]ealth professional, health care employee, patient/consumer, sponsored health care provider, health care organization, device, or application that acts in a health related communication or service." In contrast, the World Wide Web Consortium's PROV (Provenance) standard uses the term "agent" rather than "actor." *See, e.g.*, W3C, PROV-DM: THE PROV DATA MODEL § 5.3.1 (2013), https://www.w3.org/TR/prov-dm/ ("An agent is something that bears some form of responsibility for an activity taking place, for the existence of an entity, or for another agent's activity."). This reflects the "work in progress" state of key terms and concepts, requiring careful communication in discovery to avoid misunderstandings arising from the possible applicability of more than one authoritative reference.

ing data such as the author identification, date, and time associated with a record). In Figure [1], the second level (L-2) represents these system events.

Third, our interest here is in discovery-usable renderings of records with their supporting system data. A system must be able to provide output in various forms—a synthesis of information representing the first and second steps above. It must also be able to produce records about its state (e.g., records of user and administrative changes that affect how the system operates, including embedded warnings, clinical templates, or similar functions that directly or indirectly impact how the system originates, retains, and manages records). The third level (L-3) represents this in Figure [1].

Fourth, because specific actors or previously configured system actions[102] synthesize all reports at specific times, the system must also provide means to understand those synthesizing processes. The fourth level (L-4) represents this in Figure [1].

This hierarchy is logical, although it does not necessarily reflect real system functional behaviors. We intend the Logical Model to illustrate the tasks that a discovery process must navigate to "tell the story" of the actions and events in question. The record must exist in the first instance. The system must have created it by auditable, reliable means.[103] Report functions must

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102. An individual person can generate output reports as ad hoc actions, or preset configurations or other means of report design can generate them. In the latter case, a history of how the system designed a report and, if pertinent, how it changed over time, and who validated it for clinical or operational use, may be interesting in complex litigation. It is unlikely that this depth of inquiry would arise in initial discovery and, per this article's recommendations, it would likely not be part of an initial Release of Information (ROI) response.

103. "Reliable" and "reliability" in the context of EHR systems for purposes of discovery support are attributes that are useful for gauging the "unusual

offer ROI process tools that assemble records and related support to confirm their veracity. Finally, the system must implement processes to validate the report functions.

B. Trustworthiness Levels

An EHR system can typically produce a limited, general ROI report supporting the first item described supra as Level 1 or L-1.[104] This is a normal and routine type of output from the EHR system and often provided in response to a HIPAA-compliant patient authorization. The second, third, and fourth items are, in that order, increasingly unlikely to exist as preexisting "point and click" reports. Parties would likely produce such reports pursuant to eDiscovery agreements, court orders, or internal forensic needs.

Each output or report is a necessary precursor to those that follow. If the system does not originate and properly retain a record, the fitness of the subsequent functions is of lesser importance to assure veracity. Instead, it is of greater importance

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reliability" of business records under certain regimes that can assist with EHR system reliability validation. These regimes include systematic record checking, when conscientious execution of the given enterprise's definitions or requirements for precision in records practices render habits of precision by the experience of their continuous reliability for tasks at hand, and a regime in which people actually practice and enforce a dedication to accuracy. Drury et al., *Electronic Health Records Systems: Testing the Limits of Digital Records' Reliability and Trust*, *supra* note 42, at 265 (quoting FED. R. EVID. 803(6)(E) (citing MCCORMICK ON EVIDENCE §§ 281, 286, 287 (Kenneth Broun ed., 6th ed. 2006); Charles V. Laughlin, *Business Entries and the Like*, 46 IOWA L. REV. 276 (1961))) ("The element of unusual reliability of business records is said variously to be supplied by systematic checking, by regularity and continuity which produce habits of precision, by actual experience of business in relying upon them, or by a duty to make an accurate record as part of a continuing job or occupation.").

104. *See supra* Sect. V.A.

for revealing increments of non-veracity. The HL7 EHR-S Functional Model (R2)-referenced representation of basic Trust Infrastructure for Release of Information (ROI) in Figure [2] below illustrates this.

Level 1, Record Origination, Creation, and Maintenance: The foundations of records authenticity and trust are the means and methods of executing an EHR system's Standards-defined operations (Originate, Retain, and Receive) for records creation. For existing records, Amend (Update) and other routine system functions maintain records over time. Uncertainties of, for example, authorship or alteration will subject the record to challenge. The absence of Level 1 support capabilities weakens higher-order requirements in this Logical Model. This "main path" of records is represented in Figure [2] below by a horizontal line from "Acts or Events in Real World" to Output 1, "o-1. 'General' Release of Information." In most instances, Output 1 will meet the needs. In most other circumstances, a repeat cycle of more specific, targeted requests (Output 2, o-2) will address further needs.

At this level, a system's record-maintenance and retention capabilities, as well as the organization's practices, are also factors. Records properly originated but subsequently not retained, but deprecated (or destroyed), introduce further variabilities to weaken higher-order requirements, which diversities in transparency of retention practices and requirements further complicate.[105]

Level 2, Record Validation: The means and methods of validating EHR data (e.g., author, date, and time) with available audit

105. *See, e.g.*, *Medical Record Retention Required of Health Care Providers: 50 State Comparison*, HEALTH INFO. & LAW (Jan. 27, 2016), http://www.healthinfolaw.org/comparative-analysis/medical-record-retention-required-health-care-providers-50-state-comparison.

functions may be lacking. A major source of consternation in legal-process support is the misconception that all relevant EHR actions have associated audit-capture events to support queries for every step of originating, updating, or viewing EHRs within the inventory of system/administrative record entries. Furthermore, there is an unmet expectation that audit functions can detect altered records. In Figure [2] below, the "System/Administrative Record Entries" above the "main path" series described in the paragraph above represents these system events.

Level 3, Reporting: This level concerns a system's ability to compile a report from Level 1 and Level 2 functions, including minimum elements of its validation means (e.g., ROI for a designated record set). This includes the ability to represent or reproduce items such as defined screen views used during clinical decision-making. These functions can be problematic due to a lack of design in the system or lack of substrate arising from limitations in Level 1 and/or Level 2. Though theoretically feasible, other means may achieve such capabilities including direct observation of a working system. In Figure [2] below, "System Configuration, System Event Report Assembly" represents the EHR system's oversight capabilities. Output 3 (o-3), "System Configuration, Operations," is an assembly of the evidence supporting reliability of records produced in the course of normal operation, including ROI.

Level 4, Reporting Validation: This level concerns a system's ability to compile reports reliably to assure oversight and validation for its reporting functions, including how it actually designs, creates, tests, and validates reports and outputs. These functions support assessment of whether the system configured a given output (such as an ROI report) appropriately to capture and render the intended information. This is represented in Figure [2] below, depicted as Output 4 (o-4) "System Report Assembly Configurations." It is unlikely that a reporting function

serving this specific purpose exists in an EHR system. Nonetheless, this "oversight" requirement will be interesting where issues persist and expand regarding the veracity of ROI output.

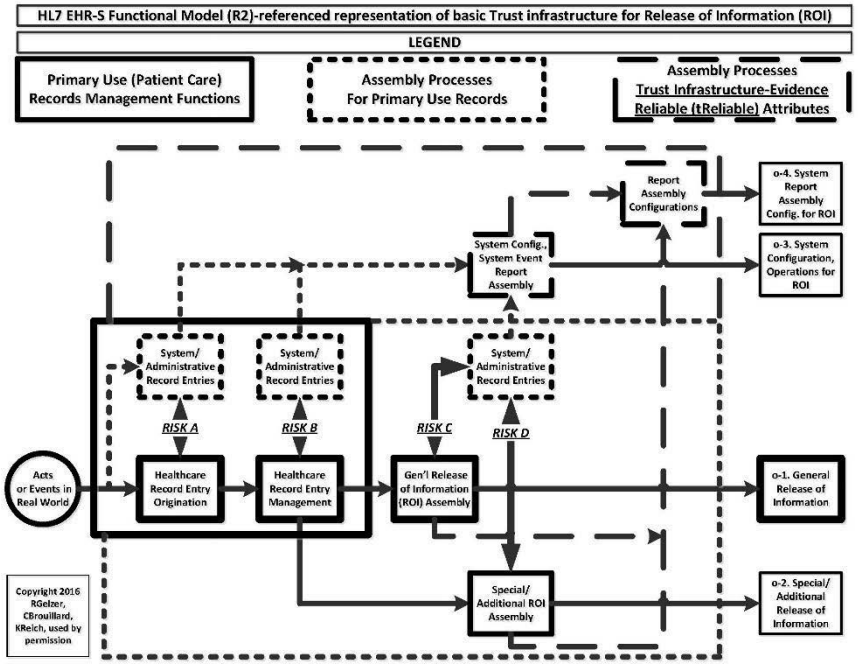

Figure [2]: HL7 EHR-S Functional Model (R2)—referenced representation of basic Trust Infrastructure for Release of Information (ROI). For more detail and a color-coded version of this diagram, see https://s3.amazonaws.com/IGG/publications/Trust+Infrastructure+for+Bus+Records+_Color.pdf.

The most important basic fact about any digital-record system is that vendors select all outputs, whether electronic or physical, by design. The final display only contains the information and format that another party or entity chose to make available to users. In the absence of oversight, regulation, or conformance with existing Standards, the designer has substantial discretion. Therefore, each of these functional levels varies across all systems and separate installations of the same system, due to history, incentives, and the lack of restraints. Systems will support each functional level differently due to variations

in their design. For entities preparing for records production or propounding records requests, this hierarchy will provide context for a starting point.

This hierarchy also provides a framework for a systematic discovery process by focusing on Levels 1 and 2. If questions arise from the initial steps, it then evaluates other levels concurrently.[106]

In this treatment, discovery can proceed systematically from a starting point. An initial designated record set for a general ROI output addresses system variances in a logical order. A well-defined initial ROI is usually sufficient to meet the need for discovery, although such an ROI does not presumptively meet all end-use specifications. Levels 2, 3, and 4 only arise in support of questions related to the initial ROI.

Level 1 contains the elements of the story of the patient's care. Level 2 validates the elements of the story by showing that the system originated and managed the fully formed digital record, composed of content and support data, somewhere on a continuum from "managed attentively to good purpose" to "not managed attentively" to "managed attentively to ill purpose." Level 3 shows how the system assembled the story into the forms and formats the system output presents. Level 4 validates that the system output was appropriate and complete (to the extent the system captured and maintained the integrity of the elements back to levels 1 and 2).

C. Translating the Hierarchical Model into a Discovery Framework

Our objective is to offer a pathway to uniform procedures that "would establish, at the least, initial scope, form, and limits

106. Note that the hierarchical approach also provides a framework for EHR system "robustness" testing, such as risk-assessment, due-diligence, or acceptance testing. These are outside the scope of this article.

for medical records production in order to alert the requesting party and producing party to areas of agreement and disagreement."[107]

Figures [1] and [2] illustrate a logical hierarchy that can align with a discovery process by focusing on "initial scope," "form," and "limits," as a sequence.

1. Initial Scope: An initial ROI "series" will likely entail multiple ROI "cycles" involving: (a) first request, ROI 1 in the diagram; and (b) second request, to ask questions about the first and/or to request more information about aspects of the "story" that the first ROI output revealed.
2. Additional ROI cycles will increasingly focus on clarification as well as questions about form. This will arise because of the likelihood of identifying gaps or anomalies in the ROI, which would raise concerns about one or more of the risk elements in EHR systems due to their extraordinary variability. For further illustration, see Figure [2], Risks A–D:
    a. Risk A: Level 1—Was the first capture of the relevant acts or events executed in a manner consistent with accuracy (correct date, time, author, and attribution of source data)? Level 2—Does the system concurrently capture sufficient data about these events to support the veracity of record origination?
    b. Risk B: Level 1—Did the system manage the record retention from origination correctly? Did it save the record at a date and time consistent with its representations of when the

107. *See infra* Sect. VII.

relevant events occurred? Did anyone update the record, and if so, did he or she do it in an acceptable and transparent manner? Is the previous version available for inspection? Is the updated version clearly marked as an updated, amended, or corrected record? Level 2—Does the system concurrently capture sufficient data about these events to support the veracity of record management?

c. Risk C: Level 1—Does the system's ROI output synthesize and include the relevant records? Does that synthesis include the evidence of reliability of the relevant records, the metadata generated in capturing the events in question? Does it include additional patient-care supportive data aggregations such as medication lists, problem lists, and flow charts that are relevant to clinical decision-making? Level 2—Does the system have a means of rendering an ROI output that synthesizes elements from origination with those from management and system background processes? Can this output recreate the sequence of information that a clinician accessed and possibly viewed? Level 3—Does the system ROI support include the capability to generate audit reports in origination and management processes? Level 4—Does the system support the ability to identify and report administrative actions taken within it? For example, does the system track key configuration settings such as who can author, edit, or change EHR system audit settings? Does the system concurrently capture sufficient data about configuration

histories to support the veracity of report functions? Can the system produce audit logs for the history of configuration changes?

d. Risk D: Level 1—Is the system's method of collating data into a synthesized output sufficiently inclusive to meet the requirements for transparency and trustworthiness regarding relevant records of acts or events, system configurations, states, and output synthesis? Level 2—Does the system concurrently capture sufficient data about synthesis processes to support the veracity of reports on reporting?

Risks A and B apply to the veracity of ROI types 1 and 2, which are the components of Initial Scope. "Form" for these ROI types will mean "the form that acceptably (to all parties) represents the clinical view of the relevant patient care events-in-progress and that acceptably represents the information available for clinical decision-making."

Risks C and D apply to situations in which there may be concerns about veracity. More detailed analyses will address, among other things, specific and technical questions about the forms of these "deeper dive" ROI outputs of types 3 and 4.

These risks arise largely from the lack of rigor in EHR system design, configuration, implementation, and use. Combined with a lack of regulation and oversight, this supports the continued inclusion of functions that pose significant risk to EHR systems' reliability for records management. In contrast, regulated devices substantially reduce veracity risk by assuring purchasers and users that basic records-management norms are reliable and predictable.

D. A Four-Step Approach to EHR Discovery

EHR system environments are highly variable. Institutions may implement and configure the same software product in highly customized ways, so few generalities apply. Experts with experience in these software environments can assist both sides with reconciling gaps in expectations about responses to eDiscovery requests. A step-by-step, methodical approach based on sound analysis of the dependencies for trusted ROI is necessary. The Logical Model represents the hierarchical requirements for trust assurance.

The recommendations in this article, as an approach to discovery with respect to EHRs, are:

1. parties should begin with the EHR system's currently established and routine ROI; and
2. the ROI should include descriptive information as a designated record set for general purposes, its intended scope, and its completeness in response to the ROI request and authorization.

In the overwhelming majority of matters requiring EHR documentation, this first-level ROI will be the extent of the required production. Generally, this approach comports with HIPAA's patient-record production requirements.[108] As an initial response to an ROI production request, all EHR software has functionality to render a paper output or an imaged export to enable patient access to their record.

We strongly recommend that the healthcare entity can demonstrate that it based its established and routine ROI on procedures that include a previous deliberate process with a basis in references or best practices. The entity could develop this ability through due diligence and in anticipation of a possible

108. Thomas R. McLean, *EMR Metadata Uses and E-Discovery*, I8 ANNALS HEALTH L. 75, 82 (2009), http://lawecommons.luc.edu/annals/vol18/iss1/5.

request for validation of the ROI product. Ideally, the entity will have already internally tested and validated acceptable compliance with its own policies and procedures to determine initial scope and specifications for the ROI.

Where the veracity of the documentation or process is not in controversy, deference to the "established and routine" general-purpose production works well. Although vendors designed the printed record to be usable for most purposes, the general-use design limits its utility because it usually omits levels of detail that will likely be relevant to substantiating veracity. In this aspect, from a discovery perspective, the paper record is incomplete. The exported record also may lack other data which is normally less useful for general purposes and may be non-clinical or administrative or too voluminous. A simplified, readable representation of the EHR nonetheless serves a vital purpose by enabling patients to engage in their own care, and in some instances it adequately addresses several legal uses of EHRs for discovery and evidentiary purposes.

Another potential Level 1 recommendation includes a future industry-wide requirement or protocol for output that: (1) incorporates readily distinguishable cues such as color coding as a necessary feature in designated ROI output types to offer additional means for differentiating, for example, content source changes or amendments; and (2) easily identifies content that the clinician-author did not directly input (e.g., content derived from macros, system-prepopulated entries, drop-down texts, and carryforward or other copy functions). Intended as time-saving, text-generation tools, they can serve important clinical purposes. However, the use or misuse of these types of tools is

important to legal counsel assessing the source and trustworthiness of pre-generated or system-created EHR entries.[109]

3. In uncommon instances where veracity questions about EHR system documentation may arise, parties should start with a given EHR system's currently available means for responding to a request for audit-trail production.

The second hierarchical level points to the importance of encouraging the industry's uptake of Standards-based audit trails. The EHR system must be able to capture a minimum data set consistent with specifications for evidentiary and discovery purposes with uniform usability characteristics across all products.

Although the industry has neither recognized nor implemented such a Standard, models do exist.[110] It would be useful

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109. *See generally, e.g.*, K.W. Hammond et al., *Are Electronic Medical Records Trustworthy? Observations on Copying, Pasting, and Duplication*, AMIA ANN. SYMP. PROC. 269, 269–73 (2003); AM. HEALTH INFO. MGMT. ASSOC., APPROPRIATE USE OF THE COPY AND PASTE FUNCTIONALITY IN ELECTRONIC HEALTH RECORDS (2014), http://bok.ahima.org/PdfView?oid=300306; Heather L. Heiman et al., *Medical Students' Observations, Practices, and Attitudes Regarding Electronic Health Record Documentation*, 26 TEACHING & LEARNING IN MED. 49, 49-55 (2014), *available at* http://www.tandfonline.com/doi/abs/10.1080/10401334.2013.857337; Jillian Harvey Swary & Erik J. Stratman, *Practice Gaps in Patient Safety Among Dermatology Residents and Their Teachers: A Survey Study of Dermatology Residents*, 150 JAMA DERMATOLOGY 738 (2014), *available at* http://jamanetwork.com/journals/jamadermatology/fullarticle/1857536 (June 19, 2017); Heather C. O'Donnell et al., *Physicians' Attitudes Towards Copy and Pasting in Electronic Note Writing*, 24 J. GEN. INTERN. MED. 63 (2009), *available at* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2607489/.

110. *See, e.g.*, HEALTH LEVEL 7 INT'L, HL7 EHR-SYSTEM FUNCTIONAL MODEL, RELEASE 2, Records Infrastructure, Trust Infrastructure, HL7 (April 14, 2014), *available at* http://www.hl7.org/implement/standards/product_brief.cfm?product_id=269 (membership or no-cost user profile required to download).

for organizations such as The Sedona Conference to recognize and support Standards implementation for specific end-use requirements. Standards should include audit-trail capabilities and reporting to encourage their adoption. As an initial proposition, we suggest focusing on Standards-based audit-trail functions for evidentiary purposes, directed at capturing the EHR data and including entry author(s), time and date of acts, nature of acts (e.g., originate/create, modify, or delete a record) and the specific modifications made.

4. Given the current absence of Standards-based functions, litigants should approach requests for validation data and audit-trail reporting like they would any eDiscovery request under the applicable laws.

In the absence of uniform EHR system functions to assess risks—including Risks A through D in Figure [2]—audit-trail reporting should refer to "audit trail reporting for a specific purpose." Producers should design all reports with the intention of representing events occurring in the EHR, as specific parameters delineate. Before generating reports, the parties should enter formal eDiscovery agreements about the type of reporting requested and available, with judicial intervention as needed. Counsel on all sides of a dispute must demonstrate or otherwise secure experts or become educated in electronic charting and audit-trail capabilities and limitations to facilitate reasoned decisions and avoid misunderstandings.

Parties should handle any requests for data outside the standardized outputs in a similar fashion. Counsel, with expert support as needed, should employ relevant eDiscovery laws and rules to effectuate an understanding of the EHR system environment implemented in the specific institution.

5. When deemed relevant and proportional to the needs of the case, litigants' cooperation will be especially important for producing historic displays of patient data.

Vendors are unlikely to have technically or functionally designed today's EHR systems to preserve historical displays of patient data. Absent universal technical Standards, native EHR data offers only limited utility. Litigants are then forced to maximize use of what data they do have. Formal recommendations to the industry regarding the legal use of native data and historical displays could lead to these capabilities in future products. Alternate methods of presenting historical displays, though potentially not useful as evidence (e.g., replicating the state of the record systems as of the time of the events in question), may be the only available option.

VI. THE CONVENTIONAL RESPONSES: THE "LEGAL HEALTH RECORD" AND "RELEASE OF INFORMATION"

In the paper-based world, the response to discovery requests for health-care information was to disclose a predefined set of information, the "legal health record," as the result of a standard procedure, the "Release of Information" (ROI) process. The advent of EHR systems requires a rethinking of these time-honored processes.

A. Rethinking Established Procedures

The information revolution has changed the legal landscape in organizations from solo-practitioner offices to nationally-integrated, healthcare-provider systems. Still, all clinical organizations have a duty to maintain knowledge about their business and their clinical information systems' functions. They must know how their respective systems maintain, utilize, and exchange their data containing Protected Health Information (PHI). These demands, coupled with new requirements under HIPAA, also give individual patients expanded rights to access their PHI. They are also causing the healthcare sector to reconsider concepts such as the "legal health record" in light of both HIPAA access rights and the ROI process. The healthcare industry hopes to establish information-governance[111] programs addressing these end-use demands, and seek to protect and enhance primary use of patient care information while addressing access, mitigating risk, and maintaining compliance with regulatory requirements, formal Standards, and best practices. Among these many end-use demands are those from the discovery and ROI processes.

111. The Sedona Conference, *Commentary on Information Governance*, *supra* note 38, at 135.

Healthcare providers, attorneys, and the courts all rely on, utilize, and exchange relevant information, whether their case is clinical or legal. Fed. R. Civ. P. 26(b), combined with new HIPAA access rules,[112] compels healthcare and legal providers to reconsider the nature, composition, and content of patients' medical records. Determining relevance is about how to call out, as commonly understood designations, those elements of the patient record primarily used for clinical decision-making. These elements are the most relevant to establishing "the story" of the patient-care events in question.

The designation process helps parties set aside elements of the record associated with unimportant designations. For example, HIPAA's designated record set is not usually relevant to civil litigation. On the other hand, audit trails and clinical-decision support functions may fall within the scope of litigation. These and other considerations are motivating innovations and new Standards, systems, and processes to cull, search, process, and produce PHI for discovery and ROI purposes.[113] Organizations may not necessarily determine what is legally relevant in this modernizing environment. In a cooperative approach that takes into account the current state of EHRs, however, an organization can include the definition and reliable production of varying record set inventories, with each responsive to differing defined types of ROI outputs.

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112. U.S. Dep't of Health & Human Servs., *Individuals' Right Under HIPAA to Access Their Health Information 45 CFR § 164.524*, HHS.GOV, http://www.hhs.gov/hipaa/for-professionals/privacy/guidance/access (last visited June 19, 2017).

113. Linda J. Bock et al., *Management Practices for the Release of Information*, 79 J. AHIMA 77, 77–80 (2008), *available at* http://bok.ahima.org/doc?oid=85544#.WUrPpevyvIV.

The concept of relevance is an important decision-making factor in the clinical and legal processes. We intend the hierarchical models in Figures [1] and [2] to provide a graphic representation of a logical sequence by which systems may analyze and process PHI. If questions arise about the truthfulness of the patient's story, the hierarchical model will provide a step-by-step process to include "relevance" as a function of the question type: questions about the health-care story v. questions about the credibility of the story as the system tells it. If questions about credibility arise in later steps, then "relevance" shifts to evaluating the reliability of the system itself and its ability to capture, assert, and defend accuracy and authenticity.

Clinicians can cull, search, and process information which the model clarifies and deems relevant from the EHR to tell the patient's story. The Logical Model also will corroborate the story-telling by assessing its believability while retaining the focus of the record, which is to provide the facts clinicians used and recorded in the course of making decisions about a patient.

The legal industry has long understood the concept of relevance, and, for that reason, the eDiscovery rules incorporate it. The challenge that the healthcare industry, attorneys, and the courts have before them is how to rethink and redefine the concept of the "legal health record."[114] The updated model must accommodate the changing format, content, and location of PHI within expanding and diversifying concepts of relevance. It must also help sunset aging practices and concepts, such as the "legal health record."

114. AHIMA, *Fundamentals of the Legal Health Record and Designated Record Set*, 82 J. AHIMA (2011), *available at* http://library.ahima.org/doc?oid=104008#.WUrLN-vyvIU.

B. Moving from Paper to Digital Systems: Retiring the "Legal Health Record" Term from Digital Designations

To some extent, the old paper-record notion of a legal health record remains based on the expectation of commonly occurring physical documents. The paper record's components consisted of defined forms and formats of physical documents such as episode-of-care records, flow charts, medication lists, discharge summaries, and post-operative reports. In contrast, every output in today's digital-records environment is a dynamic construct with uncertain, changeable, and changing rules that vary extensively between organizations.

To date, there have been many attempts to redefine the term "legal health record"[115] to bridge the transition from paper to digital environments. For example:

1. Objective Definition of the Legal Health Record

   > A legal health record (LHR) is the documentation of patient health information that is created by a health care organization. The LHR is used within the organization as a business record and made available upon request from patients or legal services.[116]

2. Functional Definition of the Legal Health Record

   > Defining the legal record – A health care organization collects a variety of information on individuals (clinical, financial, administrative). Organizations must have a written

115. Margaret Rouse, *Definition of Legal Health Record*, TECHTARGET: HEALTHIT, http://searchhealthit.techtarget.com/definition/legal-health-record (last visited June 9, 2017).

116. *Id*.

> policy to identify the content of the formal health record, which will constitute the official representation of an episode of care, to be disclosed upon request.[117]

3. Legal Health Record

> The legal health record is the officially declared record of health care services provided to an individual delivered by a provider. It is the record that would be released upon receipt of an authorized request.[118]

The three distinct definitions outlined above and their associated principles are increasingly inconsistent with the intent of federal and state eDiscovery rules. A healthcare organization can no longer unilaterally determine the scope of the "official" record for an episode of care. The new HIPAA access requirements support individual access to any PHI. Under these requirements, the record definition has become:

> [a]ny item, collection, or grouping of information that includes PHI and is maintained, collected, used, or disseminated by or for a covered entity.[119]

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117. KIMBERLY A. BALDWIN-STRIED REICH, KATHERINE L. BALL, MICHELLE L. DOUGHERTY & RONALD J. HEDGES, E-DISCOVERY AND ELECTRONIC RECORDS 23 (AHIMA, 2012), *available to purchase at* https://www.amazon.com/discovery-Electronic-Records-Kimberly-Baldwin-Stried/dp/158426229X.

118. Nat'l Learning Consortium, Health Information Technology Research Center (HITRC), Rural Wisconsin Health Cooperative Workgroup, *Legal Health Record Policy Template*, 3, HEALTHIT.GOV (2013), https://www.healthit.gov/providers-professionals/implementation-resources/legal-health-record-policy-template.

119. U.S. Dep't of Health & Human Servs., *Individuals' Right Under HIPAA to Access Their Health Information 45 CFR § 164.524, supra* note 112.

The paradigm shift requires the healthcare industry to redefine its concepts of records and methods for assuring veracity for multiple end uses. EDiscovery rules and access requirements provide guidance for establishing new information-governance and ROI processes that embrace the concept of "relevance" in the context of leveraging improved EHR system capabilities supporting reliability, authenticity, and accuracy.

However, this broad view of what a production *potentially* could include does not mean that every ROI or legal document request merits disclosure of the full array of available information about a patient. The challenge, which conscientiously designed records system could readily meet, is to have multiple production options—each transparently constrained to limiting the response to information relevant to the purposes of the request without infringing on the requesting party's entitlement to more expansive definitions of the full record. The key to surmounting the challenge efficiently is effective communication from the requesting party about what he or she needs, coupled with the healthcare provider's effective processing of the request—contingent on legal entitlement, availability, and accessibility. The healthcare provider maintaining the records must describe and accordingly designate what it routinely provides for a given type of request. If reasonable in scope, that designation should suffice for most situations.[120] However, flexibility and transparency are necessary because needs and entitlement vary on a case-by-case basis. Production may need to be a step-by-step iterative affair with attendant communication between the requesting party and healthcare provider.

120. The organization must have a reasonable basis for its designated record sets that it provides to requesting parties, a court, or another supervising official.

This necessitates designing outputs that include descriptions of intended use, general content, constraints, and exclusions, so what the output purports to be in the context of today's otherwise non-standardized and unpredictably variable systems is reasonably clear.

The obsolete concept of formulaic legal health records conveys the erroneous and archaic view that a clinical enterprise can decide what is not legally sufficient for discovery and disclosure. This approach is problematic, especially considering the recent guidance that the U.S. Department of Health and Human Services Office of Civil Rights (HHS/OCR) released.[121]

Under these HHS/OCR access rules, individuals have rights to a broad array of health information about themselves, including medical records, billing and payment records, insurance information, clinical laboratory test results, medical images such as X-rays, wellness and disease-management program files, clinical case notes, and other information. However, the rules do not require a covered entity to create new information that does not already exist in the designated record set when it responds to a request for access.

The evolving field of genomics provides an excellent example of the struggle to define the designated record set and concept of relevance.[122] As two prominent researchers found, "[t]o date, no commercial EHR system has been described that systematically integrates genetic or genomic data, let alone uses

121. AHIMA, *Fundamentals of the Legal Health Record and Designated Record Set, supra* note 114.

122. Ananya Mandal, *What Is Genomics?*, NEWS MEDICAL (July 20, 2014), http://www.news-medical.net/life-sciences/What-is-Genomics.aspx.

this information to translate disease risk into treatment recommendations."[123] Therefore, when it comes to a traditional ROI disclosure request for a patient's EHR, the healthcare provider cannot produce potentially significant genetic or genomic data because it is located outside the EHR system.

Best-practice guidance advising that the legal health record "serves to identify what information constitutes the official business record of an organization for evidentiary purposes"[124] is troubling in the context of both the state and federal eDiscovery rules as well as the new HHS/OCR access rules, which state that healthcare providers must allow individuals to access "[a]ny item, collection, or grouping of information that includes PHI and is maintained, collected, used, or disseminated by or for a covered entity."[125]

Although troubling, the widespread use of "non-standard" and "unpredictably variable" systems may be a temporary problem for clinicians and clinical enterprises. Most of them are attempting to act correctly to bridge the gap between expectations and reality. Given the HHS/OCR definition, we recommend defining the concept of designated record set as a series of specifications. For example, vendors must develop, in time, separate and distinct variations of a designated record set for purposes of HIPAA, litigation, ROI, assessing patient records trust, and other categories.

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123. Joseph K. Kannry & Marc S. Williams, *Integration of Genomics into the Electronic Health Record: Mapping Terra Incognita*, 15 GENETICS IN MED. 757, 757–60 (2013), http://www.nature.com/gim/journal/v15/n10/full/gim2013102a.html.

124. AHIMA, *Fundamentals of the Legal Health Record and Designated Record Set*, *supra* note 114.

125. 45 C.F.R. 164.524 (2017).

If an organization finds it simpler to continue with the colloquial use of "legal health record" for its internal communications pending a more EHR-centric approach, that decision may buffer the expectation that external entities will accept its scope as sufficient.

C. The ROI and eDiscovery Convergence

An examination of Fed. R. Civ. P. 34 and 45 in conjunction with the 2016 HHS/OCR PHI access requirements[126] demonstrates the convergence and recurring overlap between eDiscovery and ROI processes. The functions of the two processes have become inextricably connected and compose crucial components of any information-governance program. Table [3] presents a contrast and comparison of these processes.

ROI vs. eDiscovery	
ROI	eDiscovery
The process of making determinations about whether an external requestor is authorized to access an individual's health information	The process of compiling, storing, and securing digital information (including an individual's PHI) such as email, documents, databases, voicemail, and social media in response to a request for production in a lawsuit or regulatory investigation
Traditional health information management (HIM) function	New and evolving HIM function

126. 45 C.F.R. 164.524 (2017).

ROI vs. eDiscovery	
ROI	eDiscovery
The Director of Medical Records/HIM Department generally named as the official custodian (or "keeper") of the individual's medical record	Individual(s) with administrative control over the physical and remote storage and record protection throughout their retention period may be designated by the firm as "custodians"
One official custodian	Potentially multiple custodians
Varied but predictable types of requests for individuals, internal requestors, and litigation and regulatory investigations	eDiscovery is less varied and predictable, focusing on civil discovery, regulatory investigations, and/or administrative actions
The ROI process has been a critical component of the healthcare organization's information-governance program	eDiscovery response is becoming a critical component of the healthcare organization's information-governance program

Table [3]: ROI vs. eDiscovery

Healthcare firms have historically designated their HIM departments as the official "custodians of medical records." Most HIM departments process and respond to subpoenas in state court, where most medical-malpractice litigation occurs. However, in the new health-information-governance paradigm, accessing and processing PHI for all purposes—including subpoenas and ROI requests—will dramatically evolve as litigants recognize that increasing amounts of PHI reside in locations outside EHRs, including email, mobile devices and applications, voicemail, and other digital sources. Genomic data is an important example of PHI that the EHR generally excludes.

D. Future Health-Information-Governance Programs

The concept of the "legal health record" as a one-size-fits-all disclosure of predetermined scope and format is becoming increasingly inaccurate. Misapplying the concept can cause it to manifest as a source of unnecessary controversy and semantic obstacle to full and fair disclosure when parties have different expectations of the scope of PHI that the healthcare provider must produce. Records and data that clinicians use and create during care may be subject to discovery under the applicable jurisdiction's law. Outside litigation, individuals now have greater statutory access rights to their PHI; healthcare providers must deliver in electronic form if they request it. This further complicates the variability and potential misunderstanding of what constitutes a legally sufficient scope of required disclosure for a given complete-record request.[127]

It is now incumbent upon all healthcare organizations and providers to begin establishing new health-information-governance programs and principles that comply with these new requirements. Such governance must align EHR system functions and uses with multiple and diverse ROI requirements. These initiatives will be more effective if they include due diligence and

127. The inherently indeterminate nature of discovery properly resists strict definition. Furthermore, attorneys execute discovery on a case-by-case basis with presumptions, but not guarantees, of reasonableness and good faith. Something that is entirely appropriate for a general-purpose ROI is unlikely to meet the needs of a subpoena in, for example, a malpractice case. On top of these inherent structural discovery variances, EHRs add complexity and variance which should not be attributes of reliable systems. All these factors, with the current absence of guidelines, make it difficult for a party to determine its obligations are in a case. This necessitates early and ongoing communication.

acceptance testing. Testing assures that organizations can effectively manage EHR systems to support the increasing scope of relevance for disclosure and discovery purposes.

Checklist for ROI Specialists and Healthcare Litigation Response Team	
Question	Action(s)
What is the nature of the request? Is it verbal or written?	Log and classify the request as routine disclosure, patient request, subpoena, or other. Time- and date-stamp the receipt of all requests, including the identity of the agent (human or device) recording receipt. Track the request into the organization's system (manually or electronically).
Who reviews the request to ensure that it meets all organizational policy requirements and that all elements are being provided to the individual in accordance with the request?	Ensure a quality control process which verifies that all elements of the designated record set are checked against the record request for integrity and accuracy.
Do we review all requests to ensure that they meet all organizational, jurisdictional, or regulatory requirements?	If the request does not meet requirements, return the request to originator with return letter. If the request meets requirements, determine whether the requestor is authorized to receive the ROI. If so, verify the requestor's identity before processing the request.

Checklist for ROI Specialists and Healthcare Litigation Response Team	
Question	Action(s)
What is the process for reviewing and accepting subpoenas? Are there specific department(s) or individuals who are authorized to accept subpoenas on behalf of the organization?	Review subpoena to determine if it is valid and consider whether it contains all required elements and fees. The subpoena form will vary by state statute. Generally, a subpoena is valid when it contains the following elements: • Name and jurisdiction of the court • Names of the plaintiff and defendant • Case docket number • Date, time, and place of requested appearance • Description of specific documents sought • Name of attorney who caused the court to issue the subpoena • Signature stamp or official seal • Appropriate witness and mileage fees. If the subpoena is valid, determine whether the organization or providers may become parties to the action or otherwise face liability.

Checklist for ROI Specialists and Healthcare Litigation Response Team	
Question	Action(s)
	If so, notify legal counsel and/or risk management immediately; conduct an early case assessment on the matter; establish reserves; place a legal hold on any/all relevant information; and notify all custodians in writing.
Does the organization have a litigation-response team in place? If, so who are the members, what are their professional roles, and which departments are they from?	Educate and train the litigation-response team in all organizational-information-governance program policies and procedures, including ROI, eDiscovery, and processing subpoenas.

Table [4]: Checklist for ROI Specialists and Healthcare Litigation Response Team

VII. SHORT-TERM TREATMENT SOLUTIONS

EHR systems have failed to deliver on their promises of increased utility and decreased costs. In this article, we have outlined shortfalls specific to ROI and discovery. These normal business processes have become unnecessarily and harmfully complex and burdensome.

Requesting and producing parties will benefit from a shift toward simpler uniform guidelines. The uniform procedures[128] we recommend establish initial scope, form, and limits for medical-records production. They also support early alerts to areas of agreement and disagreement that judicial guidance expedites. Lastly, stakeholders can apply them to current EHRs to promote economy and efficiency in the near term. The recommended process is as follows:

1. Acknowledge that EHR anomalies in eDiscovery are ubiquitous due to their widely variable, non-Standards-adherent, and unregulated state.
2. Agree that parties undertake initial ROI and discovery production in good faith, benefitting from early discussion of key questions and associated scope.
3. Agree that, insofar as (2) may require repeated request/production cycles for clarifications or illumination of previous unknowns, parties should anticipate sequential cycles and will improve them through effective communication.

128. Uniform procedures would need to accommodate different types of medical–legal cases. For example, the scope of relevant medical records from a non-party healthcare provider in an automobile case may differ from the scope of relevant medical records from a defendant doctor in a medical-malpractice case.

4. In the unusual instance where questions arise regarding the EHR system itself, then:
    a. parties may reference the Logical Model hierarchy to focus efforts in a rational manner; and
    b. the more basic the reliability impairment, the greater the benefit from early assessments and discovery management, as the associated trust-impact risks inform.

A further recommendation for EHR, ROI, and discovery points to the benefit of retiring the term "legal health record," a concept that is problematic for digital-records systems. The "designated record sets" concept, as incorporated within HIPAA, ideally provides individuals with easy access to their health information. This concept holds true for both clinical and legal processes and matters related to the scope of production of information in a case. Organizations must replace the term with rigorous health-information governance. A disciplined approach is essential to continuous improvement through testing and validating the reliable production of accurate, authentic ROI reports.

VIII. CONCLUSION

As the rules of procedure, case law, and ethical canons require, the ultimate responsibility for a reasoned and competent approach to the discovery process falls on attorneys and judges. In the EHR world, they can meet this responsibility by learning about the information landscape and diligently pursuing precision, equitability, and fairness. In this regard, the digital world is simply the successor to its paper-based predecessor.

At the same time, responsibility for an accurate, complete, understandable, and reasonably accessible record is the professional and legal responsibility of healthcare providers and facilities. While we may debate how the current state of EHRs arose, the two professional domains—legal and clinical—share a common cause. Future development of systems, Standards, and processes to address the anomalies regarding data origination, retention, access, aggregation, and production will advance the just, speedy, and inexpensive determination of civil proceedings while reducing medical–legal risk and improving patient care.

The objectives for current EHR initiatives must expand to include thorough and accurate medical records that systems create, store, secure, and make immediately available for use within and outside healthcare organizations so patients and other healthcare providers can access them. Information in the records should be economically and efficiently available for the patients, as well as for business, governmental, and medical–legal needs, while also assuring privacy and security compliance. EHR systems do not yet meet these legally necessary ideals despite their technological feasibility.[129]

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129. The HITECH Act established the ONC and authorizes the HHS to establish programs to improve health-care quality, safety, and efficiency by promoting of health IT, including EHRs and private and secure electronic

A shift toward positivity through enhanced sharing of success strategies and reduced harmful variances is necessary. The Sedona Conference provides resources and principles to support positive, collegial achievement of practical solutions through better processes, assisted by better technology for the advancement of law. In the case of EHRs, the legal system is increasingly imposing burdens and judgements on persons, organizations, and products deemed responsible for their current poor state. All parties will benefit from an expeditious shift to improved EHR systems for better discovery and ROI.

health-information exchange. According to Healthcare IT, "[t]he collaborative efforts of stakeholders is crucial to achieving the vision of a learning health system where individuals are at the center of their care; providers have a seamless ability to securely access and use health information from different sources; an individual's health information is not limited to what is stored in electronic health records (EHRs), but includes information from many different sources and portrays a longitudinal picture of their health, not just episodes of care; and where public health agencies and researchers can rapidly learn, develop, and deliver cutting edge treatments." *See A Shared Nationwide Interoperability Roadmap Version 1.0*, HEALTHIT.GOV, https://www.healthit.gov/policy-researchers-implementers/interoperability (last visited June 9, 2017).

Moving the Law Forward in a Reasoned & Just Way