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Foreword

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Foreword: Artificial Intelligence: Thinking About Law, Law Practice, and Legal Education

*Jan M. Levine**

On April 26-27, 2019, the Duquesne University School of Law hosted a conference titled "Artificial Intelligence: Thinking About Law, Law Practice, and Legal Education." Over those two days, more than 100 attendees were able to listen to nineteen presentations offered by thirty-one professors, educators, technology experts, and lawyers. The four articles in this symposium issue of the Duquesne Law Review resulted from that conference. All of the presentations from the conference are available on the Duquesne website, at: https://www.duq.edu/academics/schools/law/academics/legal-research-and-writing/2019-artificial-intelligence-conference.

What in my childhood was only found in the province of science fiction has become, almost without us realizing it, an integral, pervasive, and world-changing part of our personal and professional lives, reflecting our hopes and our fears, for good and for evil. Even now we are all more like cybernetic organisms than we would like to acknowledge, addicted to our computers, smart phones, and the internet, and are left floundering and unable to function when the electrical power goes out or the network is down. And we are only at the starting point of learning what computers and artificial intelligence are going to mean for humanity. This conference explored some of the ramifications of developments in artificial intelligence for law and policy, for the practice of law, and for teaching law students.

The conference would not have happened without the help and support of many people and organizations. My colleague, Professor Wesley Oliver, had the idea of holding a one-day conference on the effects of artificial intelligence on the law, and he and I put that idea together with our legal writing program's biennial conference on law school pedagogy. We were supported in our efforts by Dean Maureen Lally-Green. Jeanine DeBor, our Director of Law Alumni Relations and Development, secured most of the funding for the

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event, notably from the renowned international law firm Reed Smith. Additional funding came from Gravity Stack, LexisNexis, Cozen O'Connor, and the many Duquesne University School of Law alumni who have supported the legal writing program. Dr. David J. Dausey, the Provost of Duquesne University, welcomed the attendees and presenters to the conference. Jennifer Rignani, our Communications Director, and Carrie Samarin, the legal writing program's Administrative Assistant, were critical to our efforts to publicize and administer the conference. And thank you also to the outgoing and incoming Editors-in-Chief of the Duquesne Law Review, Taylor Wantz and Danielle Mrdjenovich, for agreeing to consider for publication papers from this conference.

The Ghost in the Machine: Artificial Intelligence in Law Schools

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I. INTRODUCTION

Arguably late to the party, the legal field is working to catch up and adapt to the vast amount of technologies that exist today and will exist in the future. The American Bar Association (ABA) has addressed the presence and use of technology in Model Rule 1.1, Comment 8, by stating that lawyers must be technologically competent and are required to use due diligence when evaluating legal technologies.[1] This has now been adopted by thirty-six states, and no doubt the rest will follow soon enough.[2] However, the ABA has yet to address how technology should be taught in law schools to best prepare future attorneys to be competent and aware of what technologies exist. There has yet to be any sort of uniform standard that all law schools are required to follow and, thus, each law school is left up to its own devices in how to incorporate legal technology into their curriculum.

This article addresses the different topics law schools are teaching and how each either succeeds or fails at teaching students to be technologically competent. This article provides a small guide to some of the proven-successful classes and technologies taught and how they can be incorporated into a law school's current curriculum.[3] This article aims to assist in creating a bright line and uniform standard to assist all law schools in producing "tech-savvy" lawyers. A big part of being technologically competent is the ability to understand and utilize, not rely on, artificial intelligence. This article discusses the use of artificial intelligence in the legal field, and how it can best be taught to law students, who will inevitably come across and use it as practicing attorneys.[4] This alters how

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1. MODEL RULES OF PROF'L CONDUCT r. 1.1 cmt. 8 (AM. BAR ASS'N 1983) ("To maintain the requisite knowledge and skill, a lawyer should keep abreast of changes in the law and its practice, including the **benefits and risks associated with relevant technology**, engage in continuing study and education and comply with all continuing legal education requirements to which the lawyer is subject.") (emphasis added); *see also id.* r. 1.1.

2. *See* Robert Ambrogi, *Tech Competence*, LAWSITES, https://www.lawsitesblog.com/tech-competence (last visited Nov. 8, 2019) (tracking the states that have adopted the ABA's revised comment to Rule 1.1). Ambrogi continually updates this list, current at thirty-six states. *Id.* He provides links to each of the state's pages that discuss the adoption of Comment 8 from Rule 1.1, as well as when it was approved and then went into effect. *Id.* Where available, he also provides more details as to how the state has adopted the rule, and if they have done so outside or with a different interpretation than comment 8 from Rule 1.1. *Id.*

3. *See infra* Section III (discussing the technologies that currently exist and how they can be incorporated into the classroom).

4. *See infra* Section IV (introducing artificial intelligence and how it is used primarily so far in the legal research field).

legal research is taught and, combining the education of legal research and legal technologies, aligns with the overall suggestion that a uniform standard of legal technology should be created.

II. ADOPTION OF LEGAL TECHNOLOGIES BY THE STATES

The ABA's Model Rules of Professional Conduct include Rule 1.1 on Competence. In 2012, they introduced Comment 8, which states:

> [t]o maintain the requisite knowledge and skill, a lawyer should keep abreast of changes in the law and its practice, *including the benefits and risks associated with relevant technology*, engage in continuing study and education and comply with all continuing legal education requirements to which the lawyer is subject.[5]

As of April 2019, thirty-six states have followed in adopting this duty of technology competence.[6] One of the biggest discussions that has grown from the states adopting the duty of technology competence is how to actually become competent. Discussed later, there are groups and programs, such as the Legal Technology Assessment by Procertas, the National Society on Legal Technology, and the International Legal Technology Association that provide continuing legal education and other education on the topic.[7] But, ultimately, the best way to address this required competence level is to catch and teach individuals while they are still students and are not yet

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5.   MODEL RULES OF PROF'L CONDUCT r. 1.1 cmt. 8 (emphasis added).

6.   Ambrogi, *supra* note 2.

7.   *See Legal Technology Assessment*, PROCERTAS, https://www.procertas.com/offerings/legal-technology-assessment/ (last visited July 30, 2019) (offering their legal technology assessment, which trains legal professionals on basic technology tools on Microsoft Word, Microsoft Excel, and PDF). Some of the options that are available to learn in Word are accepting and turning off changes, replacing and formatting text, adding footnotes, inserting a hyperlink, modifying and updating styles, inserting cross references, adding page breaks and non-breaking spaces, as well as cleaning document properties. *Id.* On Excel, an individual can learn how to copy or rename a worksheet, insert a row or column, format the width or text, conduct mathematical functions, and insert pivot tables and charts. *Id.* Last, individuals on PDF can learn how to convert PDFs to Word and Excel and vice versa, recognize text, extract a page, redact information, create a bookmark or internal link, remove hidden information, and password protect the document. *Id.* Individuals are scored not just on whether the task was completed correctly but also how long it took to complete the module. *Id.*; *see also Legal Technology Certificate*, NAT'L SOC'Y FOR LEGAL TECH., https://legaltechsociety. wildapricot.org/certification (last visited July 30, 2019) (offering a legal technology certificate that requires and offers training on twelve different software programs, including Microsoft Office, Adobe, Clio, Skype, and Worldox); *About ILTA*, INT'L LEGAL TECH. ASS'N, https://www.iltanet.org/about (last visited July 30, 2019) (focusing on "delivering relevant, peer-developed programming to its constituents around the globe" with a focus on emerging technologies).

required to abide and adhere to the competency requirements by the ABA and the states.

Teaching students to become practice-ready and familiar with legal technology will allow them to look more appealing when searching for jobs as well as enter the legal field confident in their technology competence. However, it is now up to academia to find these technologies, teach ourselves if we are not familiar with those technologies, and then pass that knowledge on to the students.

III. Types of Technologies Available

Deciding to implement and use technologies in law schools is the first step. However, the next and much more intimidating step is deciding which technologies to use. There are hundreds, if not thousands, of programs and software that exist to assist attorneys in their workflow.[8] There is a fine line between offering education on certain technologies and promoting one product over another. The list below is not inclusive of all the technologies available but provides a starting point for those who are interested but unsure of which technologies to implement into their curriculum. Most of these technology providers give free access to law schools and law students. First, technologies that assist in legal writing will be discussed, followed by those that assist in legal research, then in legal practice, such as software management programs, and last, any other technologies that can assist law students in a specific topic or course.

A. *Legal Writing*

Legal writing is the benchmark course for law students. Regardless of which field of law they choose to practice, most of what attorneys do is research and write. Being that they are required to write a lot, there are several technologies available that assist attorneys in making the process more streamlined. Although it is imperative to teach students the basics of legal writing, an advanced

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8. *See Legal Technology Resource Center*, Am. B. Ass'n, https://www.americanbar.org/groups/departments_offices/legal_technology_resources/ (last visited July 30, 2019) (providing technology resources and information through blogs, publications, and webinars). The ABA's Legal Technology Resource Center does a great job of constantly checking and updating to make sure attorneys are aware of the newest and most up-to-date technology information. *See id.* The Resource Center offers a buying guide to help attorneys find the right software and programs for their practice and a blog, Law Technology Today, which is updated constantly with the latest legal technology news. *Id.* The ABA also publishes a Tech Report every year, which discusses the "latest trends in technology including virtual law practice, legal research, and more." *Id.*

course teaching them how to utilize technologies to more efficiently spend their time would assist in making them practice ready. Several types of technologies will be discussed below.

One type of technology that has seen a dramatic increase in use is software that automatically edits and revises work product. An example of this is WordRake,[9] an overlay for Microsoft Word that assists in editing documents to make them "clearer, shorter, and better."[10] By eliminating wordiness, the document and its purpose becomes more focused and direct. WordRake does this through a Microsoft Office overlay, including both Word and Outlook.[11] This helps by not just editing documents but also emails.[12]

Along with editing and revision, document automation has become more popular. Programs such as HotDocs work with the author of the document to create an intelligent, accurate, and interactive template that can be used for those documents that tend to be done with some repetition.[13] Being able to easily create a template helps recreate documents that are compliant with the law and dramatically lessens the chances of a mistake being made. These document automation programs are oftentimes integrated into other practice management systems, which will be discussed later.

To be a highly effective attorney, technologies now are used not just to help with editing, revision, and automation, but are also used to check for substance. Products like Clerk from Judicata allows a

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9. *Editing Software for Professionals*, WORDRAKE, https://www.wordrake.com (last visited Dec. 2, 2019). An example from the homepage shows that by with just a click of a button, the sentence "[p]oor writing will end up costing a business more in the long run" to "[p]oor writing will cost a business more eventually." *Id.* Writing tips are also available, which can help attorneys, and students, write better from the outset and lessen the need to rely on software such as WordRake. *Id.*

10.   *About WordRake*, WORDRAKE, https://www.wordrake.com/editing-software-for-writing-professionals-about (last visited Dec. 23, 2019).

11. *About WordRake Software*, WORDRAKE, https://www.wordrake.com/writing-improvement-software (last visited Dec. 23, 2019).

12. *About WordRake*, *supra* note 10.

13. HOTDOCS, https://www.hotdocs.com/ (last visited July 30, 2019)*; see also* SMOKEBALL, https://www.smokeball.com/ (last visited July 30, 2019) (assisting in not just helping attorneys create their own forms and templates but providing forms and templates required by both federal and state courts); PATHAGORAS, https://www.pathagoras.com/ (last visited July 30, 2019) (allowing attorneys to create a form from their own document within two clicks as well as providing a list of available forms that can be overlaid into Microsoft Word); THEFORMTOOL, https://www.theformtool.com (last visited July 30, 2019) (highlighting that over half of all legal documents are some form of repetitive form and encouraging attorneys to use their product to create a form to decrease the amount of time filling out and creating the same form over and over again). Document automation software has become very prevalent in creating reusable documents and forms and assisting in automating workflow. Nicole Black, *These Document Assembly Tools Will Keep Your Law Firm on Track*, ABA J. (June 25, 2019, 6:30 AM), http://www.abajournal.com/news/article/these-document-assembly-tools-will-keep-your-firm-on-track. Black points out that document automation tools can be available on their own as well as integrated into a firm's practice management software. *Id.*

brief or other legal document to be uploaded into its platform and then to be analyzed based on the arguments, drafting, and context.[14] Clerk uses its vast database of legal resources to identify the arguments made and whether or not there is logical or historical favorability.[15] Although in theory the research and writing is effective, Clerk will actually go in and check that work to see if a similar argument has been used before and the effectiveness of the argument. The software also ensures all case law is relevant and valid.[16] The ability to check with a database of legal information allows Clerk to also check quotes for accuracy.[17]

Similar to Clerk by Judicata, both Westlaw and Lexis offer a similar program that is fully integrated within their respective platforms. Drafting Assistant by Westlaw can be used to find errors and missing information, find issues within one's own argument, or identify weak points in an opponent's arguments.[18] It allows for the integration of automated documents from one's firm as well as checking for cross references and whether the law itself is still good and valid.[19] It can automatically insert citations and create a table of authorities.[20] Lexis has a similar platform, but rather than being integrated through the platform itself, it works within Microsoft Office, including Word.[21] It allows the document's author to check citations for accuracy and validity quickly and efficiently, while automatically adding them to the document itself and to the table of authorities if necessary.[22] It also checks to make sure quotes are correct.[23] These proofreading tools are an invaluable resource to attorneys, as they no longer have to spend time editing and double checking their work, as the platforms automatically do it for them.

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14. *Clerk*, JUDICATA, https://www.judicata.com/demo/clerk (last visited July 30, 2019); *see also* Jean O'Grady, *Forget the Robots You Might Just Need a Clerk. Judicata's Clerk: Algorithms and Analytics that "Grade" and Recommends Edits to Briefs*, DEWEY B STRATEGIC (Nov. 10, 2017), https://www.deweybstrategic.com/2017/11/judicata-clerk.html (discussing how analytics are used to assess the strength and type of argument in a brief, check for quotation accuracy, and consider similar cases). However, please note that Clerk by Judicata only covers California case law. *Id.*

15. *Clerk*, *supra* note 14.

16. *Id.*

17. *Id.*

18. *Drafting Assistant*, THOMSON REUTERS, https://legal.thomsonreuters.com/en/products/drafting-assistant (last visited July 30, 2019).

19. *See id.*

20. *Id.*

21. *Lexis for Microsoft Office*, LEXISNEXIS, https://www.lexisnexis.com/en-us/products/lexis-for-microsoft-office.page (last visited July 30, 2019).

22. *Id.*

23. *Id.*

Last, there are several editing and reference tools that can assist in creating bigger pieces of work. Although more helpful for academics, a passing awareness of these technologies can assist both as a student and then as an attorney, if he or she chooses to publish anything on a topic. Popular tools include Scrivener, Zotero, and Mendeley.[24] All three of these tools work by altering Microsoft Word to create a binder-like approach that allows you to flip between sections and folders of information.[25] They also allow you to sort your research and keep it in a cloud, so the information can be easily accessed and then inserted as a citation where needed.[26] RefWorks is a software similar to the other platforms but only works as a personalized database of accessible research.[27]

Although this list of legal writing tools is nowhere near exhaustive, it provides a starting point for what sorts of technologies exist and how they can be utilized to create practice-ready students.

B. Legal Practice

An integral part of successful law practice is using practice management software. This type of software can store client files in an easily accessible, secure, and sharable place.[28] Although this list is nowhere near exhaustive, several popular platforms include Clio, Rocket Matter, Westlaw's Firm Central, CosmoLex, MyCase, and PracticePanther.[29] Most of these platforms allow students free li-

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24. *See Scrivener*, LITERATURE & LATTE, https://www.literatureandlatte.com/ (last visited July 30, 2019) (introducing it as a tool for authors, as it functions as a typewriter, ring-binder, or scrapbook but can also be used for many legal functions); ZOTERO, https://www.zotero.org/ (last visited July 30, 2019) (functioning as a "personal research assistant" and as an easy-to-use tool for collecting, organizing, citing, and sharing research); MENDELEY, https://www.mendeley.com (last visited July 30, 2019) (allowing users to access their "library" from anywhere, including sources and documents that are currently being worked on and generating references and citations with just a few mouse clicks).

25. *Scrivener*, *supra* note 24; ZOTERO, *supra* note 24; MENDELEY, *supra* note 24.

26. *Scrivener*, *supra* note 24; ZOTERO, *supra* note 24; MENDELEY, *supra* note 24.

27. *See About RefWorks*, PROQUEST, https://refworks.proquest.com/about-us/ (last visited July 30, 2019) (working with the databases available through ProQuest, it allows a user to create their own databases of resources that can be made available anywhere and at any time).

28. *Law Practice Management Software*, CAPTERRA, https://www.capterra.com/law-practice-management-software/ (last visited Dec. 2, 2019).

29. *See, e.g.*, CLIO, https://www.clio.com/ (last visited July 30, 2019) (functioning as a practice management software system that assists in managing one's firm, including managing case files and clients by organizing cases, contracts, and document automation, generating bills, running reports and works to attract potential clients, track their progress, and secure them as a client); ROCKET MATTER, https://www.rocketmatter.com/ (last visited July 30, 2019) (functioning as a practice management software system that works in the cloud to allow access to information from anywhere and includes features such as bill-as-you-work, document automation with customizable templates, and insights into clients, matters, and

censes, so that they are familiar with (and hopefully use) the product once they are practicing. Some even offer free attendance and training at their conferences to librarians and professors who want to use it to teach their students.

These platforms do a multitude of things, including integrating email and calendars, keeping track of clients and other contacts, organizing and keeping track of a case and associated documents, keeping time, managing tasks, overseeing security, checking conflicts, managing documents, assembling and automating, billing and invoicing, and accounting functions.[30] Although learning the law is important, learning how to work with the required software to practice law is often overlooked in law schools. Giving students the opportunity to become familiar with and practice improving workflow and efficiency makes the students more appealing to potential employers.

C.   Technologies Promoting Access to Justice

Something else that is vital to the growth of technology is the availability and use of access to justice programs. Not everyone can afford an attorney. Attorneys working in the public sector may require the aid of helpful and inexpensive tools. Often, people do not know where to go to find legal rules or information about their rights, and thus programs such as the A2J Tech Fellows Program, created by the Center for Computer-Assisted Legal Instruction (CALI), the implementation of chatbots and mobile applications, as well as programs such as a2j Author, help to provide legal assistance to the underserved.

other associates); *Firm Central*, THOMSON REUTERS, https://legal.thomsonreuters.com/en/products/firm-central (last visited July 30, 2019) (functioning as a practice management software system that focuses on simplifying the process to bring management, billing, scheduling, document assembly, and integration into Westlaw all in one place); COSMOLEX, https://www.cosmolex.com/ (last visited July 30, 2019) (functioning as a cloud-based practice management system with a focus on billing and accounting); MYCASE, https://www.my-case.com/ (last visited July 30, 2019) (functioning as a case management system, which keeps case documents, messages, and contacts all in one place and accessible from anywhere); PRACTICEPANTHER, https://www.practicepanther.com/ (last visited July 30, 2019) (functioning as a practice management system to automate functions such as billing, providing information through a cloud based system, and highlighting data protection and encryption); *see also Law Practice Management Software*, LAWYERIST, https://lawyerist.com/reviews/law-practice-management-software/ (last visited Oct. 8, 2019) (providing a list of other practice management software programs and explaining what these systems do, including emailing clients, keeping track of a calendar and appointments, managing clients and cases, checking for conflicts, keeping everything secure and encrypted, helping with document management and automation, keeping track of time and billing, and assisting with the basic proponents of bookkeeping).

30.   CLIO, *supra* note 29; ROCKET MATTER, *supra* note 29; *Firm Central*, *supra* note 29; COSMOLEX*, supra* note 29; MYCASE, *supra* note 29; PRACTICEPANTHER, *supra* note 29.

Access to Justice has a tech fellows program and hosts the Justice Innovation Challenge every year, which helps to create practical and accessible solutions for those needing legal aid.[31] This challenge results in the creation of mobile applications and websites that help those that need it most and spreads awareness of the need to provide such services. Access to Justice has also created an interactive website, a2j Author, which helps self-represented litigants by allowing them to author documents necessary for the court system.[32] It works through the Guided Interview and Template system, which takes complex information from legal forms and puts it into a guided interview, which makes it easy for those who do not understand complex legal forms and terminology to fill out any necessary forms.[33] The program is free to courts, legal service organizations, and non-profits to prepare and create these guided interviews that are then made available to self-represented litigants.[34]

Chatbots and mobile applications are also spiking in popularity, as individuals are starting to seek their own way of handling small matters, such as paying traffic tickets. DoNotPay is a massive mobile application that helps individuals' dispute parking tickets and other small matters.[35] It has grown in available services, including making its services available for free.[36] Docubot generates document templates for individuals needing legal services and then guides them through the process of filling out the forms.[37] CitizenshipWorks is a completely free mobile application that assists an

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31. ATJ TECH FELLOWS PROGRAM, https://www.atjtechfellows.org/ (last visited Jan. 17, 2020). This program "connects law students with civil justice organizations for an immersive, 10-week, full-time, paid project-based summer fellowship experience. Fellows spend the summer leveraging technology, data, and design thinking to develop solutions that address barriers preventing low-income Americans from receiving legal help." *Id.*

32. A2J AUTHOR, https://www.a2jauthor.org/ (last visited July 30, 2019). There have been roughly 4.7 million guided interviews run and over 2.6 million documents assembled since 2005. *Id.* There are over 1,100 guided interviews available in forty-two states and four foreign countries. *Id.*

33. *Id.*

34. *Id.*

35. DONOTPAY, https://donotpay.com (last visited Nov. 8, 2019); *see also* Jon Porter, *Robot Lawyer DoNotPay Now Lets You 'Sue Anyone' Via an App*, VERGE (Oct. 10, 2018, 12:13 PM), https://www.theverge.com/2018/10/10/17959874/donotpay-do-not-pay-robot-lawyer-ios-app-joshua-browder (discussing how the creator of DoNotPay has grown the app from simply getting its users out of parking tickets to other legal services such as combating volatile airline prices, data breaches, late package deliveries, and unfair banking fees); Steph Wilkins, *DoNotPay Is the Latest Legal Tech Darling, But Some Are Saying Do Not Click*, ABOVE THE LAW (Oct. 12, 2018, 1:32 PM), https://abovethelaw.com/legal-innovation-center/2018/10/12/donotpay-is-the-latest-legal-tech-darling-but-some-are-saying-do-not-click/ (discussing the potential pitfalls of using a robot lawyer to assist with parking tickets and small claims).

36. *See* Porter, *supra* note 35.

37. *Docubot: Artificial Intelligence for Legal Websites*, 1LAW (Aug. 22, 2016), https://www.1law.com/docubot-ai/ (working as a WordPress plug-in and focusing on providing an "affordable, accessible option for people who need legal assistance, but aren't getting

individual step-by-step in applying for citizenship.[38] Disastr is a mobile application that gives legal information in areas such as disaster planning, recovery, housing, food stamps, and insurance.[39] These are just a few of the mobile legal applications out there that are meant to provide access to individuals who need it the most and who may not have the ability to find and hire their own attorney.

D.   Technologies for Use Across the Curriculum

One could argue that there are only so many hours in the law school classroom and a limited number of hours to prepare students to be practice-ready and pass the bar exam, thus there is no place for legal technology skills. Because there is so much disagreement about the place of legal technology in law schools and law practice, the ABA has entered the debate by including a technology competency requirement in the Model Rules.[40] With the ABA's push to get attorneys to think about technology and how it impacts practice, it is even more important for law schools to consider the same issues. The best way to introduce legal technology to law students is to integrate the technologies into the classroom in the least intrusive way by teaching the technologies across the law school curriculum. This will showcase how the technologies solve problems and are relevant to law practice. Some law schools have embraced legal technology in their programming and have created courses either centered around legal technology or containing some facet of law practice competency using technology.[41]

First year courses are a great place to introduce legal technology. Legal writing and legal research are discussed separately in this article, so this section will focus on doctrinal and skills courses exclusively. In the first-year curriculum, all law students learn contracts. There are a variety of legal technology providers who offer

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it because they lack a personal connection to a lawyer or they simply don't know how to navigate our complex legal system").

38.   *Become a U.S. Citizen: Free, Safe, and Simple*, CITIZENSHIPWORKS, https://www.citizenshipworks.org/ (last visited July 30, 2019). This website functions as part of the Access to Justice project and assists those who want to become a United States citizen. *Id.* It guides them through the steps to becoming a United States citizen and helps them prepare for the naturalization test. *Id.*

39.   *Disastr: Mobile Disaster Legal Assistance at Your Fingertips!*, DEVPOST, https://devpost.com/software/disastr (last visited Jan. 17, 2020). You can also directly download the app from the website or app store for your mobile device. *Id.; see also* Tim Baran, *Access to Justice Apps*, ROCKET MATTER'S LEGAL PRODUCTIVITY (Jan. 8, 2015), https://www.rocketmatter.com/technology/access-justice-apps/ (discussing resources other than Disastr that provide access to justice).

40.   *See* MODEL RULES OF PROF'L CONDUCT r. 1.1 (AM. BAR ASS'N 1983); *Id.* r. 1.1 cmt. 8.

41.   *See infra* Appendix A (listing all of the schools that have created certificates or centers around technology).

drafting assistance for contracts including Drafting Assistant on Westlaw from Thomson Reuters,[42] Contract Companion from Litera Microsystems,[43] and Lexis for Microsoft Office on Lexis Advance[44]. Even WordRake, mentioned earlier, can assist with drafting contract language.[45] Faculty members can use a sample contract for a drafting exercise to showcase the technology available in law practice and to further reinforce the substantive law as well. It's a win-win for law faculty because most students learn by doing. And most of these companies will likely provide free licenses to faculty and students and some will likely even create the assignments for use in the classroom.

Document automation technology can also be introduced in classes like contracts and legal drafting. Using automation software for contract review can save attorneys an incredible amount of time and is generally more efficient with less chance of error.[46] Automation software relies heavily on artificial intelligence, which is discussed in section V. A few technologies available for use in law schools include Contract Express from Thomson Reuters,[47] Concord,[48] HotDocs,[49] LegalSifter,[50] and LawGeex.[51] Most of these have an instructor learning curve, but more law librarians have training

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42. *Drafting Assistant*, *supra* note 18.

43. *Contract Companion*, LITERA MICROSYSTEMS, https://www.litera.com/products/legal/contract-companion/ (last visited Oct. 8, 2019) (reducing proofreading time by 90% by correcting hard-to-see errors, such as spacing and brackets, while ensuring accurate and consistent definitions, numbers, phrases, cross references, dates, addresses, names, and monetary values).

44. *Lexis for Microsoft Office*, *supra* note 21.

45. *Editing Software for Professionals*, *supra* note 9.

46. Erçin Aslan, *A.I. Helps Take Automated Contract Analysis to the Next Level*, L. TECH. TODAY (Feb. 20, 2019), https://www.lawtechnologytoday.org/2019/02/ai-helps-take-automated-contract-analysis-to-the-next-level/.

47. *Contract Express*, THOMSON REUTERS, https://legal.thomsonreuters.com/en/products/contract-express (last visited Oct. 9, 2019). Contract Express allows attorneys to accurately automate and update their legal templates. *Id.* The contracts are generated by filling out web-based forms—also called "questionnaires." *Id.* The software allows lawyers to automate templates inside Microsoft Word by using markups. *Id.*

48. CONCORD, https://www.concordnow.com/for-legal/ (last visited Jan. 17, 2020). Concord works by standardizing and automating contract tracts to "increase efficiency and optimize . . . processes, eliminate administrative work, and take the legal team from tactical to strategic." *Id.* This software program helps attorneys collaborate on documents, both internally and externally, including negotiation with opposing parties. *Id.*

49. HOTDOCS, *supra* note 13.

50. LEGALSIFTER, https://www.legalsifter.com/ (last visited July 30, 2019). Legal-Sifter uses artificial intelligence to review contracts. *Id.* Upload a contract to LegalSifter, the program works to identify important business and legal concepts and offers advance based on the information discovered. *Id.* LegalSifter works in Word, WordPerfect, and GoogleDocs. *Id.*

51. LAWGEEX, https://www.lawgeex.com/ (last visited July 30, 2019) (using artificial intelligence to automate contract review by identifying and flagging unacceptable or missing clause, suggests corrections, and automatically approves everything else).

in areas of legal technology so law schools could turn to librarians to help teach this content. In fact, the American Association of Law Libraries has made supporting legal technology a priority for the librarian profession.[52]

In the upper level courses, legal technology can be useful to introduce context for the practice of law. Practicing law today requires both knowledge of how to use technology to serve clients more effectively and an understanding of how the Model Rules of Professional Conduct impose limits on the design and delivery of legal services. In a professional responsibility course, the topics of the use of social media for marketing, the ethics of cloud computing, data security concerns, privacy concerns, client confidentiality, knowledge management, and storage of client files can all be discussed to teach students how ethics and technology intersect. Law schools must address the intersection of technology and law practice and provide law students with the basic understanding of how to assess the risks and benefits of technology.[53] As further evidence of why law schools should pay attention to the ethics of technology, one only has to look at a survey of state ethics opinions.[54] There are ethics opinions on cloud computing, data security, privacy, content management, email, using social media, virtual law practice, advertising, and the basic rules of competency and technology.[55] It is

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52. *Body of Knowledge [BOK]*, AM. ASS'N L. LIBR., https://www.aallnet.org/education-training/bok/ (last visited Oct. 9, 2019) (serving as a blueprint for librarian career development, including identifying and promoting the use and education of technology in libraries to then assist and educate others within the law school). Technology is worked into each of the five Body of Knowledge domains, including research and analysis, information management, teaching and training, marketing and outreach, and management and business acumen. *Id.*

53. *See* MODEL RULES OF PROF'L CONDUCT r. 1.1 (AM. BAR ASS'N 1983); *Id.* r. 1.1 cmt. 8.

54. *See generally* Ashley Hallene, *Clearing Up the Cloud: What Are Your Responsibilities When Storing Data Online?*, 30 GPSOLO 34, 35-36 (2013) (discussing ABA Model Rule 1.6 and a "lawyer's responsibility to take reasonable steps to protect the electronic information related to the representation of a client"). More than a dozen states have filed opinions addressing "ethical considerations when using cloud storage providers." *Id.* at 36. This includes states such as Alabama, Arizona, California, Iowa, Maine, Massachusetts, Nevada, New Jersey, New York, North Carolina, Oregon, Pennsylvania, Vermont, and Washington. *Id.* Ultimately, the author suggests that the benefits of cloud computing far outweigh the pain of due diligence. *Id.* at 38.

55. Several states have adopted their own version of Model Rule 1.1. *See* COLO. RULES OF PROF'L CONDUCT r. 1.1 cmt. 8 (COLO. BAR ASS'N 1993) (specifying that attorneys must "keep abreast of changes in . . . communications and other relevant technologies"); FLA. RULES OF PROF'L CONDUCT r. 4-1.1 (FLA. BAR ASS'N 1993) (adding in that competent representation may involve a non-lawyer of established technological competence); LA. RULES OF PROF'L CONDUCT r. 1.1 cmt. 8 (LA. BAR ASS'N 2006) (adopting two statements to the Louisiana State Bar Association Code of Professionalism that promise attorneys will use technology responsibly and stay informed about changes in technology that may affect the practice of law); MICH. RULES OF PROF'L CONDUCT r. 1.1 (Mich. Bar Ass'n 2019) (adding that attorneys must say abreast of "knowledge and skills regarding existing and developing technology that

clear that the legal profession is paying attention to legal technology and law schools must as well.

E-discovery is another legal technology topic that must be taught in law schools. Some schools offer stand-alone e-discovery classes as electives, but the best way to integrate the topic into the curriculum is by teaching it in the context of evidence and civil procedure courses.[56] E-discovery software providers like Relativity[57] and Logikcull[58] offer free licenses to academic institutions complete with training guides and assignments to make it easier to show students what electronic discovery encompasses. Relativity even offers intensive training to professors at its annual conference, Relativity Fest, each year.[59]

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are reasonably necessary to provide competent representation"); N.H. RULES OF PROF'L CONDUCT r. 1.1 cmt. 8 (N.H. BAR ASS'N 2016) (adding to their rule that attorneys must stay reasonably informed of the benefits and risks of using technology as compared to a similarly situated attorney); N.Y. RULES OF PROF'L CONDUCT r. 1.1 cmt. 8 (N.Y. BAR ASS'N 2009) (including information on keeping knowledgeable on the benefits and risks associated with technology used to provide services to a client or to store or transmit confidential information); N.C. RULES OF PROF'L CONDUCT r. 1.1 cmt. 8 (N.C. BAR ASS'N 1997) (adding a requirement of keeping updated on changes of the law and being aware of the benefits and risks associated with the technology relevant to the attorney's practice); OKLA. RULES OF PROF'L CONDUCT r. 1.1 cmt. 6 (OKLA. BAR ASS'N 2016); (interpreting the comment differently and creating their own rule that states "[t]o maintain the requisite knowledge and skill, a lawyer should engage in continuing study and education. If a system of peer review has been established, the lawyer should consider making use of it in appropriate circumstances."); VA. RULES OF PROF'L CONDUCT r. 1.1 cmt. 6 (VA. BAR ASS'N 2018) (adding that "[a]ttention should be paid to the benefits and risks associated with relevant technology"). The following states have adopted the ABA's Model Rule and addition of Comment 8 in their own comments without any additional information: Alaska, Arizona, Arkansas, Connecticut, Delaware, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Massachusetts, Minnesota, Missouri, Montana, Nebraska, New Mexico, North Dakota, Ohio, Pennsylvania, Tennessee, Texas, Utah, Vermont, Washington, West Virginia, Wisconsin, and Wyoming. *See* Ambrogi, *supra* note 2. Currently, Alabama, California, Washington, D.C., Georgia, Hawaii, Maine, Maryland, Mississippi, Nevada, New Jersey, Oregon, Rhode Island, South Carolina, and South Dakota are the only states that have yet to adopt or create their own ethical rule as it relates to technology and the practice of law. *Id.*

56. Some examples of schools that offer a stand-alone e-discovery course include Cleveland-Marshall College of Law, Vanderbilt Law School, and University of Illinois at Chicago John Marshall Law School. *See infra* Appendix A.

57. *RelativityOne*, RELATIVITY, https://www.relativity.com/ (last visited July 30, 2019) (creating software that makes e-discovery more manageable, efficient, and insightful while working together to organize collected data on a single platform).

58. LOGIKCULL, https://www.logikcull.com/ (last visited July 30, 2019) (introducing a cloud-based e-discovery service with an intuitive search function that allows the user to utilize filters, build complex searches, automatically identify privileged documents, apply custom templates, and redact documents).

59. RELATIVITY FEST, https://relativityfest.com/ (last visited Dec. 2, 2019).

IV. ADAPTING AND UTILIZING ARTIFICIAL INTELLIGENCE AS A
TECHNOLOGY

Artificial intelligence is rapidly expanding in the legal world, and law schools need to be on the forefront of this knowledge. Knowing and understanding how artificial intelligence works can help educate students on how to use it to their best ability, rather than rely on it which can lead to shallow research skills. With the release of analytic products available on Westlaw, Lexis, and Bloomberg, it has become easier for law students and practicing attorneys alike to figure out what to expect and how to succeed in the court room. Beyond the major research platforms, there are also several legal research "robots" that exist that utilize and rely on artificial intelligence from start to finish on a research problem. Examples of this include ROSS Intelligence and CaseText's CARA AI, which will be discussed below.

A.   Legal Research Platforms and Artificial Intelligence

Litigation Analytics by Westlaw allows users to access data on judges, courts, attorneys, law firms, and case types.[60] This helps attorneys develop a case strategy by viewing historical insights and determining what judges have relied upon and used in prior cases similar to an attorney's current case.[61] The filter function allows users to narrow their results from twenty-three different motion types and shows a graph of how the judge typically decides on those motions.[62] This helps to gain insight into what a judge relies on and how a judge generally rules on a motion, which helps manage client expectations, including the likely outcome and potential cost. Easy-to-read visual charts identify more favorable venue options, what courts take less time to process certain types of cases, and what judges are more likely than not to rule in your favor based on prior rulings on a specific type of motion.[63] Beyond venue and judge information, Litigation Analytics also provides information on how judges deal with expert witnesses, including how often a judge accepts expert testimony, the result of expert challenges, and if a judge admits more testimony from plaintiff or defendant experts.[64]

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60. *Litigation Analytics*, THOMSON REUTERS, https://legal.thomsonreuters.com/en/products/westlaw/edge/litigation-analytics (last visited July 30, 2019).
61. *Id.*
62. *Id.*
63. *Id.*
64. *Id.*

Also helpful is the ability to gain insight into opposing counsel. Litigation Analytics can locate an attorney or entire law firm's docket history, outcomes, and motions filed.[65] This also assists in hiring decisions, as it can be used to determine if a potential new employee has actual experience in the field the firm is looking to hire in. Students can take all of this information and utilize it to help them when looking for jobs by determining if the firm they want to work for would be a good fit. Learning how to utilize this information in school will better help students once they become practicing attorneys in how to best serve their clients.

Next, LexisNexis launched Lexis Analytics last year, which includes a vast suite of tools that attorneys and students can use to their advantage in the practice of law.[66] Under the Analytics umbrella, Lexis provides regulatory, transactional, and litigation analytics.[67] Products such as Legislative Outlook and Intelligize help manage compliance issues, help track regulatory developments, predict when and which laws will pass, and assist in understanding what must be disclosed and how to disclose it.[68] Intelligize also gives attorneys the ability to access the latest precedent and clauses to assist in managing transactions more efficiently and effectively.[69] Tools that support an attorney's work in analyzing and comparing the content and frequency of other industry disclosures strengthen the negotiation and creation of better deals.[70]

Most comparable to Westlaw's Litigation Analytics are Lexis products Lex Machina and the newly released Context, which enable attorneys to better formulate winning legal strategies due to knowledge and insight into anticipated behaviors, potential outcomes, and the ability to deliver a powerful winning argument.[71] Context combines Ravel Law, Lexis Advance, and Lexis Litigation

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65. *Id.*
66. *Lexis Analytics*, LEXISNEXIS, https://www.lexisnexis.com/en-us/products/lexis-analytics.page (last visited July 30, 2019) (leading to hyperlinks for Lexis Advance, Context, Lex Machina, and Intelligize); *see also* Bob Ambrogi, *LexisNexis Launches Lexis Analytics, Putting a 'Stake in the Ground' to Claim the Legal Analytics Space*, LAWSITES (July 13, 2018), https://www.lawsitesblog.com/2018/07/lexisnexis-launches-lexis-analytics-putting-stake-ground-claim-legal-analytics-space.html (discussing LexisNexis's adoption of Intelligize, Lex Machina, and Ravel Law); *LexisNexis Launches Lexis Analytics, an Unmatched Suite of Advanced Tools Designed to Power Data-Driven Law*, LEXISNEXIS (July 12, 2018), https://www.lexisnexis.com/en-us/about-us/media/press-release.page?id=1531401324925985&y=2018.
67. Ambrogi, *supra* note 66.
68. *Intelligize*, LEXISNEXIS, https://www.intelligize.com/ (last visited July 30, 2019).
69. *Id.*
70. *Id.*
71. *See Lex Machina*, LEXISNEXIS, https://lexmachina.com/ (last visited July 30, 2019); *Context*, LEXISNEXIS, https://www.lexisnexis.com/en-us/products/context.page (last visited July 30, 2019).

Profile Suite to pull persuasive language and often cited case law from court opinions, challenges, and motions to assist attorneys in creating and arguing their case in front of a specific judge.[72] It also helps attorneys find and select the most credible expert witnesses by displaying which experts appear in front of specific judges, when the expert has been challenged, and why the expert's testimony may have been excluded or admitted.[73]

Last, Bloomberg Law also offers their own version of Litigation Analytics, including information on companies, law firms, judges, and attorneys.[74] Company analytics allows an individual to search for and see visually, through interactive charts, which firms are representing a specific company, the types of cases the company has been involved in, any legal history, and a jurisdictional breakdown of litigation.[75] Bloomberg has information on over 70,000 public companies and 3.5 million private companies.[76] It also allows for reports to be run to compare data.[77] The analytics for law firms include the companies a firm has represented, a portfolio of the types of cases a firm takes, and a firm's litigation history.[78] There is information on over 7,000 firms that can be filtered by date, company, case type, and jurisdiction to help identify legal trends.[79]

Much like Westlaw and Lexis, Bloomberg also provides information on judges, such as their history, most cited opinions, how they rule on motions and appeals, average length of cases before a judge, types of cases heard, and recent news.[80] Attorney analytics has information on over 100,000 attorneys, including contact infor-

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72. *Context*, *supra* note 71.

73. *Id.*

74. *Litigation Intelligence Center*: *Litigation Analytics*, BLOOMBERG L., https://www.bna.com/litigation-analytics/ (last visited July 30, 2019) (including information on legal data points for companies, law firms, judges, attorneys, and expert witnesses and using machine learning and Bloomberg's database of over 13 million court opinions to highlight "language critical to a court's reasoning, allowing [the user] to quickly find the best language to support legal arguments").

75. *Litigation Intelligence Center: Company Analytics*, BLOOMBERG L., https://help.bloomberglaw.com/docs/blh-030-litigation-intelligence-center.html#company-analytics (last visited July 30, 2019).

76. *Id.*

77. *Id.*

78. *Litigation Intelligence Center: Law Firm Analytics*, BLOOMBERG L., https://help.bloomberglaw.com/docs/blh-030-litigation-intelligence-center.html#law-firm-analytics (last visited July 30, 2019).

79. *Id.*

80. *Litigation Intelligence Center: Judge Analytics*, BLOOMBERG L., https://help.bloomberglaw.com/docs/blh-030-litigation-intelligence-center.html#judge-analytics (last visited July 30, 2019).

mation, firms the individual has worked for, the companies represented, the types of cases litigated, practice area, jurisdiction, and how many cases the attorney has argued.[81]

Bloomberg has also developed Points of Law, which incorporates over 13 million court opinions into highlights of popular and critical court holdings and important language.[82] It provides quick and efficient navigation between relevant and jurisdiction-specific areas of law, related points, and other cases from within the opinions themselves.[83] An interactive citation map allows the user to view the most cited cases, the relationships amongst the cases, and then how that area of law has changed over time.[84] Bloomberg connects from keyword searches to statements of law and provides a defined path that demonstrates the growth and changes within the law itself.[85]

B. Artificial Intelligence and Legal Research Robots

Beyond incorporating artificial intelligence into legal research platforms, there are some programs, called legal research robots, which compute and complete legal research processes without outside assistance.[86] The implications of this are alarming, as relying solely on a machine to understand legal terms and the connections between them may lead to ethical complications. However, since the technology now exists, it is imperative to be aware of it and how it functions, as to best educate others on its existence and how to adjust and incorporate it into a law school curriculum. Students should be aware that legal research robots exist, and how to have it assist and aid in the research, rather than have it complete the processes for them. Two of the largest legal research robots in the field right now are those provided by ROSS Intelligence and CaseText. Both will be discussed in depth below, to provide a basic understanding of their functions and then how to address questions and education about these robots when questions come up from students.

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81. *Litigation Intelligence Center: Attorney Analytics*, BLOOMBERG L., https://help.bloomberglaw.com/docs/blh-030-litigation-intelligence-center.html#attorney-analytics (last visited July 30, 2019).

82. *Litigation Intelligence Center: Points of Law*, BLOOMBERG L., https://help.bloomberglaw.com/docs/blh-030-litigation-intelligence-center.html#points-of-law (last visited July 30, 2019).

83. *Id.*

84. *Id.*

85. *Id.*

86. *See* ROSS INTELLIGENCE, https://rossintelligence.com/ (last visited July 30, 2019).

ROSS Intelligence has stated it is developing a legal research robot system for students, so the introduction of a robot that can complete legal research for students is coming.[87] Thus, it is imperative to understand how it works and how it functions, as to best teach students, if they choose to use it, to utilize it to their best ability and not rely on it to solely to complete legal research processes. ROSS Intelligence currently has the ability to analyze words using its own natural language processing algorithms, which then provides a relationship between time periods and jurisdiction, and automatically filters requests to the place and date of request.[88] Once ROSS has the proper date and jurisdiction, it works to retrieve case law that is most relevant to the queried search and detects and narrows down results to passages that are relevant, rather than a case as a whole.[89]

After it retrieves and finds the relevant passages and compiles the cases, it then ranks them with the best cases first.[90] ROSS's system has the ability to recognize context, syntax, and the meaning between legal documents.[91] Thus, it trains and learns to connect words and phrases that are similar but may not appear on its face to be similar due to the actual meaning of the words.[92] For example, ROSS knows to recognize and search for the differences between mere and gross negligence and that there are differences between a boy loving a girl and a girl loving a boy due to the grammatical structure of the sentence and how it is phrased despite the fact that the search terms are very similar.[93] ROSS also knows that there is a connection between duty and negligence, while a normal search engine would not know that the terms are closely related in a legal search.[94]

Next, CARA AI from CaseText provides a similar process.[95] CARA stands for Case Analysis Research Assistant and works to

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87. *See id.*
88. *See id.*
89. *Id.*
90. *Id.*
91. *Id.*
92. *Id.*
93. *Id.*
94. *Id.*
95. *See generally* CASETEXT, https://casetext.com/ (last visited July 30, 2019). Casetext is a legal research platform that uses CARA AI, the legal research robot that claims to do the research for you. *Id.*; *see also Casetext—CARA Legal & Fact Finder*, WELCOME AI, https:// www.welcome.ai/tech/legal/casetext-cara-legal-fact-finder (last visited Nov. 8, 2019) (introducing CARA AI and what services it can provide); Jean O'Grady, *CARA AI: Did Casetext Just "Drop Kick" Keywords out of the Legal Research Process?*, DEWEY B STRATEGIC (May 1, 2018), https://www.deweybstrategic.com/2018/05/cara-ai-casetext-just-drop-kick-keywords-legal-research-process.html (highlighting some of the functions of CARA AI).

help an attorney discover relevant cases and briefs based on materials uploaded into CARA's database.[96] Once uploaded into CARA's database, it takes the information in the memos, briefs, motions, and other legal documents, analyzes it, and returns relevant cases and statutes.[97] CARA works to match facts, legal issues, and jurisdiction and to return other relevant secondary sources that may be helpful in expanding research on a topic or issue.[98] CaseText and CARA's database do not just include primary sources such as case law and statutes but also provides briefs, articles, and a proprietary database of collected case holdings.[99]

These artificial intelligence-based research platforms are growing in comprehensive coverage and more are appearing every day. It is necessary to be on the forefront of these platforms and address them with students before they are out in the field and, not understanding the implications of using it, rely on it to their potential detriment. Although these robots claim to solidly complete a search query from start to finish, technology is not yet to the point where an attorney, with ethical obligations, can rely solely upon a robot's work.

V. A SURVEY OF TECHNOLOGY IN LAW SCHOOLS

The role of the lawyer has already changed with advances in technology, and it is inevitable that we are heading toward the age of artificial intelligence. The law offices of the very near future will probably include human, artificial, and hybrid legal talent. Legal technology, including artificial intelligence, is a reality in the workplace and it is time for more law schools to take notice.[100]

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96.   Robert Ambrogi, *Casetext Expands Its CARA Research Assistant, Adding Suggestions of Relevant Briefs*, LAWSITES (May 17, 2017), https://www.lawsitesblog.com/2017/05/casetext-expands-cara-research-assistant-adding-suggestions-relevant-briefs.html.

97.   *See Casetext—CARA Legal & Fact Finder*, *supra* note 95.

98.   *See* O'Grady, *supra* note 95.

99.   *See id.*

100.   Some law schools have already begun to take notice. *See* Tyler Roberts, *20 Most Innovative Law Schools*, PRELAW, Fall 2017, at 27, 27. For example, Stanford University Law school, Brigham Young University's J. Reuben Clark Law School, and Suffolk University Law School have all created design labs. *Id.* These labs focus on creating technology that will make the practice of law easier. *Id.* University of California Hastings College of Law, Albany Law School, and Vanderbilt University Law School have all created dual technology and entrepreneurship programs, with the intent to receive instruction on business development and the technologies that are behind it, so attorneys are best able to not just practice on their own, but help others who are conducting business on their own. *Id.* at 28, 30. Chicago-Kent College of Law at Illinois Institute of Technology, University of Washington School of Law, Northern Kentucky University, Salmon P. Chase College of Law, and University of Miami School of Law all created centers or concentrations on technology and business. *Id.* at 30-31. These centers or concentrations are meant to go beyond traditional classroom methods and instead are giving students hands-on experience in creating and using "technology

We conducted a survey of law school curricula to determine what schools were offering more than just law practice management courses that incorporated technology. A law practice management course that showcases legal technology is the most common course across law schools, but not all law schools even have a practice management legal technology course.[101]

From a brief survey of law school web sites, six schools offer classes in artificial intelligence.[102] These schools are Case Western, Santa Clara, Connecticut, Michigan State, University of Washington, and University of California Hastings.[103] Over seventy schools offer some sort of law and legal technology skills course that is similar to the law practice management course mentioned above.[104] Roughly fifteen schools offer some form of a legal technology certificate, with some tied to intellectual property.[105] Over forty schools have clinics or legal technology laboratories that incorporate the skills of using legal technology into the learning experience.[106] A summary of the survey results is offered in Appendix A.

VI. SUGGESTED UNIFORM STANDARD OF TECHNOLOGY COMPETENCE FOR LAW SCHOOLS

With states rapidly adopting legal technology competence standards, law schools must also adhere and conform to these standards. Although standards differ within each state, there are some basic technology skills that should be required in all schools to at least meet a basic level of technology competence. These skills can be worked into specific technology focused courses or integrated into already existing courses such as doctrinal and elective courses.[107]

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and business processes to solve legal issues." *Id.* The University of Oklahoma College of Law and Cornell Law School focus on technology and the digital tools available, such as cloud computing, Dropbox, and e-book publishing. *Id.* at 31-32. University of Minnesota Law School and Duke University School of Law both have great programs that focus on access to justice. *Id.* at 32. Elon University School of Law, Valparaiso University School of Law, and Regent University School of Law created new curriculums that focus on experiential learning. *Id.* at 32-33. Last, University of North Texas at Dallas College of Law, Mitchell Hamline School of Law, and Georgetown University Law Center have all worked to create innovative curriculums and programs to make students practice ready, including competency in legal technology. *Id.* at 33.

  101. *See infra* Appendix A.

  102. *Id.*

  103. *Id.*

  104. *Id.*

  105. *Id.*

  106. *Id.*

  107. *See* Ron Dolin & Stephanie Kimbro, *Course Correction: Teaching Tomorrow's Lawyers Legal Technology Skills*, PEER TO PEER MAG., Summer 2014, at 58, 58.

Some suggested skills include how the basic architecture of a law practice works, including the data structure, metrics, and how ethics rules apply to the use of technology, both for attorneys and clients. With the internet becoming so prevalent, law students should have a basic understanding of practice management systems, specifically those that rely on the cloud to keep their data accessible and protected. Law schools should inform students of a varied selection of technology vendors, products, and services, including how to work with and ensure the security of client portal technology. It is particularly important for law students to understand how to evaluate legal technology products and services upon graduating. Evaluation of products and services could encompass an entire course, as it would include topics like how to negotiate terms of the contract; how the product will be effective and assist in law practice; whether the functionality of the product works; what are the expected downtimes, upgrades, and service for the products; what are the file storage requirements; geographic location of the products servers; whether the product will require significant manpower to train and manage the inputs and outputs of the technology; hours of customer service support; costs of implementing the new technology; ease of use; and any ethical considerations.

Students should have an understanding of collaboration technologies, as they may be working simultaneously on a file with another associate or partner. Students should have a basic understanding of the technologies for client development, early case assessment, due diligence, marketing, and branding. Law schools should educate their students on how running a law office or firm works, including payment systems for online billing and fee collection. Last, law schools must teach some more advanced technologies to prepare graduates to practice in the artificial intelligence age, including document automation, e-discovery, cybersecurity, blockchain, artificial intelligence and its impact, data analytics, security infrastructure, coding, assembly tools, and smart contracts.

Law school curricula are very different, and thus, rather than laying out a specific uniform standard of technology compliance to be taught, the suggestions above can be implemented in a multitude of different ways. Schools can create individual technology courses based on the suggested topics, survey courses in law and technology, legal technology certificates, or integrate the topics across the curricula as suggested previously. Having these suggestions adopted by all law schools will ensure some conformity and a basic level of competence, similar to the ABA and state adoption of the

legal technology competency standards, among all law students as they graduate and become practicing attorneys.

VII. CONCLUSION

ABA Standard 1.1, Comment 8 is vague but leaves the door wide open for attorneys and law schools to define what it really means to be technologically competent. Law schools have a great opportunity to take advantage of Comment 8, and the state's unique adoption and interpretation of Comment 8, to teach law students about being technologically competent before they graduate and begin to practice. Incorporating legal technology skills and knowledge into the curriculum of law schools is the first step to better prepare students for the future of law practice and legal services. It could also lead to more opportunities for access to justice initiatives including better access to legal services for the underrepresented and easier access to attorneys and the legal system using advancements in technology. In addition, the adoption of new technologies in the legal profession has and will continue to lead to the creation of new jobs for law graduates.

From the topics and tools explored in this article, it is clear that it is relatively easy for law schools to introduce legal technology products and services. There are an array of products and services available from vendors in the legal technology field, with most willing to give access to their products to law schools for a free or reduced cost.[108] It is vital that law schools take advantage of this and incorporate the suggested standards to graduate students who are technologically familiar with what is out there to ensure they are competent as to how to utilize these technologies in the practice of law. The future of law practice depends on the integration of technology. Future lawyers must let go of their unwillingness to adopt technology and embrace the "ghost in the machine."

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108.   The ABA TECHSHOW exhibit hall is an excellent place to meet and learn from many legal technology vendors. The vendors exhibiting at the TECHSHOW are often willing to create academic licenses for librarians and law faculty. *See generally* TECHSHOW2020, https://www.techshow.com/ (last visited Apr. 28, 2020).

Appendix A: Summary of Technology Offerings at Law Schools

ARIZONA STATE UNIVERSITY SANDRA DAY O'CONNOR COLLEGE OF LAW:

Emerging technologies are rapidly transforming both the substance and practice of law in almost every area. Artificial intelligence, precision medicine, big data, autonomous systems, blockchain, 3D printers, drones, mobile apps are just some of the developments that raise novel legal issues with regard to regulation, liability, privacy, intellectual property, individual rights, and how lawyers and professionals practice every day. ASU Law is dedicated to training 21st century lawyers who will have unique expertise and competitive advantage in today's legal world.[1]

As science and technology assume central roles in our lives, economy, and legal system, the Center for Law, Science and Innovation is uniquely positioned as an innovator in teaching and applying science, technology and law. From robotics to genetics, neuroscience to nanotech, LSI's innovative projects and programs constantly evolve to address challenging governance and policy issues through cutting-edge curriculum, practical experience, conferences and workshops, research projects, and scholarship.[2]

UNIVERSITY OF CALIFORNIA BERKELEY SCHOOL OF LAW:

The Samuelson Clinic engages in client advocacy, policy-based research and academic scholarship in many areas of technology-related law. Faculty and students working with the Clinic have represented clients in legal matters before the Federal Communications Commission, the Federal Elections Commission, the Sixth, Ninth and 11th Circuit Courts of Appeals, the California Supreme Court, the U.S. Supreme Court, the California Assembly and Senate, and in technical standard-setting

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1. *Science and Technology Law,* ARIZ. ST. U. SANDRA DAY O'CONNOR C. LAW, https://law.asu.edu/focus-areas/law-technology (last visited Sept. 19, 2019).

2. *Center for Law, Science and Innovation*, ARIZ. ST. U. SANDRA DAY O'CONNOR C. LAW, https://law.asu.edu/centers/law-science-innovation (last visited Jan. 21, 2020).

matters before the Internet Engineering Task Force and the Organization for the Advancement of Structured Information Standards. Samuelson Clinic students and faculty have written and contributed to reports on behalf of clients, on matters of voter privacy, digital rights management technology, the relation of intellectual property laws to the manufacture and import of HIV anti-retroviral medications, the privacy issues in electronic benefit systems used to deliver financial aid to the poor, and the effect of the Digital Millennium Copyright Act on speech, competition and innovation. In addition, the Samuelson Clinic has collaboratively developed an online resource center, Chilling Effects, to assist the public in dealing with a variety of legal issues arising on the internet, including copyright, trademark, and patent infringement. For further information on these projects and copies of some of the reports and briefs produced by the Clinic, please explore this section.[3]

BOSTON UNIVERSITY SCHOOL OF LAW:

The BU/MIT Technology Law Clinic (formerly known as the BU/MIT Technology & Cyberlaw Clinic) is a *pro bono* service for students at MIT and BU who seek legal assistance with their innovation-related academic and extracurricular activities. Boston University School of Law students, under attorney supervision, provide counseling and representation to students with their academic- and innovation-related projects, activities, experiments, and ventures.

The TLC is part of the BU/MIT Entrepreneurship, Intellectual Property & Cyberlaw Program, a collaboration between Boston University School of Law and the Massachusetts Institute of Technology. Along with its companion clinic—the Startup Law Clinic, which provides legal advice to startups coming out of MIT and BU—BU Law students are given an opportunity to work on cutting-edge issues of technology law, while students at both universities can obtain legal guidance and assistance with their research.[4]

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3. *Projects and Cases,* BERKELEY L. U. CALIFORNIA, https://www.law.berkeley.edu/experiential/clinics/samuelson-law-technology-public-policy-clinic/projects-and-cases/ (last visited Jan. 21, 2020).

4. *Protecting Innovation by Supporting Student Research and Discovery,* BU SCH. LAW, https://sites.bu.edu/techlaw/ (last visited Sept. 21, 2019).

CALIFORNIA WESTERN SCHOOL OF LAW SAN DIEGO:

The center promotes public education, specifically the education of young lawyers, in the fast-growing field of telecommunications law. Students can graduate prepared for the cutting edge of entrepreneurship, transactional law, transborder licensing, intellectual property, informational technology, biofuels, and telecommunications. In addition, the Center partners with government agencies land organizations to provide students with practical experience in law, policy, and business.[5]

YESHIVA UNIVERSITY BENJAMIN N. CARDOZO SCHOOL OF LAW:

The Tech Startup Clinic provides high-potential startups pro bono legal services. The clinic guides startups through entity formation, funding questions, intellectual property issues, commercialization strategies, and operational and employment matters.

Students participating in the clinic develop practical skills. They directly counsel and work with startup founders. Students draft contracts, legal memoranda and work on policy issues. After clinic participation, students receive assistance finding externships or internships in-house with New York City startups.[6]

CASE WESTERN RESERVE UNIVERSITY SCHOOL OF LAW:

The Spangenberg Family Foundation, a Dallas-based philanthropic organization established by the family of Case Western Reserve University School of Law alumnus Erich Spangenberg, committed $3 million to endow the university's Intellectual Property (IP) Center. The newly endowed Spangenberg Center for Law, Technology & the Arts will allow more opportunities for students to gain interdisciplinary, practical experience in the rapidly growing field of IP law. The pledge also provides faculty members and visiting fellows more resources to participate in important IP research.

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5. *Clinics and Programs: Intellectual Property Technology and Telecommunications Law Center*, CAL. W. SCH. LAW, https://www.cwsl.edu/clinics-and-programs (last visited Sept. 26, 2019).
6. *Tech Startup Clinic*, YESHIVA U. BENJAMIN N. CARDOZO SCH. LAW, https://cardozo.yu.edu/tech-startup-clinic (last visited Jan. 21, 2020).

The hallmark of the IP Center is Fusion, a program in which JD, MBA and PhD science students collaborate to explore a new technology, build a business strategy around it and provide the legal assistance—including IP protection—to commercialize the venture. Fusion students then transition into the school's new IP Venture Clinic, where they handle real cases and represent startup ventures, mostly in Northeast Ohio. The multi-million dollar commitment, among the largest the law school has ever received, will allow the clinic to expand its reach outside the region.[7]

ILLINOIS INSTITUTE OF TECHNOLOGY CHICAGO-KENT COLLEGE OF LAW:

With exponential development of technologies, the need for professionals trained at the complex intersection of science and law is greater than ever. The insatiable expansion of technology across an intricately connected globe raises new questions of ethics and legality. The Institute for Science, Law & Technology (ISLAT), a not-for-profit, cross-disciplinary collaborative effort at the Illinois Institute of Technology, trains leaders and provides in-depth, thoroughly-researched answers to the toughest issues that arise at the edges of science and law.[8]

LL.M. Program in Legal Innovation + Technology, which leads to an Master of Laws (LL.M.) degree in Legal Innovation and Technology, provides a one-year, full-time course of study (24 minimum total credit hours) with an emphasis on how emerging technologies, big data, and innovation in the legal industry enhance and impact the practice of law and the delivery of legal services. The program may also be taken on a part-time basis for U.S. citizens or U.S. permanent residents.[9]

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7. *Spangenberg Family Foundation to Endow Intellectual Property Law Center at School of Law*, DAILY (Sept. 5, 2014), https://thedaily.case.edu/spangenberg-family-foundation-to-endow-intellectual-property-law-center-at-cwru-school-of-law/.

8. *Institute for Science, Law and Technology*, CHI.-KENT C.L. ILL. INST. TECHNOLOGY, https://www.kentlaw.iit.edu/institutes-centers/institute-for-science-law-and-technology (last visited Sept. 26, 2019).

9. *LL.M. Program in Legal Innovation + Technology*, CHI.-KENT C.L. ILL. INST. TECHNOLOGY, https://www.kentlaw.iit.edu/academics/llm-programs/legal-innovation-technology (last visited Sept. 26, 2019).

CLEVELAND STATE UNIVERSITY CLEVELAND-MARSHALL COLLEGE OF LAW:

Cleveland-Marshall's innovative Cybersecurity and Data Privacy concentration takes an integrative approach to education, preparing students to understand the technical and business dimensions of cybersecurity and privacy as well as the legal and regulatory frameworks.[10]

A structured slate of courses and hands-on learning opportunities prepare students to work in the fast-growing fields of cybersecurity and data privacy. The increasing number and sophistication of cyberattacks on private and public organizations combined with a growing and complex array of data security and privacy regulations at the state, national and international levels has made data security and privacy protection one of the hottest new fields in the legal profession. Traditional law firms are adding or expanding data security and privacy practices and entirely new job categories requiring legal expertise are emerging as more organizations recognize the need to proactively manage their data security and compliance risks. The Cybersecurity and Data Privacy Concentration is a key component of the Center for Cybersecurity and Privacy Protection housed at Cleveland-Marshall. The Center takes a cutting-edge, interdisciplinary approach to address privacy and cyber-risk management concerns.[11]

UNIVERSITY OF COLORADO BOULDER LAW SCHOOL:

The Samuelson-Glushko Technology Law & Policy Clinic (TLPC) offers students an interdisciplinary, hands-on opportunity to develop and execute strategic advocacy initiatives aimed at making an impact on cutting-edge technology policy issues in the public interest. Legal practice before administrative bodies is a critical component of many attorneys' practices. Under the supervision of the TLPC Director, TLPC students advocate before state and federal administrative agencies such as the Federal Communications Commission, Federal Trade Commission, U.S. Copyright Office, U.S. Patent and Trademark Office, Colorado Public Utilities Commission, and federal

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10. *Cybersecurity and Data Privacy Certificate*, CLEV.-MARSHALL C. LAW, https://www.law.csuohio.edu/academics/curriculum/concentrations/cybersecurityprivacy (last visited Jan. 21, 2020).

11. *Id.*

appellate courts on a variety of real telecommunications, intellectual property, privacy, accessibility, and other policy and regulatory matters with substantial technology dimensions.[12]

Colorado Law has developed one of the nation's most comprehensive legal programs oriented around information technology. Technology lawyers address interesting policy challenges and novel legal issues, and rank among the most satisfied within the legal profession. Colorado Law is the right place at the right time for those interested in exploring the frontiers of entrepreneurial law, technology policy, and intellectual property.[13]

THE CATHOLIC UNIVERSITY OF AMERICA COLUMBUS SCHOOL OF LAW:

LTI offers an enhanced curriculum to students interested in exploring the many important legal questions and policy debates surrounding evolving technologies. The curriculum will equip students with a well-rounded foundation while also allowing them to pursue a particular area of interest, including communications / data privacy law and intellectual property law. LTI students will gain valuable practical experience through externships in government, industry, public interest organizations, and law firms.[14]

To earn an LTI certificate, students must complete a rigorous, yet flexible, course of study that provides students with a well-rounded foundation as well as specialized training in communications/data privacy law or intellectual property law.[15]

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12.   *Samuelson-Glushko Technology Law & Policy Clinic*, U. COLO. BOULDER COLO. L., https://www.colorado.edu/law/academics/clinics/samuelson-glushko-technology-law-policy-clinic (last visited Sept. 26, 2019).

13.   *Technology and Intellectual Property Law*, U. COLO. BOULDER COLO. L., https://www.colorado.edu/law/academics/areas-study/technology-and-intellectual-property-law (last visited Sept. 26, 2019).

14.   *Law and Technology Institute (LTI)*, CATH. U. AM. COLUMBUS SCH. LAW, https://www.law.edu/academics/certificate-programs/law-and-technology-institute/index.html (last visited Sept. 26, 2019).

15.   *Curriculum (LTI)*, CATH. U. AM. COLUMBUS SCH. LAW, https://www.law.edu/academics/certificate-programs/law-and-technology-institute/law-technology-institute-curriculum.html (last visited Sept. 26, 2019).

DEPAUL UNIVERSITY COLLEGE OF LAW:

The TIP Field Clinic, a successor to one of the first intellectual property clinics in the country, will enable you to gain practice experience in IP or Technology law. As the law school's first Field Clinic, students will work off-site with law firms and partner organizations specifically chosen for their ability to expose you to intellectually challenging and exciting legal issues. Clients could include entrepreneurs, musicians, artists, authors and inventors who need assistance in protecting their creations and businesses. The TIP Field Clinic is an integral component of the College of Law's nationally ranked Intellectual Property program.[16]

EMORY UNIVERSITY LAW SCHOOL:

Technological Innovation: Generating Economic Results, or TI:GER, is a nationally recognized collaboration between Emory Law and the Georgia Institute of Technology. TI:GER brings together graduate students in law, business, science, and engineering to work on start-up projects to transform highly promising research into economically viable projects.[17]

The TI:GER program combines classroom instruction, team-based activities, externships, and networking opportunities into a total educational experience. Emory Law students provide a crucial legal perspective to their TI:GER teams, helping bring to the forefront ideas and inventions that can change the world and save lives.[18]

GEORGETOWN LAW:

The Communications & Technology Law Clinic works on cases involving the intersection of law and technology. Virtually every aspect of media and telecommunications law has been affected by the digital revolution. By representing non-profit organizations, the clinic works to ensure that technologies are

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16. *Technology Intellectual Property Clinic (TIP Field Clinic)*, DEPAUL C. LAW, https://law.depaul.edu/academics/experiential-learning/legal-clinics/technology-intellectual-property/Pages/default.aspx (last visited Sept. 26, 2019).

17. *TI:GER® Program*, EMORY U. SCH. LAW, http://law.emory.edu/academics/experiential-and-practical-training/technological-innovation-tiger.html (last visited Jan. 21, 2020).

18. *Id.*

used to serve rather than harm underrepresented groups, including people of color, persons with disabilities, and children.

The clinic represents nonprofit organizations working to adopt, enforce, and defend laws and policies that promote the use of technologies to serve the public interest. The clinic practices before the Federal Communications Commission (FCC), the Federal Trade Commission (FTC), other federal agencies, and federal appellate courts. The clinic has existed as part of Georgetown's Institute for Public Representation since 1980.[19]

The Institute for Technology Law & Policy at Georgetown Law is training the next generation of lawyers and lawmakers with deep expertise in technology law and policy. The Institute provides a uniquely valuable forum in Washington, DC for policymakers, academics and technologists to discuss the most pressing issues and opportunities in technology law today.[20]

HARVARD LAW SCHOOL:

The Cyberlaw Clinic, based at Harvard's Berkman Klein Center for Internet & Society, provides high-quality, pro-bono legal services to appropriate clients on issues relating to the Internet, new technology, and intellectual property. Students enhance their preparation for high-tech practice and earn course credit by working on real-world litigation, client counseling, advocacy, and transactional / licensing projects and cases. The Clinic strives to help clients achieve success in their activities online, mindful of (and in response to) existing law.[21]

HOFSTRA UNIVERSITY MAURICE A. DEANE SCHOOL OF LAW:

The Law, Logic & Technology Research Laboratory is dedicated to inventing and making available tools that make legal practice and legal education more effective and more efficient. This effort includes: First, combining our logic investigations with state-of-the-art technology to create tools that can increase the efficiency of decision-making processes in society;

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19. *Communications & Technology Law Clinic (IPR)*, GEO. L., https://www.law.georgetown.edu/experiential-learning/clinics/communications-technology-law-clinic-ipr/ (last visited Oct. 3, 2019).

20. *Institute for Technology Law & Policy*, GEO. L., https://www.georgetowntech.org/ (last visited Oct. 3, 2019).

21. *Cyberlaw Clinic*, HARV. L. SCH., https://hls.harvard.edu/dept/clinical/clinics/cyberlaw-clinic/ (last visited Oct. 3, 2019).

second, creating methods for training legal decision-makers and legal practitioners, as well as researchers and students, in the use of logic skills; and third, developing management structures for coordinating teams of researchers, and for ensuring the quality of their research products.[22]

INDIANA UNIVERSITY BLOOMINGTON MAURER SCHOOL OF LAW:

Although cybersecurity issues are often thought of as primarily technical, law and policy are critically important skills in this arena. Cybersecurity law and policy are only beginning to develop and the demand for cybersecurity professionals continues to increase in the private and public sectors at the local, national, and international levels. A few examples illustrate the breadth and need for individuals with a law and policy background in cybersecurity. Consumer risks are created by the Internet of Things. Safety risks are created by self-driving vehicles. Democratic risks are created by various threats to elections. National security risks are created by threats to technology tied to critical infrastructure.[23]

To address these risks, society requires not only individuals with technological expertise, but also individuals with cybersecurity law and policy background to help establish the proper legal frameworks for responding to the ways that technology is disrupting existing norms and creating new challenges. Cybersecurity law and policy frameworks in this ever-shifting field.[24]

UNIVERSITY OF ILLINOIS AT CHICAGO JOHN MARSHALL LAW SCHOOL:

No matter what type of law you are interested in or what direction your career make take, your clients and you will be confronted by issues involving technology and privacy every day. Knowing the law and underlying policies is crucial to your employability. Our joint JD/LLM in Information Technology & Privacy Law offers current John Marshall JD candidates an

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22. *Law, Logic & Technology Research Laboratory*, HOFSTRA L., https://law.hofstra.edu/facultyandresearch/centers/lltlab/ (last visited Jan. 21, 2020).

23. *Graduate Certificate in Cybersecurity Law and Policy*, IND. U. BLOOMINGTON MAURER SCH. LAW, https://law.indiana.edu/academics/cyber-certs/law-and-policy.shtml (last visited Jan. 28, 2020).

24. *Id.*

opportunity to develop specialized knowledge and gain a marketable expertise in today's practice environment.[25]

LOYOLA UNIVERSITY NEW ORLEANS COLLEGE OF LAW:

The College of Law offers a Law, Technology, and Entrepreneurship certificate to meet the increased demand in the job market for trained lawyers who advise entrepreneurs. Law students completing the certificate can also graduate equipped with the skills needed to become entrepreneurs themselves.[26]

MARQUETTE UNIVERSITY LAW SCHOOL:

The nationally-recognized Marquette University Intellectual Property and Technology Program fosters a rich learning environment dedicated to understanding intellectual property and technology law.[27]

The program is anchored by students who are committed to becoming intellectual property lawyers. Students choose from over 15 different courses in the program, permitting them to develop course sequences tailored to their individual interests.[28]

MICHIGAN STATE UNIVERSITY COLLEGE OF LAW:

Historically, attempting to increase access to legal services has meant pouring resources into existing systems. But that approach has not worked. More recently, the focus has shifted to technology. We also leverage technology, but recognize that poorly defined processes, standards, and metrics lead to ineffective implementation. Understanding existing processes and how they produce (or fail to produce) value for clients creates a pathway to improving legal-service delivery. This way, we can measurably improve access with fewer resources.

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    25.   *Center for Intellectual Property, Information & Privacy Law*, UIC JOHN MARSHALL L. SCH., https://jmls.uic.edu/academics/ip-privacy/jd-llm-it-privacy-law.php (last visited Oct. 3, 2019).
    26.   *Certificate in Law Technology and Entrepreneurship*, LOY. U. NEW ORLEANS C. LAW, www.law.loyno.edu/certificate-law-technology-and-entrepreneurship (last visited Oct. 3, 2019).
    27.   *Intellectual Property & Technology Law*, MARQ. U. L. SCH., https://law.marquette.edu/programs-degrees/intellectual-property-technology-law (last visited Oct. 3, 2019).
    28.   *Id.*

The Legal RnD Lab at MSU Law's Center for Law, Technology & Innovation ("CLTI") believes that innovation through legal research and development will bring the law to everyone.[29]

MITCHELL HAMLINE SCHOOL OF LAW:

As the world becomes more digitally interconnected and technologically driven, businesses and consumers are increasingly vulnerable to cyber threats. Regardless of your industry, the security of sensitive information is a priority. This program will teach you more than how to maintain a secure system. You will also learn how to effectively manage risk, and how to quickly and decisively respond to threats from some of the nation's foremost cybersecurity experts.[30]

NEW YORK LAW SCHOOL:

The Innovation Center for Law and Technology is a cross-disciplinary program that addresses technology's out-sized impact on law and society. Our doctrinal fields of study include intellectual property (including copyright, patent, and trademark law), privacy, data security, and internet law. The Innovation Center also focuses on legal and policy issues in information technology, fashion, media, entertainment, publishing and associated industries.[31]

NEW YORK UNIVERSITY LAW:

Territorial boundaries and distinctions between domestic and international, private and public, technical and political are becoming increasingly more blurred by digital interconnectivity, proliferation and collection of data, increasing prominence of transnational technology companies in public domains, technological innovations such as artificial intelligence and blockchain pioneered by private actors but increasingly used by public bodies for a wide range of purposes, and creation of digitally

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29. *Center for Law, Technology & Innovation*, MICH. ST. U. C. LAW, https://www.law.msu.edu/lawtech/index.html (last visited Oct. 3, 2019).

30. *Cybersecurity and Privacy Law Certificate*, MITCHELL HAMLINE SCH. LAW, https://mitchellhamline.edu/cybersecurity/ (last visited Oct. 16, 2019).

31. *Innovation Center for Law and Technology*, N.Y. L. SCH., https://www.nyls.edu/innovation-center-for-law-and-technology/ (last visited Oct. 3, 2019).

and physically inter-connected spaces that facilitate flows of funds, goods, services, and information.[32]

Technological advances are driving greater social, economic, and political change—from access to information, health care, and entertainment to increased surveillance by law enforcement agencies to impacts on the environment, education, and commerce. These advances, however, raise increasingly critical and complex questions about privacy, consumer rights, free speech, and intellectual property are becoming increasingly critical and complex. The Technology Law and Policy Clinic is a semester-long, 6-credit course that focuses on the representation of individuals, nonprofits, and consumer groups who are engaged with these questions from a public interest point-of-view. It involves a mixture of fieldwork and seminar discussion ranging from technology law and policy to the ethical challenges of representing public-interest organizations.[33]

NORTHERN KENTUCKY UNIVERSITY CHASE COLLEGE OF LAW:

The Law + Informatics Institute provides critical interdisciplinary research, coursework, and community outreach on issues involving media and information systems and emerging technologies across all areas of law. The Institute works with all fields within the legal profession to explore the legal and societal consequences resulting from creation, acquisition, aggregation, security, manipulation, and exploitation of data.

The Law + Informatics Institute explores the collection of rules, principles and regulations involving the collection, classification, storage, retrieval, and dissemination of recorded knowledge. The Institute encourages thoughtful public discourse on the regulation and use of information systems, business innovation, and the development of best business practices regarding data systems in business, health care, media, entertainment, and the public sector.[34]

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32. *Guarini Global Law & Tech*, N.Y.U. L., https://www.guariniglobal.org/ (last visited Oct. 3, 2019).

33. *Technology Law and Policy Clinic*, N.Y.U. L., https://www.law.nyu.edu/academics/clinics/semester/technologylawandpolicy (last visited Oct. 3, 2019).

34. *Law + Informatics Institute*, N. KY. U., https://chaselaw.nku.edu/experiences/centers-and-institutes/lawinformatics.html (last visited Oct. 3, 2019).

NOVA SOUTHEASTERN UNIVERSITY SHEPARD BROAD COLLEGE OF LAW:

The NSU Shepard Broad College of Law offers a concentration in Intellectual Property, Technology and Cybersecurity Law, permitting students to obtain recognition for their concentration in intellectual-property-law-related studies. Completion of the requirements for this concentration will lead to a notation on the qualified student's transcript and a certificate suitable for framing indicating the student's focus, interest and specialized training in this area.[35]

OHIO STATE UNIVERSITY LAW SCHOOL:

Due to recent scientific and technological advances, lawyering in the digital age has become increasingly important and complex.

Students interested in intellectual property may study the principal forms of protection: copyright, trademark, and patent law. Moritz also offers multiple advanced intellectual property courses focused on issues related to the Internet and technology and protecting both copyright and ownership of material as well as privacy.[36]

SANTA CLARA UNIVERSITY LAW:

Our intellectual property and high tech curriculum is one of the largest in the country. Due to its breadth and depth, students can create a highly personalized course of study.[37]

SOUTHERN METHODIST UNIVERSITY DEDMAN SCHOOL OF LAW:

SMU Dedman School of Law's Tsai Center for Law, Science and Innovation is a research-focused academic center exploring how law and policy affect scientific research and discovery as well as the development and commercialization of new technol-

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35. *JD Intellectual Property, Technology and Cybersecurity Law Concentration*, NOVA SE. U. SHEPARD BROAD C. LAW, https://www.law.nova.edu/jd-program/ip-tech-cybersecurity-law.html (last visited Oct. 3, 2019).

36. *Intellectual Property and Technology Law*, OHIO ST. U. MORITZ C. LAW, https://moritzlaw.osu.edu/admissions/jd/areas-of-study/intellectual-property-and-technology-law/ (last visited Oct. 3, 2019).

37. *About the High Tech Law Institute*, SANTA CLARA L., https://law.scu.edu/hightech/ (last visited Oct. 3, 2019).

ogies. The Tsai Center also explores the converse—how scientific discoveries and new technologies affect ethics, society, private industry, and governmental institutions and agencies. The Tsai Center presents education programming, facilitates academic research, and provides educational opportunities that engage students and the academic and business communities interested in law, science and innovation. In short, the Tsai Center exists to engage the public, scholars, students, scientists, policy.[38]

STANFORD LAW SCHOOL:

The Stanford Program in Law, Science & Technology (LST) combines the resources of Stanford Law School—including renowned faculty experts, alumni practicing on the cutting edge of technology law, technologically savvy and enthusiastic students, and a location in the heart of Silicon Valley—to address the many questions arising from the increasingly prominent role that science and technology play in both national and global arenas. The program acts to help students, legal professionals, businesspeople, government officials, and the public at large to identify those questions and find innovative answers to them.[39]

SUFFOLK UNIVERSITY BOSTON LAW SCHOOL:

The Legal Innovation and Technology Concentration is designed to prepare students for this new and evolving legal marketplace by providing students with the knowledge and skill set that 21st century lawyers need.[40]

The Legal Innovation and Technology (LIT) Lab is an experiential program combining the vision of our Legal Innovation and Technology Institute with the pedagogy and legal services mission of our Clinical Programs. The Lab allows students to work as part of a consultancy and research & development

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38. *About the Tsai Center*, SMU DEDMAN SCH. LAW, https://www.smu.edu/Law/Centers/Tsai-Center-for-Law-Science-and-Innovation/AbouttheTsaiCenter (last visited Jan. 21, 2020).

39. *Stanford Program in Law, Science & Technology*, STANFORD U. L. SCH., https://law.stanford.edu/stanford-program-in-law-science-technology/#slsnav-programs-and-centers (last visited Jan. 21, 2020).

40. *Legal Innovation & Technology*, SUFFOLK U. BOS. L. SCH., https://www.suffolk.edu/law/academics-clinics/what-can-i-study/legal-innovation-technology (last visited Oct. 3, 2019).

(R&D) shop focused on legal tech and data science work. The Lab serves both non-profit and for-profit clients, with the latter subsidizing the former, when appropriate. Active areas of research involve, but are not limited to, the construction of expert systems/guided interviews (e.g., chatbots) and algorithmic codification of tacit knowledge (i.e., training computers to replicate human decisions).[41]

SYRACUSE UNIVERSITY COLLEGE OF LAW:

For more than 25 years, the Innovation Law Center (ILC) [formerly the Technology Commercialization Law Center] has offered a unique, interdisciplinary experiential learning program for students interested in the commercial development of new technologies.[42]

UNIVERSITY OF CALIFORNIA BERKELEY LAW:

The Samuelson Law, Technology & Public Policy Clinic is the leading clinical program in technology law and the public interest. Through hands-on, real-world work, the Clinic trains law and graduate students in public interest work on emerging technologies, privacy, intellectual property, free speech, consumer and citizen interests in technology deployment and design, creativity, innovation, and other information policy issues. In this work, the Clinic pursues a dual mission: to support the public's interest in technology law and policy, and to teach law students through real-world work, with live clients, on cutting-edge policy issues.[43]

UNIVERSITY OF CALIFORNIA HASTINGS COLLEGE OF THE LAW SAN FRANCISCO:

LexLab, at UC Hastings Law, is an innovation hub for emerging legal technologies. We are building three areas of focus: building a concentration/ certificate in law and technology for students; setting up an incubator for legal tech startups on

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41.   *Legal Innovation & Technology Lab*, SUFFOLK L. SCH., https://suffolklitlab.org/ (last visited Oct. 3, 2019).
42.   *Innovation Law Center*, SYRACUSE U. C. LAW, http://law.syr.edu/academics/centers-institutes/new-york-state-science-and-technology-center-technology-commercializatio-la/ (last visited Oct. 3, 2019).
43.   *Samuelson Law, Technology & Public Policy Clinic*, BERKELEY L. U. CALIFORNIA, https://www.law.berkeley.edu/experiential/clinics/samuelson-law-technology-public-policy-clinic/ (last visited Oct. 3, 2019).

campus, a space where our students and alumni can interact with entrepreneurs and provide support in various ways; and hosting regular large and small scale community events.[44]

THE UNIVERSITY OF AKRON SCHOOL OF LAW:

The certificate program is open to all JD students. To enter the program a student must take the Fundamentals of Intellectual Property course at the first available time in the student's schedule (usually first semester of 2nd year for full-time/3rd year for part-time). A student may be admitted provisionally to a certificate program pending meeting this prerequisite. A student must meet with the IP Center Director for course planning, and obtain signatures approving the application toward admission into the Certificate program.[45]

UNIVERSITY OF BALTIMORE SCHOOL OF LAW:

The Center for the Law of Intellectual Property and Technology (CLIPT) was founded in to promote research, education and legal practice in three intertwined areas of law. One aspect of CLIPT's focus is intellectual property law, including copyright law, patent law, trade secret law and trademark law. These areas of law support the discovery of new inventions, the production of new creative works and the generation of new products, services and businesses. The second facet of CLIPT's focus is to examine and publicize legal issues stemming from the use of cutting-edge technologies. These issues often cut across multiple areas of law. For example, issues related to DNA are important in criminal law, property law, privacy law and patent law. Finally, CLIPT supports the use of technology to understand the law through endeavors such as the Supreme Court Mapping Project.[46]

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44. *About Us*, LEXLAB UC HASTINGS C.L.S.F., http://lexlab.uchastings.edu/ (last visited Jan. 21, 2020).

45. *Certificates at Akron Law: Certificate in Intellectual Property Law*, U. AKRON SCH. LAW, https://www.uakron.edu/law/curriculum/certificates.dot#ip (last visited Oct. 3, 2019).

46. *Center for the Law of Intellectual Property and Technology*, U. BALT., http://law.ubalt.edu/centers/clipt/index.cfm (last visited Oct. 3, 2019).

UNIVERSITY OF CALIFORNIA IRVINE LAW:

In the UCI Intellectual Property, Arts, and Technology Clinic, students work to support innovation and expression in the digital age by advising and representing clients on a range of matters dealing with copyright, patent, privacy and media law, among other areas. Clients include artists, entrepreneurs, filmmakers, nonprofits, policymakers, and scientists. Through this work, clinic students gain important legal skills while examining the role of the public interest in intellectual property and technology law.[47]

UNIVERSITY OF CONNECTICUT SCHOOL OF LAW:

The Program in Intellectual Property at the University of Connecticut prepares students to participate in this new information economy. It draws upon the strength of the Law School as the leading public law school in the Northeast United States; the school's commitment to international law, financial services and insurance law; and New England's and Connecticut's significant place in the new economy.[48]

UNIVERSITY OF DAYTON SCHOOL OF LAW:

The University of Dayton School of Law was ranked among the nation's top 30 law schools in the country when it comes to legal technology in the fall 2018 issue of the *National Jurist*. UDSL was ranked 16th in the country.

The School of Law recognized early on the importance of Legal Technology to law students, starting its Program in Law and Technology more than 25 years ago. The program was one of the first of its kind in the country.[49]

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47. *Intellectual Property, Arts, and Technology Clinic*, UCI L., https://www.law.uci.edu/academics/real-life-learning/clinics/ipat.html (last visited Oct. 3, 2019).

48. *Intellectual Property Certificate (JD)*, U. CONN. SCH. LAW, https://www.law.uconn.edu/academics/jd-certificate-programs/intellectual-property-certificate-jd# (last visited Oct. 3, 2019).

49. *University of Dayton School of Law Among Best Schools for Legal Technology*, U. DAYTON (Feb. 27, 2019), https://udayton.edu/blogs/daytondocket/2018/11/best-tech-schools.php.

UNIVERSITY OF DETROIT MERCY LAW:

The Intellectual Property Law Institute (I.P.L.I.) was created in 1987 through the efforts of the State Bar of Michigan and the law faculties of the University of Detroit Mercy, Wayne State University and the University of Windsor. IPLI is dedicated to providing basic knowledge and advanced legal education and furthering knowledge, scholarship and research in the law governing the richly diverse fields of intellectual property: patents, copyrights, trademarks, trade secrets and know-how, computers and related technology, communications and media, entertainment, technology transfer, trade regulation and the arts.[50]

UNIVERSITY OF HOUSTON LAW CENTER:

The healthcare industry is in a period of profound, technology-driven restructuring sparked by game-changing advances in the life sciences and information technology, creating novel legal challenges in diverse areas like data privacy, creation of sustainable data infrastructures to ensure the safety of genomic technologies, and clinical translation of precision medicine. The UH Center for Biotechnology and Law, under the direction of Dr. Barbara J. Evans, Ph.D., J.D., LL.M., was established in 2007 as part of the Health Law & Policy Institute. In 2014, it expanded its scope to encompass non-medical biotechnologies such as genetically modified foods and industrial biotechnologies.

Since 2007, the center has developed several new biotechnology-themed courses to position UH Law grads for success in the expanding local and national biotechnology job markets. All biotechnology-related courses are practice-oriented and are cross-listed with the Law Center's leading programs Health Law, Intellectual Property and Information Law (IPIL), and Energy, Environment, and Natural Resources (EENR), making it possible for students to develop key skills in life sciences and biotech law while pursuing J.D. or LL.M. programs in any of those fields. Examples of career paths taken by past graduates of UH's biotechnology-related courses include working in U.S. and international law firms representing pharmaceutical and

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50. *Intellectual Property Law Institute (IPLI)*, DET. MERCY L., http://www.law.ud-mercy.edu/students/student-services/IPLI%202017-2018%20Final.pdf (last visited Oct. 3, 2019).

medical device industry clients, in the Silicon Valley health information technology/biotechnology industry, in academic research institutions, and in the research administration, privacy compliance, technology licensing, and legal departments of leading healthcare institutions and academic medical centers in Texas. The biotechnology field is quite diverse and offers opportunities for students with non-scientific backgrounds, such as bioethics and liberal arts, as well as for those with prior interests in engineering and sciences.[51]

UNIVERSITY OF IDAHO COLLEGE OF LAW:

The law of intellectual property exists to promote technological innovation and cultural creativity, which are major drivers of both domestic and global economic growth. According to the United States Patent and Trademark Office, intellectual property intensive industries accounted for 38% of gross domestic product (GDP), 52% of merchandise exports, and 27.9 million jobs in 2016. Students interested in studying intellectual property and technology law at the University of Idaho can take a range of upper-division courses designed to prepare them for legal careers in this dynamic and growing practice area.[52]

THE UNIVERSITY OF KANSAS SCHOOL OF LAW:

The Media, Law and Technology Certificate program gives students an opportunity to advance their knowledge and skill in the diverse legal subjects that are of concern in media law practice. These subjects range from censorship, libel, freedom of information and prejudicial pre-trial publicity to licensing of intellectual property, digital privacy rights, media liability insurance, electronic data collection, storage and transfer, and security of wireless and online communications.[53]

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51. *Center for Biotechnology & Law*, U. HOUS. L. CTR., http://www.law.uh.edu/biolaw/ (last visited Oct. 3, 2019).
52. *Intellectual Property & Technology Law Track*, U. IDAHO C. LAW, https://www.uidaho.edu/law/academics/emphasis-area/business-law-entrepreneurship/intellectual-property (last visited Oct. 3, 2019).
53. *Certificate in Media Law and Technology*, U. KAN. SCH. LAW, http://medialaw.ku.edu/certificate.shtml (last visited Oct. 3, 2019).

UNIVERSITY OF MAINE SCHOOL OF LAW:

The Center for Law + Innovation connects students to opportunities in intellectual property, information privacy law, and cybersecurity.[54]

UNIVERSITY OF MARYLAND FRANCIS KING CAREY SCHOOL OF LAW:

Cybersecurity & Crisis Management Law Program - students can receive formal recognition for completion of the Health and Homeland Security's Concentration in Cybersecurity and Crisis Management. To be awarded this designation, students must earn a minimum of 17 credits through the program's three basic components—classroom, experiential learning, and research and writing. The Cybersecurity and Crisis Management Law Certificate is approved by the Maryland Higher Education Commission and students completing the requirements will be recognized by the homeland security community for possessing a level of expertise and specialization in the field.[55]

UNIVERSITY OF MIAMI SCHOOL OF LAW:

BILT is organized along two primary tracks: an innovation and technology track, and a business and compliance track. The former is aimed at students who want to focus on legal issues related to startups, especially those in the legal industry. The latter is aimed at students who want to focus on legal issues related to mature technology firms.[56]

UNIVERSITY OF MINNESOTA LAW SCHOOL:

Program [h]ighlights [include a] [w]ide variety of core and specialized courses and seminars on topics such as patent, copyright, trademark, unfair competition, privacy and First Amendment[;] [o]ne-to-one independent research and writing

54. *Center for Law + Innovation*, U. ME. SCH. LAW, https://mainelaw.maine.edu/academics/clinics-and-centers/cli/ (last visited Sept. 26, 2019).

55. *Cybersecurity & Crisis Management*, U. MD. FRANCIS KING CAREY SCH. LAW, https://www.law.umaryland.edu/Programs-and-Impact/Cybersecurity-and-Crisis-Management/ (last visited Sept. 26, 2019).

56. *The Business of Innovation, Law, and Technology Concentration: BILT*, U. MIAMI SCH. LAW, https://www.law.miami.edu/academics/concentrations/business-innovation-law-and-technology-concentration (last visited Sept. 26, 2019).

project opportunities with faculty[;] [i]nternships with businesses, advocacy groups, government, and international organizations[; and] [o]pportunities for networking and career advancement with alumni worldwide.

Study Opportunities [include:] [r]equired courses: three core IP courses (Copyright, Patents, Trademarks)[;] [s]ix additional credits related to IP and technology. Choices include multiple advanced patent classes, privacy law, food and drug law, IP transactions, antitrust and IP, IP and climate change, and multiple classes focused on particular technologies or industries[;] [o]ther options: specialized courses throughout the university in areas such as science, public policy, business, or computer science.

Practical Opportunities [include:] [p]articipation in the Intellectual Property Moot Court team; [w]riting for *Minnesota Journal of Law, Science, & Technology*, *Minnesota Law Review*; *Minnesota Journal of International Law*; and *Law & Inequality: A Journal of Theory and Practice.*[57]

UNIVERSITY OF MISSOURI SCHOOL OF LAW:

The University of Missouri School of Law's Center for Intellectual Property & Entrepreneurship was formally announced on March 13, 2015. The center establishes the school as a thought leader in the area of law and innovation by preparing students for the changing legal marketplace and supporting campus interdisciplinary efforts in related fields. The center's focus resides not just on intellectual property, business and finance, but on the intersection of science, technology, engineering and math (STEM) issues.[58]

The Center for Intellectual Property & Entrepreneurship promotes faculty symposia and scholarship in all areas involving law and innovation and develops curricular and extracurricular programming to prepare law students to participate in entrepreneurial and innovation communities. The center also

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57. *Intellectual Property & Technology Law Concentration*, U. MINN. L. SCH., https://www.law.umn.edu/academics/concentrations/intellectual-property-technology-law-concentration (last visited Sept. 26, 2019).

58. *Center for Intellectual Property & Entrepreneurship*, U. MO. SCH. LAW, https://law.missouri.edu/ip/ (last visited Jan. 21, 2020).

supports the law school's Office of Career Development in iden-
tifying externships, summer positions and full-time jobs within
the center's focus area, and collaborates with campus and com-
munity members to generate resources that will increase and
promote innovation and entrepreneurship throughout the rea-
son.[59]

UNIVERSITY OF NEW HAMPSHIRE FRANKLIN PIERCE SCHOOL OF LAW:

No law school in the world has had an impact on intellectual
property law and infrastructure like UNH Law. Our Franklin
Pierce Center for Intellectual Property prepares the next gen-
eration of lawyers for practice in a global economy based pri-
marily on intellectual property. To that end, our intellectual
property program includes leading scholars and practitioners
in the core IP fields of patent law, copyright law, trademark
law, privacy, internet law, and law and technology. From
drones to 3D printing, from iPhones to groundbreaking vac-
cines, there are countless applications of IP—and our pioneer-
ing faculty is there to teach our students how to lead the path
forward.[60]

UNIVERSITY OF NOTRE DAME LAW SCHOOL:

Intellectual property is one of the fastest-growing legal special-
ties in the United States, and increasingly in the world. Notre
Dame Law School's Program of Study in Intellectual Property
and Technology Law prepares students to practice in a wide
variety of intellectual property-related fields. Our faculty
teach basic and advanced courses in the core doctrines of intel-
lectual property — patent, copyright, trademark and unfair
competition—and related fields including design, cyberlaw,
and antitrust. For an information sheet on this program of
study.

The Intellectual Property and Entrepreneurship Clinic oper-
ates as a small, boutique law firm focused on assisting clients
with transactional IP issues. The purpose of the Clinic is to

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59. *Id.*
60. *Franklin Pierce Center for Intellectual Property*, U.N.H. FRANKLIN PIERCE SCH. LAW,
https://law.unh.edu/centers-institutes/franklin-pierce-center-intellectual-property (last vis-
ited Sept. 26, 2019).

provide students with valuable experience in applying substantive intellectual property law to real-world problems, and to produce high-caliber work product for Clinic clients. Exemplary matters include preparing patentability and trademark opinions, filing and prosecuting patent and trademark applications, drafting license agreements, as well as counseling clients on a range of intellectual property matters.[61]

UNIVERSITY OF PENNSYLVANIA LAW SCHOOL:

CTIC (Center for Technology, Innovation & Competition) is dedicated to promoting foundational research that will shape and reshape the way legislators, regulatory authorities, and scholars think about technology policy, intellectual property, privacy, and related fields.[62]

UNIVERSITY OF PITTSBURGH SCHOOL OF LAW:

"Intellectual property law" encompasses patents, copyrights, and trademarks as its core subjects, along with specialized bodies of law for designs, plants, and geographical indications, among other things. "Innovation law" is meant to deal broadly with IP issues and with related business law, employment law, technology law, trade law, and free speech law questions–among many others–for individuals, firms, and governments in the arts, entertainment, privacy and security, software and computer networks, life sciences, and technology development and commercialization. These related fields are among the most exciting and challenging areas of contemporary law practice. Pitt Law today is building on its distinguished tradition of scholarship and teaching in these disciplines.[63]

UNIVERSITY OF SAN FRANCISCO SCHOOL OF LAW:

The LLM in Intellectual Property and Technology Law Program is designed for a diverse group of lawyers—from seasoned practitioners looking to stay abreast in that constantly chang-

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61. *Intellectual Property & Technology Law*, U. NOTRE DAME L. SCH., https://law.nd.edu/academics/programs-of-study/intellectual-property-technology-law/ (last visited Sept. 26, 2019).

62. *Center for Technology, Innovation and Competition*, PENN L., https://www.law.upenn.edu/institutes/ctic/ (last visited Sept. 26, 2019).

63. *Intellectual Property and Innovation Law Concentration*, U. PITT. SCH. LAW, https://www.law.pitt.edu/academics/jd/specialized/intellectualproperty (last visited Sept. 26, 2019).

ing field, to recent graduates wanting to get an edge in a market where specialization is increasingly important to employers. It provides a thorough exposure to American, international, and comparative intellectual property law, and equips students with a strong grounding in legal theory and practical skills to pursue gainful employment in the intellectual property field in the US and abroad. Our alumni practice all aspects of IP law for law firms, governmental agencies, and corporations in the U.S. and abroad.[64]

UNIVERSITY OF SOUTHERN CALIFORNIA GOULD SCHOOL OF LAW:

Earning a certificate in Technology and Entrepreneurship Law in addition to your LLM degree gives you a thorough grounding and hands-on preparation for practice at the intersection of intellectual property and business law. It also offers you a credential that demonstrates your specialized training in this vibrant field.[65]

UNIVERSITY OF WASHINGTON SCHOOL OF LAW:

The Technology Law and Public Policy Clinic (Tech-Law Clinic) works at the intersection of public policy and technology. Students have the opportunity to write laws, compose policy papers, meet with stakeholders and provide legislative testimony. In the last few years, Tech-Law Clinicians wrote legislation establishing Washington state's Office of Privacy and Data Security, composed materials leading to the passage of Washington House Bill 1788, which outlawed non-consensual pornography (also known as "revenge porn") and assisted in the successful passage of Washington House Bill 2970 establishing a working group which will assist the state in crafting policies governing the testing and use of autonomous vehicles. Locally, the Tech-Law Clinic assisted in updating and amending the City of Seattle's Surveillance Ordinance. Students in the Tech-Law Clinic have written and shared policy papers on topics such as algorithmic discrimination; distributed energy; TOR exit

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64. *LLM Programs: LLM in Intellectual Property and Technology Law*, U.S.F. SCH. LAW, https://www.usfca.edu/law/academics/llm (last visited Sept. 26, 2019).
65. *Technology & Entrepreneurship Law Certificate*, USC GOULD SCH. LAW, https://gould.usc.edu/academics/certificates/technology/llm/ (last visited Sept. 26, 2019).

nodes; three dimensional printers and police use of body cameras.[66]

WIDENER UNIVERSITY DELAWARE LAW SCHOOL:

The Taishoff Advocacy, Technology and Public Service Institute offers programs focused on advocacy and technology. The Institute provides Delaware Law students opportunities to advance litigation skills while preparing to defend future clients.

The Taishoff Advocacy, Technology, and Public Service Institute teaches about the trial process from initial client interviews through summation. The institute offers a variety of specialized courses and seminars, a nationally recognized Intensive Trial Advocacy Program, and opportunities for students to participate in interscholastic advocacy competitions coached by skilled practitioners. The institute also offers continuing legal education in advocacy skills and theory.[67]

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66. *Technology Law and Public Policy Clinic*, U. WASH. SCH. LAW, https://www.law.uw.edu/academics/experiential-learning/clinics/technology-law (last visited Sept. 26, 2019).

67. *Taishoff Advocacy, Technology and Public Service Institute*, WIDENER U. DEL. L. SCH., https://delawarelaw.widener.edu/prospective-students/jd-program/jd-academics/signature-programs/criminal-law-the-taishoff-advocacy-technology-and-public-service-institute/ (last visited Sept. 26, 2019).

The Automation of Legal Reasoning: Customized AI Techniques for the Patent Field

*Dean Alderucci**

ABSTRACT

As Artificial Intelligence and Machine Learning continue to transform numerous aspects of our everyday lives, their role in the legal profession is growing in prominence. A subfield of AI with particular applicability to legal analysis is Natural Language Processing (NLP). NLP deals with computational techniques for processing human languages such as English, making it a natural tool for processing the text of statutes, regulations, judicial decisions, contracts, and other legal instruments. Paradoxically, although state-of-the-art Machine Learning and NLP algorithms are able to learn and act upon patterns too complex for humans to perceive, they nevertheless perform poorly on many cognitive tasks that humans routinely perform effortlessly. This profoundly limits the ability of AI to assist in many forms of legal analysis and legal decision making.

This article offers two theses. First, notwithstanding impressive progress on NLP tasks in recent years, the state-of-the-art in NLP will remain unable to perform legal analysis for some time. Second, lawyers, legal scholars, and other domain experts can play an integral role in designing AI software that can partially automate legal analysis, overcoming some of the limitations in NLP capabilities.

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INTRODUCTION

As Artificial Intelligence and Machine Learning continue to transform numerous aspects of our everyday lives, their role in the legal profession is growing in prominence. AI can be used for tasks such as locating relevant documents in discovery and predicting the outcome of pending litigation. AI also has the potential to assist in legal analysis by helping the legal expert assess the consequences of applying relevant law to a particular fact pattern. Software capable of performing thorough legal analysis could provide numerous benefits to lawyers, legal scholars, judges, and others in the legal field. Such software could, for example, evaluate hundreds of contracts for particular weaknesses, generate a concise summary of

a set of cases, answer questions about whether a particular fact pattern would violate a law, and accurately find cases that support or contradict a legal position.

A subfield of AI with particular applicability to legal analysis is Natural Language Processing (NLP). NLP deals with computational techniques for processing human languages such as English, making it a natural tool for processing the text of statutes, regulations, judicial decisions, contracts, and other legal instruments. Paradoxically, although state-of-the-art Machine Learning and NLP algorithms are able to learn and act upon patterns too complex for humans to perceive, they nevertheless perform poorly on many cognitive tasks that humans routinely perform effortlessly. This profoundly limits the ability of AI to assist in many forms of legal analysis and legal decision making.

This article offers two theses. First, notwithstanding impressive progress on NLP tasks in recent years, the state-of-the-art in NLP will remain unable to perform legal analysis for some time. Second, lawyers, legal scholars, and other domain experts can play an integral role in designing AI software that can partially automate legal analysis, overcoming some of the limitations in NLP capabilities.

This article provides a detailed but accessible explanation of the limitations of AI in legal analysis, as well as a path for overcoming these limitations. Part I briefly introduces Machine Learning and NLP techniques for a lay audience. This Part also explains common NLP "shortcuts" that have allowed AI software to make seemingly-intelligent analyses of text without actually performing anything we might consider to be understanding or reasoning. Unfortunately, these shortcuts do not scale well to the kinds of inferences and tasks that legal analysis requires. The usual candidates for improved Machine Learning performance, more training data and faster computers, also cannot help with these shortcomings.

Part II provides a non-technical explanation of why exactly many legal analysis tasks exceed the capabilities of the state of the art in AI. In summary, the most prominent Machine Learning and NLP algorithms cannot penetrate many types of "common sense" reasoning that are essential to the vast majority of legal analysis tasks. Moreover, such reasoning often relies on underlying knowledge that is not present in the text being processed and not otherwise accessible to the computer. This type of reasoning is especially prominent in various legal domains, making analysis in those areas difficult to automate with AI technology.

Nevertheless, understanding the capabilities and shortcomings of NLP illuminates a way to improve AI systems for legal analysis.

As described in Part III, the typical legal analysis task is composed of "subsidiary tasks," such as identifying the elements of a legal issue, evaluating potentially relevant facts and other pieces of information, and drawing simple inferences from those facts. The nature of the subsidiary tasks depends on the legal questions at issue. For example, determining whether a contract has formed involves different subsidiary tasks than determining whether the elements of a case of negligence are present.

Such subsidiary tasks are simpler than the complete legal analysis and can be feasible for AI processing, thereby allowing the process of legal analysis to be partially automated. AI software that processed subsidiary tasks would assist a human decision maker in more quickly locating relevant information and making legal determinations than if the human were to work unaided. The human would then remain responsible for combining the results of the subsidiary tasks in an appropriate manner to form the legal conclusion. This might involve weighing all factors of some analysis under a totality of the circumstances or some other manner of combining that relies on significant human judgment and cognition.

Moreover, this proposal requires that lawyers and other legal experts be part of the design of the AI software; only people with the requisite domain knowledge can identify the subsidiary tasks and potentially relevant information for a particular type of legal analysis, as well as define how exactly that information might be extracted from the text of documents. This shows that lawyers are a critical part of the solution, and lawyers with basic knowledge of AI and NLP systems can make significant contributions to his area.

AI software that performs subsidiary tasks for a legal analysis has additional potential beyond assisting the legal decision maker. By identifying information that is potentially relevant to a particular legal analysis task, the AI software is essentially identifying training data. Specifically, the potentially relevant information are inputs, and the legal decision ultimately rendered is the desired output for those inputs. A collection of inputs and corresponding desired outputs defines training data to teach software what outputs to produce for given inputs. Superior NLP systems might eventually use this training data to learn to perform decision making that more closely approximates the legal analysis performed by humans. When the legal expert identifies subsidiary tasks for a particular type of legal analysis, the expert is providing information on how to divide a complex legal reasoning task into tractable steps. In essence, the human instructs the AI software how to perform portions of the legal reasoning task.

Finally, Part IV outlines the proposed method by which legal experts and NLP system designers can collaborate to design AI software that can partially automate different types of legal analysis. Part IV also provides illustrative examples of this process for a legal analysis task in the field of patent law. This includes corresponding subsidiary tasks that AI software can perform to assist in patent-specific forms of legal analysis. The patent field is especially appropriate for this type of NLP-assisted legal analysis because much of patent analysis involves interpreting the text of the patent itself. Therefore, software can extract a significant amount of the information required in patent analysis from a readily-available document. Moreover, drafting techniques of attorneys who write patents can be reverse engineered to better extract from patents information that is useful to different types of legal analysis.

I.   AI, Machine Learning, and NLP

A.   AI Fundamentals

AI involves computer software that appears to behave with human intelligence.[1] Machine Learning is the subfield of AI in which software employs statistical analysis of data to learn how to perform a task, such as categorizing a document or predicting the outcome of pending litigation.[2] A common method of developing Machine Learning systems involves providing the software with verified examples of some phenomenon, such as a set of emails that a human has classified as spam.[3] The software analyzes these examples to learn their characteristics and thereby learns to predict when a future example (e.g., a new email message) shares these characteristics.[4] In other words, the software learns from numerous examples, known as "training data" or a "training set," how to distinguish spam from non-spam emails.[5] In this manner, Machine Learning is an inductive technique; the software develops a model of the world induced from observation, rather than from general rules.[6]

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1. Kevin D. Ashley, *Automatically Extracting Meaning from Legal Texts: Opportunities and Challenges*, 35 Ga. St. U. L. Rev. 1117, 1117 (2019).

2. *Id.* at 1118*; see also* Harry Surden, *Machine Learning and Law*, 89 Wash. L. Rev. 87, 89 (2014) (explaining that Machine Learning systems "are able to learn from experience and thus improve their performance over time").

3. Surden, *supra* note 2, at 93.

4. *Id.*

5. *Id.*

6. *Id.* at 91 n.21.

This Machine Learning approach, known as "supervised learning," is in contrast to a manual approach in which a programmer specifies a set of rules that instruct the computer exactly how to recognize the pattern of interest (e.g., which features of a new email suggest that it is probably spam).[7] In general, the more complex the problem the more training data is required for the software to learn the necessary patterns.[8] Machine Learning is the backbone of the technology used in impressive advancements such as self-driving cars[9] and facial recognition[10] systems.

Natural Language Processing (NLP) is a subfield of Artificial Intelligence that overlaps significantly with Machine Learning. NLP deals with computer processing and manipulating of "natural" languages, such as English or Spanish.[11] NLP can involve spoken language (speech) or written language (text). This article primarily deals with the latter since text is arguably more significant to the practice of law than speech; statutes, case law, briefs, contracts, and other important legal documents are composed of text, so text encodes a substantial amount of the information that is relevant to law and legal practice.

Among the different subfields of Artificial Intelligence, a defining characteristic of NLP is the use of some knowledge of the natural language being processed.[12] That knowledge can be deeply profound or extremely shallow, so this definition admits many very simple programs into the universe of NLP. For example, merely counting the words in a document can be considered an NLP task because that requires knowledge of what a word is.[13] In English it is relatively simple to identify a word as a sequence of alphabetic characters ending with a boundary character such as a space or punctuation mark.[14]

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7. *Id.* at 93.

8. *See, e.g.*, Xiangxin Zhu et al., *Do We Need More Training Data?*, 119 INT'L J. COMPUTER VISION 1 (2015); Alon Halevy et al., *The Unreasonable Effectiveness of Data*, IEEE INTELLIGENT SYS., March/April 2009, at 8, 8-12 (2009).

9. *See generally* Brandon W. Jackson, *Artificial Intelligence and the Fog of Innovation: A Deep-Dive on Governance and the Liability of Autonomous Systems*, 35 SANTA CLARA HIGH TECH. L.J. 35 (2019); Harry Surden & Mary-Anne Williams, *Technological Opacity, Predictability, and Self-Driving Cars*, 38 CARDOZO L. REV. 121 (2016).

10. *See generally* Sharon Nakar & Dov Greenbaum, *Now You See Me. Now You Still Do: Facial Recognition Technology and the Growing Lack of Privacy*, 23 B.U. J. SCI. & TECH. L. 88 (2017).

11. DANIEL JURAFSKY & JAMES H. MARTIN, SPEECH AND LANGUAGE PROCESSING 30-31 (2nd ed. 2008).

12. *Id.*

13. *Id.*

14. *Id.* It is somewhat more difficult to identify English word boundaries. For example, "rock 'n roll" can be considered a single word, even though it contains spaces as well as non-

NLP techniques form the backbone of a wide variety of available products including virtual assistants, such as Apple's Siri, that are programmed to understand simple commands spoken by the user.[15] NLP decodes the user's speech, which might instruct the virtual assistant to set a timer or play particular music.[16] If the user requests an answer to a query then NLP enables the virtual assistant to generate a spoken answer.[17]

Text contains information that human readers typically identify and interpret with ease. Text is a type of "unstructured" data because text is not clearly arranged for interpretation by a computer.[18] This is in contrast to data that is "structured" because it contains information in well-specified locations defined by some predetermined organizational scheme.[19] For example, a spreadsheet of client names, addresses, and amounts owed is structured because one can easily translate a desired type of information, such as the amount owed by a client named "Jane Smith," into an exact location where that information can be found. In reality, there can be different degrees of structure in data, and even the text of natural language exhibits some structure imposed by grammar and explicit indicia such as section headings.[20] Indeed, NLP techniques can sometimes exploit aspects of this linguistic structure to extract information that is buried within the text.

B.   NLP Shortcuts that Approximate Reasoning

AI software cannot understand legal texts at a human level of performance.[21] Nevertheless, some NLP techniques can provide impressive results without utilizing anything at all like the comprehension and reasoning that a human might perform. Using what Harry Surden has called "approximating intelligence by proxy,"[22] software can mimic the decisions that would have been produced by

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alphabetic characters. *Id*. at 24. In languages such as Chinese, Japanese, and Thai it is even more difficult to define the boundaries of words. *Id*. at 25.

15.   *See, e.g.*, Peng Lai Li, *Natural Language Processing*, 1 GEO. L. TECH. REV. 98, 103 (2016).

16.   Robert D. Lang & Lenore E. Benessere, *Alexa, Siri, Bixby, Google's Assistant, and Cortana Testifying in Court*, 74 J. MO. B. 20, 20-21 (2018).

17.   *Id.*

18.   CHRISTOPHER D. MANNING ET AL., AN INTRODUCTION TO INFORMATION RETRIEVAL 1 (2009).

19.   *Id.*

20.   *Id.* at 1-2.

21.   Ashley, *supra* note 1, at 1120.

22.   Surden, *supra* note 2, at 97-98 (explaining that non-cognitive software can produce seemingly intelligent results on complex tasks even though the software does not use human-level cognition).

a human who employs high-level human cognitive processes. Two very common approximation techniques in NLP are "statistical techniques" and "selectional restrictions," both of which are described immediately below.

Statistical techniques lie at the heart of machine learning and other data-driven algorithms and have been responsible for the successes of the last several decades in such NLP tasks as automatic document summarization and automated question-answering.[23] In the realm of NLP, one statistical technique is to determine which words tend to occur together in the same sentence, in the same document, or within some predefined number of words of each other.[24] For example, software could analyze a set of documents to determine that the words "apple" and "peel" appear together in sentences much more often than the words "apple" and "digitize" do. This simple counting process allows the software to determine correlations among pairs of words. It is trivial for software to process thousands of documents and count word co-occurrences for all words in those documents. Publicly available general-purpose datasets, such as the Wikitext-103 corpus[25] (over 100 million words) and the One Billion Word Benchmark,[26] provide access to copious amounts of training data for various NLP applications. In the legal domain, the Caselaw Access Project provides access to all official, book-published United States case law, starting from 1658.[27] This corpus includes about 12 billion words from over 6 million United States legal cases.[28]

It is important to note that software can easily calculate how often pairs of words co-occur without having any knowledge whatsoever of the meaning of any of those words, much less the meaning of a complete sentence formed by a sequence of words. A manual analogy of the co-occurrence process would be a human reading a document in a language she does not understand and recording how

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23. Hector J. Levesque et al., *The Winograd Schema Challenge*, in PROCEEDINGS OF THE THIRTEENTH INTERNATIONAL CONFERENCE ON PRINCIPLES OF KNOWLEDGE REPRESENTATION AND REASONING 552, 558 (Gerhard Brewka et al. eds., 2012).

24. JURAFSKY & MARTIN, *supra* note 11, at 110.

25. Jeremy Howard & Sebastian Ruder, *Universal Language Model Fine-Tuning for Text Classification*, in PROCEEDINGS OF THE 56TH ANNUAL MEETING OF THE ASSOCIATION FOR COMPUTATIONAL LINGUISTICS 328, 330 (Iryna Gurevych & Yusuke Miyao eds., 2018).

26. Ciprian Chelba et al., *One Billion Word Benchmark for Measuring Progress in Statistical Language Modeling*, in 1 FIFTEENTH ANNUAL CONFERENCE OF THE INTERNATIONAL SPEECH COMMUNICATION ASSOCIATION 2635-39 (H. Li & P. Ching eds., 2014).

27. *About*, CASELAW ACCESS PROJECT, https://case.law/about/ (last visited June 30, 2019).

28. *Historical Trends,* CASELAW ACCESS PROJECT, https://case.law/trends/ (last visited June 30, 2019).

often each possible pair of words occurs together in the same sentence.[29] No comprehension at all is needed for this tedious but straightforward counting task. Even more advanced corpus linguistics statistical techniques allow the meanings of words to be suggested by the words with which they co-occur.[30]

Although the software does not understand any of the words it processes, calculating word co-occurrences permits NLP software to perform feats of apparent text comprehension. For example, imagine that NLP software has processed billions of words from Wikipedia pages in order to calculate co-occurrence for every possible pair of words in the English language. Upon completing these calculations, the NLP software is tasked with answering the following question: *"The lions ate the zebras because they are predators. What does 'they' refer to: the lions or the zebras?"*

Answering the question requires that the pronoun "they" be resolved, that is, connected to either the word "lions" or the word "zebras." The human reader answers this question by comprehending the text and employing simple reasoning about the nature of the two types of animals or at least using knowledge that predators typically do the eating. The software can take a much simpler approach that does not rely on reasoning or knowledge of predators. Armed with statistics on word co-occurrences, the NLP software can resolve the pronoun "they" to "lions" because the word "lion" occurs more frequently with the word "predator" than does the word "zebra."[31] Similarly, the same word co-occurrence data can allow the NLP software to answer a question such as *"Which animal is a predator: a lion or a zebra?"* Although this is more akin to an educated guess than a reasoned conclusion, it is a surprisingly effective NLP technique.

Beyond simple word co-occurrence data, more sophisticated statistical techniques can use additional information on the words that appear in sentences. For example, a general technique known as

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29.   As a starker example that no understanding is required in calculating word co-occurrences, every occurrence in a set of documents of a particular English word could be exchanged with a corresponding nonsense word. For example, every occurrence of "apple" in a document could be exchanged with "abcde," and every occurrence of "peel" could be exchanged with "vwxyz." The number of times that "apple" and "peel" co-occur is the same as the number of times that "abcde" and "vwxyz" co-occur. Therefore, the NLP software could still calculate the number of times that "abcde" and "vwxyz" co-occur.

30.   *See generally* Stefan Th. Gries & Brian G. Slocum, *Ordinary Meaning and Corpus Linguistics*, 2017 BYU L. REV. 1417 (2017).

31.   Altaf Rahman & Vincent Ng, *Resolving Complex Cases of Definite Pronouns: The Winograd Schema Challenge*, *in* PROCEEDINGS OF THE 2012 JOINT CONFERENCE ON EMPIRICAL METHODS IN NATURAL LANGUAGE PROCESSING AND COMPUTATIONAL NATURAL LANGUAGE LEARNING 777, 781 (Jun'ichi Tsujii et al. eds., 2012).

language modeling considers the order of words in a sentence in predicting the next word that might likely follow. Neural language models can use all words in a sentence or set of sentences to predict the sequences of words that likely precede or follow a word.[32] Language modeling significantly increases the power of NLP systems to process text, albeit without endowing the software with any understanding of that text whatsoever.

The second type of NLP shortcut, "selectional restrictions," uses a constraint on the type of word that can be used in certain situations, often as a constraint on what type of word can be the subject or object of a particular verb.[33] For example, consider the following statement and question: *"Our graduate students published 20 papers this year and, apparently, a few of them authored some books. What does 'them' refer to: the graduate students or the papers?"*[34]

The pronoun "them" stands in for the subject of the verb "authored," and only people (and perhaps some AI software)[35] can author content. Therefore, the pronoun "them" should resolve to "graduate students," a type of person, rather than "papers," which are not a type of person. NLP software can properly understand that the pronoun "them" refers to "graduate students," if it knows that (1) only people can author, (2) graduate students are people, and (3) papers are not people. Of these three pieces of information, the first involves a common-sense relationship between the verb "author" and the subject of that verb, i.e., the subject of the verb "author" must be a type of person. The second and third involve "type-of" relationships between nouns: a student is a type of person, and a paper is not a type of person. Two online databases, WordNet and FrameNet, provide information on exactly these three relationships, allowing NLP software to utilize information on these relationships.

WordNet is a manually-constructed online database that links words and conceptual relations.[36] WordNet entries store "type-of"

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32. YOAV GOLDBERG, NEURAL NETWORK METHODS FOR NATURAL LANGUAGE PROCESSING 109-12 (Graeme Hirst ed., 2017).

33. JURAFSKY & MARTIN, *supra* note 11, at 368.

34. WALID S. SABA, ON THE WINOGRAD SCHEMA: SITUATING LANGUAGE UNDERSTANDING IN THE DATA-INFORMATION-KNOWLEDGE CONTINUUM (2019), https://arxiv.org/abs/1810.00324.

35. *See, e.g.*, Russ Pearlman, *Recognizing Artificial Intelligence (AI) as Authors and Inventors Under U.S. Intellectual Property Law*, 24 RICH. J.L. & TECH. 2, 3 (2018) (arguing for recognition of AI authorship and inventorship); Shlomit Yanisky-Ravid, *Generating Rembrandt: Artificial Intelligence, Copyright, and Accountability in the 3A Era—The Human-Like Authors Are Already Here—A New Model,* 2017 MICH. ST. L. REV. 659, 660 (2017) (addressing the copyrightability of works generated by Al systems).

36. JURAFSKY & MARTIN, *supra* note 11, at 493; Christiane Fellbaum, *WordNet(s)*, *in* 13 ENCYCLOPEDIA OF LANGUAGE AND LINGUISTICS 665, 665 (Ron Asher ed., 2006).

relationships for thousands of words. For example, WordNet defines the word "hamburger" as a type of "sandwich," which in turn is defined as a type of food."[37] This hierarchical information can then be used in applying restrictions on which nouns may serve as the subject or object of particular verbs. Those restrictions are captured in the online FrameNet database.[38] For example, the Frame-Net entry for "eat" explains that the subject of "eat" must be a person and the object must be a type of food.

Selectional restrictions capture aspects of knowledge in a way that purely statistical techniques do not. This knowledge has been meticulously sourced from human efforts over many years. When people manually created the entries in the WordNet and FrameNet databases, they reduced to digital form significant real-world concepts and how English words relate to those concepts. NLP programs can benefit from such codified knowledge, typically by determining whether nouns associated with a particular verb are of the correct type for that verb.

Both statistical techniques and selectional restrictions allow impressive performance on text processing challenges, masking the software's lack of text understanding. However, this shortcoming is revealed on more challenging tasks that require the software to possess some form of language understanding.

II.   LIMITATIONS OF AI IN COMMON SENSE REASONING

In light of NLP's impressive successes, it is somewhat surprising that even state-of-the-art algorithms struggle with tasks that could reasonably be considered simple, or even trivial, for humans to perform. These deceptively-challenging tasks fall under the rubric of "common sense reasoning," a term that encompasses different types of cognitive skills and real-world knowledge. Software that cannot perform simple reasoning would be extremely unlikely to perform more complex legal reasoning tasks, which often rely upon simple reasoning and knowledge about the world.

Since NLP shortcuts can endow software with the appearance of human-level understanding, researchers have explored tests to distinguish software that truly understands the meaning of text from software that merely mimics such understanding. Below, I describe

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37.   JURAFSKY & MARTIN, *supra* note 11, at 369-70.
38.   *See generally* JURAFSKY & MARTIN, *supra* note 11, at 362; Collin F. Baker et al., *The Berkeley FrameNet Project*, *in* PROCEEDINGS OF THE 17TH INTERNATIONAL CONFERENCE ON COMPUTATIONAL LINGUISTICS 86 (1998).

the Winograd Schema Challenge, problems which have been specifically designed so that they cannot be solved by merely using NLP shortcuts like statistical techniques or selectional restrictions. Successfully solving these problems is believed to require at least rudimentary commonsense reasoning by the NLP system.

Software that exhibits common sense reasoning at the level of a human is a formidable problem. Software that could do so would likely pass or come close to passing the Turing Test,[39] a touchstone for determining whether a computer is able to behave as intelligently as a human.[40] In the Turing Test, software engages in an extended conversation via teleprinter with a human, who does not know whether she is conversing with a human or machine.[41] If the human is fooled into believing the machine is another human, then the machine has passed the Turing Test and can be considered to be thinking to some extent.

Unfortunately, neither statistics nor selectional restrictions alone can be extended to handle even simple tasks of commonsense reasoning. In short, neither shortcut involves anything we might consider to be "reasoning" about the real world, nor do they encapsulate the types of real-world knowledge possessed by humans, including small children. Because these limitations are inherent to the techniques themselves, they are unlikely to be overcome with additional training data or much faster computers, two staples of increased Machine Learning performance in recent years.

Some simple examples will illustrate common sense reasoning and how software fails on such tasks. Consider the following question. *"The trophy doesn't fit in the brown suitcase because it is too small. What does 'it' refer to: trophy or suitcase?"* A human has no difficulty recognizing that the pronoun must refer to "suitcase." This conclusion is based on simple spatial reasoning.[42] If the suitcase is smaller than the trophy then the trophy cannot fit in the suitcase, but if the trophy is smaller than the suitcase there would be no problem fitting the trophy in the suitcase.

Statistical analysis does not provide an easy way to answer this question. There is no reason to believe that either of the words "trophy" or "suitcase" would co-occur with "small" more frequently than

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39. *See generally* A.M. Turing, *Computing Machinery and Intelligence*, 59 MIND 433 (1950).

40. *See id.* at 459-60.

41. *See id.*

42. *See* Ernest Davis, *Qualitative Spatial Reasoning in Interpreting Text and Narrative*, 13 SPATIAL COGNITION & COMPUTATION 264, 264 (2013) (demonstrating that very simple natural language texts can "raise problems in commonsense spatial knowledge and reasoning of surprising logical complexity and geometric richness").

the other word. Selectional restrictions are also unavailing because both a trophy and a suitcase are the kinds of things that can be referred to as "too small."

The above trophy-suitcase question is selected from the Winograd Schema Challenge.[43] The Winograd Schema Challenge is "designed so that the correct answer is obvious to the human reader, but cannot easily be found using selectional restrictions or statistical techniques over text corpora."[44] To discourage the use of NLP shortcuts that do not require text understanding, Winograd Schema problems are arranged in pairs, each differing by only a single word. This small change results in a question with the opposite answer. For example, these two questions differ in only the underlined words:

"*The trophy doesn't fit in the brown suitcase because it is too <u>small</u>. What does 'it' refer to?*"

"*The trophy doesn't fit in the brown suitcase because it is too <u>big</u>. What does 'it' refer to?*"

The answer to the first is "suitcase" while the answer to the second is "trophy." The pairing of problems in this manner, each almost identical but requiring opposite answers, negates NLP shortcuts that might use the word order or other clever features of the remaining words in the problem as a hint to the proper answer. In other words, the problems are designed so that the other (unchanging) words in the problem pair do not provide any statistical clues to the correct answer. If they did, they would provide the same clue for both problems, which have opposite answers; use of statistical clues would guarantee that one of the pair is answered incorrectly.

The trophy-suitcase problem requires commonsense spatial reasoning. There are many other types of commonsense reasoning. Indeed, humans perform commonsense reasoning so easily that it can be difficult to identify exactly what kinds of knowledge and inferences are involved in answering a question. The designers of the Winograd Schema Challenge believe that software that successfully answers the majority of the questions "will need to have commonsense knowledge about space, time, physical reasoning, emotions, social constructs, and a wide variety of other domains."[45] As an example of commonsense reasoning about cause and effect, also

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43. *See* Levesque et al., *supra* note 23, at 554; *see also* Ernest Davis, *Collection of Winograd Schemas*, NYU COURANT COMPUTER SCI., https://cs.nyu.edu/faculty/davise/papers/WinogradSchemas/WSCollection.html (last visited June 28, 2019).

44. Levesque et al., *supra* note 23, at 552.

45. *Id.* at 558.

known as causal implication, consider the following Winograd Schema problem pair.[46]

"Anna did a lot <u>better</u> than her good friend Lucy on the test because she had studied so hard. Who studied hard?"

"Anna did a lot <u>worse</u> than her good friend Lucy on the test because she had studied so hard. Who studied hard?"

The answer to the first is Anna, and the answer to the second is Lucy. This problem pair requires an understanding of the most likely effect of studying hard, which, in turn, requires an understanding of the nature of tests, studying, and the relationship between studying and test performance.

The next problem pair requires knowledge of other basic real-world relationships.

"Sam broke both his ankles and he's walking with crutches. But a month or so from now they should be <u>better</u>. What should be <u>better</u>?"

"Sam broke both his ankles and he's walking with crutches. But a month or so from now they should be <u>unnecessary</u>. What should be <u>unnecessary?"</u>

Understanding that the first answer is "ankles" and the second is "crutches" requires understanding rudimentary details about injuries, healing, and why people use crutches. This knowledge is the kind acquired through ordinary human interactions. The next problem draws upon knowledge of human social interactions.

"Joan made sure to thank Susan for all the help she had <u>given</u>. Who had <u>given</u> help?"

"Joan made sure to thank Susan for all the help she had <u>received</u>. Who had <u>received</u> help?"

To conclude that the first answer is "Susan" and the second is "Joan" requires that the software understand basic social aspects of gratitude and the general reasons that people express thanks.

The Winograd Schema questions are extremely simple and many could be answered by children.[47] Moreover, the Winograd Schema Challenge evaluates commonsense reasoning by employing an extremely narrow problem: resolving referential ambiguity, that is, deciding which noun a pronoun or possessive adjective refers to.[48] This problem is a limited test of common sense reasoning; only a

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46. *See generally* Melissa Roemmele et al., *Choice of Plausible Alternatives: An Evaluation of Commonsense Causal Reasoning*, *in* AAAI SPRING SYMPOSIUM ON LOGICAL FORMALIZATIONS OF COMMONSENSE REASONING 21 (Ernest Davis et al. eds., 2011).

47. *See* Davis, *supra* note 43. Of the 150 problem pairs listed, many require only extremely basic real-world knowledge gained from routine human interactions.

48. Levesque et al., *supra* note 23, at 557.

single pronoun is to be resolved, and the noun to which the pronoun refers is known to exist in a single sentence. In contrast, it is fairly common for text to have more complicated structures in which information from multiple sentences must be aggregated to make an inference. It is also not uncommon that the referent of a pronoun is not present in a previous sentence but is instead implicit. In other words, the Winograd Schema Challenge appears to be a fair test of commonsense reasoning and certainly is not an unfairly challenging one.

People outside the field of AI can be forgiven for wondering what all the fuss is about. Is it really the case that software with access to billions of words and millions of web pages nevertheless cannot perform well at answering commonsense reasoning questions? After all, most people could solve the Winograd Schema problems easily and without thinking, in many cases exhibiting only the level of reasoning mastered by children in elementary school. Surely software can do so as well.

Unfortunately, software is not up to this task. The Winograd Schema Challenge was held at the 25th International Joint Conference on Artificial Intelligence (IJCAI-16) on July 2016. None of the NLP systems entered by contestants were able to advance from the first round to the second round.[49] The highest scoring entry answered less than half of all questions correctly.[50] These lackluster results on simple questions may be surprising, especially given the performance of NLP systems on seemingly harder tasks. For example, in 2011, IBM's Watson system answered "Jeopardy!" questions

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49. Ernest Davis et al., *The First Winograd Schema Challenge at IJCAI-16*, AI MAG., Fall 2017, at 97, 97.

50. *Id.* at 98 tbl.1. However, in a paper released on June 19, 2019, Carnegie Mellon University and Google Brain researchers achieved 90.4% accuracy on WNLI, a modified version of the Winograd Schema Challenge. ZHILIN YANG ET AL., XLNET: GENERALIZED AUTOREGRESSIVE PRETRAINING FOR LANGUAGE UNDERSTANDING tbl.4 (2020), https://arxiv.org/abs/1906.08237. Their paper was released just days before the submission of this article and before publication of any subsequent analysis of the researchers' results. However, researchers have hypothesized that Machine Learning models that perform inordinately well on analogous reasoning challenges rely on the questions containing subtle "spurious statistical cues" to the proper answer. TIMOTHY NIVEN & HUNG-YU KAO, PROBING NEURAL NETWORK COMPREHENSION OF NATURAL LANGUAGE ARGUMENTS (2019), https://arxiv.org/abs/1907.07355; *see also* Abhijit Mahabal, *Do NLP Entailment Benchmarks Measure Faithfully?*, MEDIUM (July 19, 2019), https://towardsdatascience.com/do-nlp-entailment-benchmarks-measure-faithfully-e600212692b3. It is possible that some or all of XLNet's performance on the WNLI task comes from exploiting statistical clues in the data and not from the application of deep understanding of the real-world or common sense reasoning.

better than human champions of the game.[51] However, as explained above, NLP shortcuts can solve some types of natural language problems without requiring that the software understand anything about the text or the real world.[52] Researchers have noted that commonsense knowledge and reasoning played a limited role in Watson's success.[53] Among other strategies, Watson made use of words and noun phrases in the questions that specify the type of the answer "without any attempt to understand its semantics."[54]

A common thread among different flavors of commonsense reasoning is the need to draw upon different forms of "background knowledge": information that is not explicit in the text being processed. For example, solving the trophy-suitcase problem requires knowledge of spatial reasoning and how the size of objects has implications for fitting one inside of the other. Nothing in the problem's single sentence contains this information. Likewise, even if that single sentence was present in a more extensive document it is unlikely that any part of the document would contain an explanation of the requisite spatial reasoning information. Not only does unstated background knowledge help with understanding text, the answer to questions asked about text may actually be a word or phrase not present in the sentence or document. For example, the following question is similar to a Winograd Schema problem because it asks which noun the pronoun "it" refers to. However, it has a crucial difference that, although small, makes it inappropriate for the Winograd Schema Challenge.

"Dave told everyone in school that he wants to be a guitarist because he thinks it is a great sounding instrument. What does 'it' refer to?"

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51. *See* Betsy Cooper, *Judges in Jeopardy!: Could IBM's Watson Beat Courts at Their Own Game?*, 121 YALE L.J. ONLINE 87, 87 (2011) (describing how IBM's Watson system beat the world's top "Jeopardy!" Champions); David Ferrucci et al., *Building Watson: An Overview of the DeepQA Project*, AI MAG., Fall 2010, at 59, 59.

52. *See* Davis, *supra* note 42, at 291 (explaining that the "many successes of applications of corpus-based [Machine Learning] to natural language text are very explicitly based on the avoidance of the kind of [common sense] inferences discussed here"); *see also* Ernest Davis & Gary Marcus, *Commonsense Reasoning and Commonsense Knowledge in Artificial Intelligence,* COMM. ACM, Sept. 2015, at 92, 94 ("Almost without exception, current computer programs to carry out language tasks succeed to the extent the tasks can be carried out purely in terms of manipulating individual words or short phrases, without attempting any deeper understanding; commonsense is evaded . . . .").

53. A. Kalyanpur et al., *Structured Data and Inference in DeepQA*, 56 IBM J. RES. & DEV. 1 (2012)*; see also* Davis & Marcus, *supra* note 52, at 94 ("The key techniques in Watson are mostly of the same flavor as those used in programs like Web search engines . . . . There is no evidence that Watson is anything like a general-purpose solution to the commonsense problem.").

54. Ferrucci et al., *supra* note 51, at 70.

Here "it" must refer to "guitar," a noun not mentioned in the text.[55] Clearly "it" cannot refer to any of the other nouns in the sentence because "it" must be a type of "instrument" and none of the other nouns are instruments. In the context of the sentence the implication is obvious, provided we possess the background knowledge that a guitarist plays a guitar. The ability to access unstated background knowledge is used to solve a wider array of problems besides understanding what a pronoun refers to.[56]

This simple example presents difficulties for common Machine Learning techniques, which generally rely exclusively on processing massive amounts of text data but do not attempt to codify and represent real-world background knowledge.[57] Such techniques will fail to recognize concepts that humans implicitly assume "due to our *shared* background knowledge of the world and the way we talk about it in ordinary spoken language."[58] In essence, purely data-driven Machine Learning techniques "cannot model what is not there."[59]

In summary, commonsense reasoning has largely remained impervious to the most powerful Machine Learning and NLP techniques. Solving most commonsense reasoning problems via software seems to require that the software have access to a large repository of the background knowledge most people possess but take for granted. There is no accepted method for creating or organizing such a repository of background knowledge.[60]

In Part III, below, this article explores legal analysis. In particular, this article explain how legal analysis typically involves background knowledge that is not disclosed in the text being processed, as well as other aspects of commonsense reasoning that continue to stymie NLP software. This characteristic of legal analysis suggests

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55. WALID S. SABA, IS THERE A 'SIMPLE' MACHINE LEARNING METHOD FOR COMMONSENSE REASONING?: A SHORT COMMENTARY ON TRINH & LE (2018), https://arxiv.org/abs/1810.00521.

56. SABA, *supra* note 34.

57. SABA, *supra* note 55. Saba provides evidence that the NLP technique proposed by Trinh & Le, and more broadly any other data-driven technique, "will not scale into a workable and reasonable solution" because "data-driven approaches, true to their name, can only make generalizations based on the data they process," but not background knowledge the text does not describe.

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

59. *Id.*

60. Adam Richard-Bollans et al., *The Role of Pragmatics in Solving the Winograd Schema Challenge*, *in* PROCEEDINGS OF THE THIRTEENTH INTERNATIONAL SYMPOSIUM ON COMMONSENSE REASONING (Andrew S. Gordon et al. eds., 2017) (concluding that "it is clear that the necessary commonsense knowledge [for solving such problems] would involve the formalization of a notoriously extensive knowledge base. How to obtain and organize such a large knowledge base is unclear.").

that there will be limitations in automating legal reasoning with NLP software.

III.   LEGAL ANALYSIS

A.   *Legal Analysis: Common Sense and More*

Broadly speaking, the goal of legal analysis is to interpret or apply the law to particular facts. This involves identifying the legal authority that may apply and the issues in the fact pattern that may be relevant. It can sometimes be challenging merely to understand which law and legal principles apply to a fact pattern. Moreover, even if the relevant law and facts are certain, the resolution of the legal question might remain unclear because reasonable arguments can be made for contradictory conclusions.

One might think that the process of legal reasoning would be straightforward for computers. Once the facts and law are provided to the computer, the computer would diligently determine which legal conditions are satisfied by the facts and then provide the conclusion.[61] Unfortunately, NLP software that attempts to perform its own form of legal reasoning would have to contend with several conspicuous obstacles. The reasoning in judicial decisions may rely on unstated background knowledge or commonsense reasoning, which presents serious difficulties for NLP software attempting to understand the state of the law.[62] Compounding this difficulty is the fact that judges will often explicitly use intuition or a similar concept in their reasoning,[63] even though that intuition can be unexplainable and without explicit justification.[64] Courts will often link or even equate judicial intuition with common sense.[65]

An additional difficulty for NLP software conducting legal reasoning lies in determining the specific legal principles that are presented by a body of case law. The text of a decision does not always make clear the nature of the legal reasoning involved. The judge's reasoning can be incomplete because crucial assumptions are not

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61.   KEVIN D. ASHLEY, ARTIFICIAL INTELLIGENCE AND LEGAL ANALYTICS: NEW TOOLS FOR LAW PRACTICE IN THE DIGITAL AGE 50 (2017).

62.   *See* Part II *supra.*

63.   R. George Wright, *The Role of Intuition in Judicial Decisionmaking*, 42 HOUS. L. REV. 1381, 1385 (2006).

64.   *Id.* at 1386.

65.   *Id.*; *see also* Richard A. Posner, *The Jurisprudence of Skepticism*, 86 MICH. L. REV. 827, 838-41 (1988) (arguing that "practical" reasoning, including common sense and intuition, can answer most of the legal questions that logic cannot answer).

explicit.[66] Indeed, with enough of the legal reasoning lacking, the decision can appear to be arbitrary.[67]

Extracting the state of the law from judicial decisions can be especially thorny because such law might depend strongly on analogical arguments.[68] To understand judicial decisions and how to apply them, NLP software would need to be capable of drawing appropriate analogies between different fact patterns.[69] Crucially, legal reasoning involves identifying which similarities are relevant, not merely that similarities exist.[70] Just what makes distinct sets of facts similar to each other "depends on the principle for which the initial case is said, on reflection, to stand."[71] It would be especially challenging for software to identify principles because they depend on "evaluative judgments" that try to tease out whether the principle would be inconsistent with "anything . . . to which the legal system has committed itself."[72] These principles can depend on moral and political theories, intuitions of public policy, avowed or unconscious, and even the prejudices of judges.[73] In light of all of the above, it can be difficult even for legal experts to describe precisely what makes one legal argument stronger than another.[74]

Unsurprisingly, complete start-to-finish legal analysis by NLP software is an imposing and, for the moment, infeasible goal. Legal analysis requires commonsense reasoning, both to understand which issues arise from a fact pattern as well as to determine which legal principles should be applicable. Legal analysis also requires unstated background knowledge about the real world. Some of this background knowledge may, furthermore, be specific to a domain. For example, decisions in the field of patent law frequently rely on

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66. Richard Warner, Note, *Three Theories of Legal Reasoning*, 62 S. CAL. L. REV. 1523, 1523 (1989) (discussing the appearance of arbitrariness in many legal decisions); *see also* Kevin D. Ashley & Stefanie Bruninghaus, *Computer Models for Legal Prediction*, 46 JURIMETRICS J. 309, 315-16 (2006) ("Judges may not have disclosed the features that influenced their decision or stated their rationales accurately or completely.").

67. Warner, *supra* note 66, at 1523.

68. *See generally* Scott Brewer, *Exemplary Reasoning: Semantics, Pragmatics, and the Rational Force of Legal Argument by Analogy*, 109 HARV. L. REV. 923, 927 (1996) (providing a detailed model of the process of reasoning by analogy); Emily Sherwin, *A Defense of Analogical Reasoning in Law*, 66 U. CHI. L. REV. 1179 (1999) (arguing that although analogical reasoning is an unscientific practice with imperfect results, it should be defended on the basis of its epistemic and institutional advantages).

69. Cass R. Sunstein, *Of Artificial Intelligence and Legal Reasoning*, 8 U. CHI. L. SCH. ROUNDTABLE 29, 31 (2001).

70. *Id.*

71. *Id.* at 31-32.

72. *Id.* at 32-33.

73. Oliver Wendell Holmes, Jr., THE COMMON LAW 1 (Dover Publ'ns 1991) (1881).

74. Brett G. Scharffs, *The Character of Legal Reasoning*, 61 WASH. & LEE L. REV. 733, 737 (2004).

the details of a particular field of technology or on the capabilities of people who practice in a particular field. Given that general commonsense reasoning is beyond the capabilities of state-of-the-art software, the additional burden of utilizing background knowledge and evaluating principles of case law renders general-purpose legal analysis by software an impossibility with current technology.

To address this daunting challenge, we begin by noting that the typical legal analysis task is composed of "subsidiary tasks," such as evaluating potentially relevant facts and other pieces of information and then drawing simple inferences from those facts. Making a legal analysis task tractable for partial automation by software involves, as a first step, decomposing the task into its subsidiary tasks. The subsidiary tasks will naturally depend on the nature of the legal analysis. It will be instructive to attempt to identify the subsidiary tasks present in the legal analysis task presented immediately below as well as in Section C of Part IV.

B.   Legal Analysis Example: Patent Claim Obviousness

In this section I briefly summarize a core patent law doctrine, obviousness,[75] in order to provide a concrete example of the tasks performed in conducting a specific type of legal analysis. This example will illustrate aspects of legal analysis that are difficult for software to perform and will suggest a possible solution that allows properly-designed AI software to partially-automate legal analysis. It will also illustrate an aspect of the legal analysis that is rife with common sense reasoning.

Under § 103 of the Patent Act, a claim of a patent is invalid "if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious . . . to a person having ordinary skill in the art."[76] The goal of the non-obviousness requirement is to grant patents only for those inventions that represent a sufficiently large advance over previously-known technology, i.e., over the "prior art."[77]

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75. *See, e.g.*, ROBERT PATRICK MERGES & JOHN FITZGERALD DUFFY, PATENT LAW AND POLICY: CASES AND MATERIALS 643 (3d ed. 2007) (introducing the nonobviousness requirement as "the most important of the basic patent requirements").

76.   35 U.S.C. § 103 (2012).

77.   Lee Petherbridge, *On the Development of Patent Law*, 43 LOY. L.A. L. REV. 893, 907-08 (2010); *see also* Sensonics, Inc. v. Aerosonic Corp., 81 F.3d 1566, 1570 (Fed. Cir. 1996) (referring to a "significant and unobvious advance over" previous technology).

Obviousness is a question of law,[78] but it relies upon factual inquiries including the scope and content of the prior art, the differences between the prior art and the claims of the patent, and the level of ordinary skill in the art.[79] Additional facts such as commercial success of the invention, long felt but unsolved needs solved by the invention, and the failure of others to create the invention can also be relevant to determining whether a patent claim is obvious.[80]

The statute requires that obviousness be judged from the perspective of the "person of ordinary skill in the art," a theoretical construct that is not descriptive of any particular individual.[81]   In this sense, the person having ordinary skill in the art is "not unlike the 'reasonable man' and other ghosts in the law."[82] This fictitious person is endowed with all existing information in the prior art.[83] The claims must be invalidated under § 103 of the Patent Act only if that hypothetical person would find the claimed invention to be obvious.

A full legal analysis of the obviousness of a patent claim requires understanding the patent's technology, the state of the art in the field of that technology, and the differences between the two. Although this is a necessary factual assessment, it is not sufficient. The analysis also mandates an inquiry into what exactly the person possessing ordinary skill would conclude about the obviousness of the claimed invention. This analysis must incorporate the scope of that skilled person's knowledge and technical abilities. These abilities can be assessed by considering factors such as the educational level of the inventor, the types of problems encountered in the technical field, prior solutions to those problems, how fast innovations are made, the sophistication of the technology, and the educational level of workers in the field.[84]

This difficult assessment is complicated by the fact that it involves considerations with very ill-defined boundaries. The obviousness determination must consider the creativity of a person of ordinary skill in the art.[85] Also relevant is that person's common

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78.   Graham v. John Deere Co., 383 U.S. 1, 17-18 (1966).

79.   *Id.* at 17.

80.   *Id.* at 17-18.

81.   Endress + Hauser, Inc. v. Hawk Measurement Sys. Pty. Ltd., 122 F.3d 1040, 1042 (Fed. Cir. 1997) (quoting Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc., 807 F.2d 955, 963 (Fed. Cir. 1986)).

82.   Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1566 (Fed. Cir. 1987).

83.   Standard Oil Co. v. Am. Cyanamid Co., 774 F.2d 448, 454 (Fed. Cir. 1985).

84.   Helifix, Ltd. v. Blok-Lok, Ltd., 208 F.3d 1339, 1347 (Fed. Cir. 2000) (citing *Custom Accessories, Inc.*, 807 F.2d at 962).

85.   KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 420-21 (2007).

sense reasoning abilities.[86] This can be especially difficult for data-driven methods that extract information from legal and other texts because the extent of creativity and common sense of the authors may not be reflected within these documents.[87]

Understanding the range of abilities possessed by the person of ordinary skill in the art is central to many patent law doctrines besides obviousness, including enablement[88] and indefiniteness[89] of patent claims. Briefly, the enablement requirement demands that the patent specification teach persons of ordinary skill in the art how to make and use the claimed invention without undue experimentation.[90] The purpose of the enablement requirement is "to extract meaningful disclosure of the invention and, by this disclosure, advance the technical arts."[91] Similarly, to satisfy the indefiniteness requirement the patent's claims must inform those skilled in the art about the scope of the invention with reasonable certainty.[92] This ensures that the public has clear notice of the exclusionary rights provided by the patent.[93]

Like the reasonable person standard present in so many other areas of the law, assessing the legal contours of the person of ordinary skill intimately involves considerations like common sense and creativity that lack clear boundaries. As described above in Part II, common sense reasoning is difficult for state-of-the-art NLP techniques to carry out. Moreover, legal text that is processed by NLP software does not explicitly describe much of the knowledge on which common sense reasoning is based. Therefore, even significantly more sophisticated software could not extract this knowledge from those texts. In summary, some portions of legal reasoning lie beyond the reach of AI technology and are likely to remain so for some time. Accepting this limitation can lead to an improved model for AI systems that assist in legal reasoning tasks, as explained in Part IV.

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86. *Id.* at 420.

87. *Id.* at 419; *see also* Perfect Web Techs., Inc. v. InfoUSA, Inc., 587 F.3d 1324, 1329 (Fed. Cir. 2009) (explaining that the obviousness inquiry may include "common sense available to the person of ordinary skill [in the art] that do not necessarily require explication in any reference or expert opinion").

88. 35 U.S.C. § 112(a) (2012).

89. *Id.* § 112(b).

90. MagSil Corp. v. Hitachi Glob. Storage Techs., Inc., 687 F.3d 1377, 1380 (Fed. Cir. 2012).

91. Invitrogen Corp. v. Clontech Labs., Inc., 429 F.3d 1052, 1070 (Fed. Cir. 2005) (citing Koito Mfg. Co., Ltd. v. Turn-Key-Tech, LLC, 381 F.3d 1142, 1155 (Fed. Cir. 2004)).

92. Nautilus, Inc. v. Biosig Instruments, Inc., 572 U.S. 898, 901 (2014).

93. *Id.* at 909. Clear notice is necessary to avoid a "zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims." *Id.* at 909-10 (quoting United Carbon Co. v. Binney & Smith Co., 317 U.S. 228, 236 (1942)).

IV. IMPROVING AI FOR LEGAL ANALYSIS

A. *Existing Methods of Legal Reasoning by AI*

There is a large and growing body of work on computational models of legal reasoning.[94] Ashley defines a computational model of legal reasoning as "a computer program that implements a process evidencing attributes of human legal reasoning," which "may involve analyzing a situation and answering a legal question, predicting an outcome, or making a legal argument."[95] Ashley distinguishes computational models of legal reasoning from legal text analytics, which is defined as the discovery of knowledge from legal text.[96] Informally, the difference is between the reasoning and obtaining the information on which reasoning is based. This distinction is important for the current discussion of AI and legal analysis.

Computational models of legal reasoning, like all forms of legal reasoning, depend on knowledge such as the state of the law. However, today's computers cannot extract all required knowledge directly from legal texts such as cases, statutes, regulations, and contracts. Instead, human experts must read legal texts, extract relevant knowledge in those texts, and manually translate this knowledge into a form that software can use to perform its legal reasoning.[97] This "knowledge representation bottleneck" prevents NLP software from performing legal analysis from start to finish without a significant investment of human labor.[98]

Legal text analytics is designed to extract relevant information from legal texts. For example, software can automatically annotate legal texts to indicate various concepts and their relations to each other.[99] Software also can process case texts for argument-related information about the roles of sentences in a case.[100] Although the software can intelligently process argument-related information, it does not understand those arguments to any profound extent.[101] Even if legal text analytics could identify all information it attempts to locate in legal text, this class of techniques nevertheless misses

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94. *See generally* ASHLEY, *supra* note 61, at 50-201 (describing the literature on different computational models for statutory reasoning, case-based legal reasoning, predicting legal outcomes, and legal argument).

95. *Id.* at 12.

96. *Id.* at 13.

97. *Id.* at 12-13.

98. *Id.*

99. *Id.* at 205.

100. *Id.* at 334.

101. *Id.* at 441.

a significant type of information: background knowledge and other implicit information not stated in the text.

B.   A Proposal to Advance AI-Driven Legal Analysis

In summary, two limitations of Machine Learning systems are particularly relevant to legal analysis: performing common sense reasoning and incorporating background knowledge that is not explicit in the text being processed. Both skills are required in legal analysis, and AI generally performs poorly at both. Therefore, we should minimize the role of software in both, while at the same time utilizing software as much as possible in the remaining steps of legal analysis.

The proposal below is founded on the assumption that it is futile to ask the software to perform the cognitive manipulations of information required in commonsense reasoning. However, we can, among other things, command the software to search for and present to the human legal expert the types of information that might possibly be relevant to the legal analysis being performed. This in turn requires that the software understand the steps involved in that legal analysis, what kinds of information are potentially relevant, and how those kinds of information might be expressed in text. The software will then provide the human with information that is helpful or indispensable to the legal analysis, though the human retains ultimate responsibility for drawing the conclusions that follow from that information.

This computational model of legal reasoning partitions responsibility for legal analysis between the human and the legal expert. The collaborative activity, known as "cognitive computing," allows humans and computers to each perform the kinds of intelligent activities that they can do best.[102] This is very much in line with Ashley's observation that although software cannot read legal texts in the sense that humans read, it can nevertheless intelligently process those texts to identify elements that are relevant to a problem and bring these elements to the user's attention.[103]

I begin by describing the proposed process for designing an AI system that is tailored to a specified legal domain. I then expound on this proposal by outlining a specific example of its usage for the patent law question of claim definiteness.

The first step in the design process is for the legal expert to select one or more particular forms of legal analysis in some area of law.

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102.   *Id.* at 3.
103.   *Id.* at 22.

For example, one might decide that the AI system should analyze whether a valid contract has been formed under Virginia law. It may be acceptable to select several distinct but related forms of legal analysis if there is sufficient overlap between them.

Next, the legal expert develops an outline of the steps that must be performed in this legal analysis, including the details and permutations possible for each step. For example, in analyzing whether a valid contract has been formed, each of the requisite elements of contract formation must be established. The inquiry for a single element can be complex so the details of each must be outlined. For example, in determining whether conduct and words would convey to a reasonable person an intent to be bound, the expert would thoroughly review applicable case law to understand and outline exactly which kinds of conduct and words do or do not convey an intent to be bound.[104] This case law review would reveal many specific examples that the expert would use in the steps that follow.

The next step in the proposed process is to identify the information that is possibly, though not necessarily, useful to the legal analysis. Continuing with the contract example, information such as whether there is a prior arrangement to be bound by subsequently-passed rules,[105] or whether the agreement had been read by all parties,[106] can be relevant to whether an intent to be bound has been conveyed.

Extracting information from text can be deceptively difficult depending on the complexity of the information and how such information might be represented in text form. For example, a single type of information might be capable of being written using very different words and phrases. Where the information of interest exists in legal instruments such as contracts, wills, or patents that are drafted by an attorney, the experienced attorney can offer significant insights. Knowledge of the legal drafting process, and in particular how the drafter can use different patterns of text to represent a particular concept, can help in the design of NLP software that is better able to identify and extract the desired information from text. It is at this point that the legal expert must collaborate

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104. *See, e.g.*, Lucy v. Zehmer, 84 S.E.2d 516, 522 (Va. 1954); Timothy S. Hall, *Magic and Contract: The Role of Intent*, 12 TEX. WESLEYAN L. REV. 464, 466 (2005) (describing *Lucy v. Zehmer* as demonstrating the "elementary principle of contracts that the relevant intent is the objective, expressed intent of the actor").

105. Falls Church v. Protestant Episcopal Church, 740 S.E.2d 530, 540-41 (Va. 2013).

106. Woodson v. Gilmer, 137 S.E.2d 891, 893 (Va. 1964).

with NLP experts to help understand and then define exactly what patterns of text can express the desired information.[107]

The final step of the proposed process is to define the preferred manner to aggregate and convey the information identified by the NLP software. For example, for the legal analysis of contract formation the software could aggregate, for each element of formation, the pieces of information for and against a conclusion that the element is satisfied. Such aggregation can also entail drawing simple inferences from the information. For legal analysis that is performed en masse over several fact patterns, such as in the analysis of hundreds of contracts, it can be advantageous to calculate scores for the legal analysis applied to a particular document. For example, by counting all evidence in favor of and against some conclusion (e.g., the contract lacks consideration) and noting for each contract whether the evidence strongly or weakly favors the conclusion or its negation, the software could provide a score for each contract or other document. The software could also quickly identify a subset of the contracts that are more likely, or less likely, to meet that conclusion based on their scores. This en masse scoring allows the decision maker's attention to be quickly focused on documents that are likely to meet their desired criteria, e.g., contracts that are very likely or very unlikely to lack consideration.

According to a common recommendation in innovation processes such as design thinking[108] and agile development,[109] iteratively developing the AI system can help to produce a higher quality design in a shorter amount of time. One should feel free to revisit the earlier stages of the process, such as identifying information, once insights are produced in later stages, such as defining how to aggregate information that is collected.

A noteworthy aspect of this process is that legal analysis is used to design the AI software, and therefore the entire process is imbued with significant domain knowledge. Domain knowledge can improve the performance of AI software.[110] Machine Learning systems often do not incorporate domain knowledge, instead being

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107. *Cf.* David Lehr & Paul Ohm, *Playing with the Data: What Legal Scholars Should Learn About Machine Learning*, 51 U.C. DAVIS L. REV. 653, 717 (2017) (stating that collaboration between lawyers and technologists will be key for tackling some of the most intractable problems at the juncture of law and Machine Learning).

108. *See generally* Tim Brown, *Design Thinking*, HARV. BUS. REV., June 2008, at 84.

109. *See generally* Daniel E. Schoeni, *Long on Rhetoric, Short on Results: Agile Methods and Cyber Acquisitions in the Department of Defense*, 31 SANTA CLARA HIGH TECH. L.J. 385 (2015).

110. *See, e.g.*, Vincent Aleven, *Using Background Knowledge in Case-Based Legal Reasoning: A Computational Model and an Intelligent Learning Environment*, 150 ARTIFICIAL INTELLIGENCE 183 (2003) (arguing that it is necessary to represent and apply middle-level

driven purely by analysis of the raw data devoid of context.[111] This may be because Machine Learning practitioners can have difficulty understanding or applying domain knowledge.[112]

Note also that the proposed design process is somewhat contrary to the typical Machine Learning paradigm. The purely data-driven Machine Learning system learns all relevant patterns from being exposed to numerous examples, rather than by being told what kinds of patterns are useful or interesting.[113] In contrast, the proposed process delegates this cognitive task of identifying important data to the legal expert. Although this imposes a burden on the human, software would not be able to learn these patterns with sufficient accuracy.

The identification of information that is potentially relevant to the legal analysis has another benefit beyond bringing important information to the attention of the user of the NLP software. This information could be useful in future efforts to train a Machine Learning system to perform more advanced legal analysis with less human input than described in this article. Note that in the process proposed above, potentially-relevant information must first be identified. Moreover, when the NLP software proposed above is used by lawyers, the lawyers' evaluations and legal conclusions based on this information could eventually be captured. Such evaluations and conclusions could then form a set of training data of inputs (relevant information) and outputs (legal conclusions based on this information). This training data could be used to teach a future Machine Learning system to learn how to draw the same sorts of conclusions from relevant information.

C.   An Example of the Proposed Process: AI for Patent Indefiniteness

In this section, I provide a brief overview of the legal standard for patent claim indefiniteness. The purpose of this exposition is to understand not only the analysis that the legal decision maker undertakes but also the types of information that are relevant to the

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normative background knowledge in order to address case-based argumentation). The proposal offered in this article is similar to Aleven's in identifying the main issues raised by a problem. *Id.* at 193-94. However, Aleven's system, to my knowledge, does not incorporate the NLP systems for extracting information from text as proposed here.

111.   Ting Yu et al., *Incorporating Prior Domain Knowledge into Inductive Machine Learning*, 73 NEUROCOMPUTING 2614, 2614 (2010).

112.   *Id.*

113.   Surden, *supra* note 2, at 90-93.

analysis. Both will be used in designing AI software to partially automate the indefiniteness analysis in an example that follows.

The definiteness requirement is specified in 35 U.S.C. § 112(b), which requires that the "specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter" of the invention.[114] The United States Supreme Court recently clarified this statutory standard by ruling that "a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, *with reasonable certainty*, those skilled in the art about the scope of the invention."[115] The "reasonable certainty" standard balances two interests. On the one hand, patent claims should provide the public with "clear notice" of the exclusionary rights provided by the patent.[116] Distinct claims "guard against unreasonable advantages to the patentee and disadvantages to others arising from uncertainty as to their [respective] rights."[117] On the other hand, "the definiteness requirement must take into account the inherent limitations of language."[118] Accepting some uncertainty is the "price of ensuring the appropriate incentives for innovation."[119]

Claim definiteness is a question of law that the courts review without deference.[120] This flows from a court's obligation to construe claims de novo.[121] Nevertheless, the definiteness inquiry depends on "the understanding of a skilled artisan at the time of the patent application, not that of a court viewing matters *post hoc*."[122] Thus, the level of skill of the person having ordinary skill in the art is relevant to definiteness.[123]

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114.   35 U.S.C. § 112(b).

115.   Nautilus, Inc. v. Biosig Instruments, Inc., 572 U.S. 898, 901 (2014) (emphasis added).

116.   *Id.* at 909-10. Clear notice is necessary to avoid "[a] zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims." *Id.* (quoting United Carbon Co. v. Binney & Smith Co., 317 U.S. 228, 236 (1942)).

117.   General Elec. Co. v. Wabash Appliance Corp., 304 U.S. 364, 369 (1938) (citing Brooks v. Fiske, 56 U.S. 212, 215 (1853)).

118.   *Nautilus, Inc.*, 572 U.S. at 909 (citing Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 731 (2002)).

119.   *Id.* (quoting *Festo Corp.*, 535 U.S. at 732).

120.   Star Sci., Inc. v. R.J. Reynolds Tobacco Co., 655 F.3d 1364, 1372-73 (Fed. Cir. 2011).

121.   Kinetic Concepts, Inc. v. Blue Sky Med. Grp., Inc., 554 F.3d 1010, 1022 (Fed. Cir. 2009).

122.   *Nautilus, Inc.*, 572 U.S. at 911.

123.   AllVoice Computing PLC v. Nuance Commc'ns, Inc., 504 F.3d 1236, 1240 (Fed. Cir. 2007) (citing Miles Labs., Inc. v. Shandon, Inc., 997 F.2d 870, 875 (Fed. Cir. 1993)).

One commentator has suggested that it can be helpful to consider two distinct types of definiteness, *linguistic* and *physical*.[124] Claims that can be construed in more than one way by the person of ordinary skill are linguistically indefinite, while claims whose single meaning does not sufficiently delineate a necessary relationship among claim elements are physically indefinite. For example, claims "with comparative terms or ambiguous spatial relationships between claim elements fail to meet the physical-definiteness requirement."[125]

The review of the legal standard for indefiniteness highlights several types of information, each of which can be relevant depending on the facts in the case at hand. Listed below are several types of information which can be automatically extracted from patent text. Accompanying each is a brief description of the potential relevance of the information to the indefiniteness inquiry. For simplicity, I present only three types of information, each of which involves only features related to claim terms. Many additional types of information are relevant to indefiniteness, some possessing a very different character than the types listed below.[126]

1. *Claim term is not defined or not used in the specification.*

The definiteness of a claim depends on whether the terms used in the claim have ascertainable meanings, so an inspection of claim terms is useful to the indefiniteness analysis.[127] The mere presence or absence of a definition for a claim term is information potentially useful to the indefiniteness analysis. If a claim term is not defined in the specification, then this suggests that the claim is (at least somewhat) less likely to be definite; the patent's specification might not provide the person of ordinary skill with enough information to

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124. Gary M. Fox, Student Note, *Understanding Nautilus's Reasonable-Certainty Standard: Requirements for Linguistic and Physical Definiteness of Patent Claims*, 116 MICH. L. REV. 329, 347-48 (2017).

125. *Id.* at 342.

126. The Center for AI and Patent Analysis (CAPA) at Carnegie Mellon University conducts original research on new classes of AI tools for various users of the patent system. Several projects involve NLP systems for partially-automated patent analysis, including a more extensive version of the patent indefiniteness project described here.

127. Cox Commc'ns, Inc. v. Sprint Commc'n Co., 838 F.3d 1224, 1232 (Fed. Cir. 2016) ("[T]he common practice of training questions of indefiniteness on individual claim terms is a helpful tool. Indeed, if a person of ordinary skill in the art cannot discern the scope of a claim with reasonable certainty, it may be because one or several claim terms cannot be reliably construed.").

understand the meaning of the term.[128] Nevertheless, if no defini-
tion is provided, mere usage of the term in the patent can be suffi-
ciently informative "if the meaning of the term is fairly inferable
from the patent."[129] What is most relevant is whether the claim
term is well understood by one of ordinary skill in the art and thus
would not need any explanation or clarification in the patent.[130]

2.   Claim term is coined.

The patent drafter is permitted to use claim terms of her own
devising.[131] That is, the patent drafter may have invented a new
term rather than used a term known in the literature of the rele-
vant technical field. Such terms need not have ever appeared in
any previous publication or patent. If the term has never appeared
in any previous publication or patent, then it is possible that the
person of ordinary skill would not ascribe a definite meaning to the
term.[132] If so, it is incumbent on the patent drafter to define the
custom term,[133] or risk the claim being considered indefinite.[134]

3.   Claim term is potentially vague.

Terms denoting unspecified limits, including terms of degree and
inherently vague adjectives, can be problematic. The inclusion of
such words increases the likelihood that the claim does not have the
requisite amount of certainty to satisfy the definiteness require-
ment. In patent claims, this can occur with the use of the modifier
"substantially." For example, the claim may include a term of de-

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128.   Bancorp Servs., L.L.C. v. Hartford Life Ins. Co., 359 F.3d 1367, 1373 (Fed. Cir. 2004)
(explaining that although claim terms need not necessarily be defined in the patent, a defi-
nition avoids a "time-consuming and difficult inquiry into indefiniteness").

129.   *Id.*

130.   Verve, LLC v. Crane Cams, Inc., 311 F.3d 1116, 1119-20 (Fed. Cir. 2002).

131.   *See, e.g.*, Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996)
(noting that a patentee may choose to be his own lexicographer).

132.   *See* Advanced Ground Info. Sys., Inc. v. Life360, Inc., 830 F.3d 1341, 1348-49 (Fed.
Cir. 2016) (holding that claim term "symbol generator" was not a term of art and was indefi-
nite).

133.   *Cf. Vitronics Corp.*, 90 F.3d at 1582 ("[A] patentee may choose to be his own lexicog-
rapher and use terms in a manner other than their ordinary meaning, as long as the special
definition of the term is clearly stated in the patent specification or file history.").

134.   Capital Sec. Sys., Inc. v. NCR Corp., 725 Fed. App'x 952, 959 (Fed. Cir. 2018) (affirm-
ing district court's holding of indefiniteness because the claim term "transactional operator"
"has no commonly-accepted definition and its scope is unclear in view of the intrinsic evi-
dence").

gree, such as a distance between components that must be "substantially equal to"[135] some amount, a balloon that must be "substantially filled,"[136] or a chemical that does not "interfere substantially"[137] with some capability. To avoid indefiniteness, there must be "some standard for measuring that degree,"[138] either in the patent itself or from the knowledge of a person of ordinary skill in the art.[139] If the claim provides "enough certainty to one of skill in the art when read in the context of the invention," then the claim is not indefinite.[140]

Other words besides modifiers introduce a potentially-indefinite term of degree into the claim. For example, adjectives such as "fragile" can be ambiguous as to the requisite degree of the fragility of the gel, thus rendering the term indefinite.[141] Similarly, the claim term "at least partially soluble in water" has been held to be improperly vague.[142]

However, definiteness does not require that the claim provide mathematical precision.[143] Terms of degree without numerical limits can nevertheless be considered definite, particularly if the relevant field of technology admits no more precise way of specifying the invention.[144] The key issue is whether the specification provides some standard for measuring that degree.[145]

In summary, it would be useful for AI software to assist in the indefiniteness analysis by identifying in the patent (and possibly in other patents as well): (1) whether the terms in the claims are defined or used in the patent, (2) whether the claim term appears to be coined rather than in common usage, and (3) whether any claim

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135.   Seattle Box Co. v. Indus. Crating & Packing, Inc., 731 F.2d 818, 821 (Fed. Cir. 1984).

136.   Tinnus Enters., v. Telebrands Corp., 846 F.3d 1190, 1206 (Fed. Cir. 2017).

137.   Enzo Biochem, Inc. v. Applera Corp., 599 F.3d 1325, 1329 (Fed. Cir. 2010). Though the term "not interfering substantially" does not provide a precise numerical measurement, the intrinsic evidence provided "a general guideline and examples sufficient to enable a person of ordinary skill in the art to determine [the scope of the claims]." *Id.* at 1335 (quoting *In re* Marosi, 710 F.2d 799, 803 (Fed. Cir. 1983)).

138.   *Id.* at 1332 (quoting *Seattle Box Co.*, 731 F.2d at 826).

139.   Verve, LLC v. Crane Cams, Inc., 311 F.3d 1116, 1119-20 (Fed. Cir. 2002).

140.   Biosig Instruments, Inc. v. Nautilus, Inc., 783 F.3d 1374, 1378 (Fed. Cir. 2015) (quoting Interval Licensing LLC v. AOL, Inc., 766 F.3d 1364, 1370 (Fed. Cir. 2014)).

141.   Halliburton Energy Servs., Inc. v. M-I LLC, 514 F.3d 1244, 1256 (Fed. Cir. 2008).

142.   Standard Oil Co. v. Am. Cyanamid Co., 774 F.2d 448, 453 (Fed. Cir. 1985).

143.   Invitrogen Corp. v. Biocrest Mfg., L.P., 424 F.3d 1374, 1384 (Fed. Cir. 2005); Sonix Tech. Co. v. Publ'ns Int'l, Ltd., 844 F.3d 1370, 1377 (Fed. Cir. 2017) ("Because language is limited," terms of degree are not inherently indefinite.).

144.   Rosemount, Inc. v. Beckman Instruments, Inc., 727 F.2d 1540, 1547 (Fed. Cir. 1984) (affirming a district court's holding that the term "close proximity" is as precise as the subject matter permits).

145.   Datamize, LLC v. Plumtree Software, Inc., 417 F.3d 1342, 1351 (Fed. Cir. 2005).

terms are inherently vague words. Further, aggregating this information, such as for each claim or each claim term, would help the lawyer quickly assess the totality of the evidence presented by the software. One way to aggregate this information would be to simply present all information in a list for the lawyer's review. Another way to aggregate this information would be to develop a simple score, such as counting the percentage of claim terms that lack a definition or counting the number of vague terms in the claims. This type of simple score would allow the lawyer to rapidly assess a large number of patents and would focus the lawyer's attention on the patents most likely to merit further review.

CONCLUSION

A review of contemporary NLP software reveals both impressive capabilities as well as serious shortcomings. The inability of NLP software to perform robust commonsense reasoning and utilize shared background knowledge prevents many types of legal analysis from being fully automated. Nevertheless, an appropriate division of labor between the lawyer and the computer enables a new class of partially-automated legal analysis. NLP tools designed with the aid of the legal expert can exploit concrete knowledge of case law, allowing software to identify in legal texts different types of information used in conducting specific forms of legal analysis. This type of NLP tool would be tailored to a narrow field of law but would thereby leverage profound expertise in that field to more accurately identify, aggregate, and display relevant information to the legal decision maker. Though such NLP software would not perform all of the steps in the desired legal analysis, the software would allow the user to search for and utilize necessary information faster than if the user worked unaided.

This paradigm is especially useful in the field of patent law because the patent document contains in text form much of the information necessary to perform different types of legal analysis. Moreover, knowledge of the drafting techniques of patent attorneys can be employed to better understand how different types of relevant information can be expressed in text form. This in turn leads to more effective NLP techniques to extract that information. It is hoped that this process for designing NLP software will facilitate greater exposure to NLP software by those in the legal field and foster more collaboration between the Machine Learning and legal communities.

Mind the Gap: Technology as a Lifeline for Pro Se Child Custody Appeals

Katherine L.W. Norton*

ABSTRACT

As the justice gap continues to grow, and because there is no federal constitutional right to counsel in civil cases, there is an ongoing need to develop solutions to assist those who cannot afford attorneys to navigate the difficult procedural issues associated with their legal matters. Appellate procedure is difficult to comply with even when a person has legal training, and for the pro se litigant it can be particularly difficult to articulate a meritorious claim and draft the documents required to initiate an appeal. Failure to comply with the procedural requirements for an appeal can result in the appellate court finding waiver or even dismissing the case prior to it being heard on the merits. Artificial intelligence systems and technology have been identified as a means to help close the justice gap. Through a case vignette, this article will explore the need for additional options to help close the justice gap and will exemplify how technology can assist with the justice gap by presenting an application designed to assist pro se litigants in the creation of the initiating documents for Pennsylvania child custody appeals.

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I. Introduction

"[Seven] in [ten] low-income Americans with recent personal experience of a civil legal problem say a problem has significantly affected their lives."[1] "[Seventy-one percent] of low-income households have experienced at least one civil legal problem in the past year."[2] Of those civil issues experienced, 27% of the households were dealing with matters relating to children or custody.[3] Self-represented litigants "are prone to committing administrative, procedural and substantive errors."[4] These facts and statistics are just a few examples illustrating the breadth of the justice gap in the United States. Those in need of legal services cannot afford them or face other barriers to access. The justice gap is a complex problem which will not be fixed easily, but technology can significantly assist those who lack the means to have counsel to effectively navigate procedural matters. Technology applications, such as the proposed program application below, will help put a band-aid on the ever-increasing justice gap and can help litigants navigate difficult procedural issues.[5]

As the Director of Clinical and International Programs at Duquesne University School of Law, and the supervising attorney of our Family Law Clinic, I observe the procedural difficulties faced by low income litigants who do not have the means to hire private counsel. This becomes especially apparent when dealing with child custody cases and appeals. To more effectively illustrate the problem, I have compiled a case vignette below incorporating many of the procedural issues faced by pro se litigants in real cases presented to the Duquesne University School of Law Family Law Clinic in the Fall 2018 Semester.[6]

Betty is a grandmother and loves her grandchildren, Barbara and Gail. She took care of Barbara and Gail for the past year because their parents have been struggling with an opioid addiction. During this time, Betty has done everything for the girls. She made sure that they attended school each day, had regular doctor and dentist appointments, and provided for their daily needs. Barbara struggled in school the prior year due to the problems her parents

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1. LEGAL SERVS. CORP., THE JUSTICE GAP: MEASURING THE UNMET CIVIL LEGAL NEEDS OF LOW-INCOME AMERICANS 7 (2017), https://www.lsc.gov/justicegap2017.

2. *Id.* at 21.

3. *Id.* at 23.

4. Ayelet Sela, *Streamlining Justice: How Online Courts Can Resolve the Challenges of Pro Se Litigation*, 26 CORNELL J.L. & PUB. POL'Y 331, 339 (2016).

5. *See* LEGAL SERVS. CORP., *supra* note 1, at 9.

6. Names and facts have been modified to protect confidentiality, but the facts as presented are frequently seen across Pennsylvania courts.

were having, but with Betty's help, Barbara is getting straight A's as a fourth grader. Gail is in kindergarten, and if not for Betty, she would have missed the enrollment period and would be a grade behind. During this time, Betty has also been able to help the girls' parents by making sure that they are successful in their rehabilitation program. Things were going well for this family despite the hardships that they have faced.

However, a month ago, Barbara's and Gail's father completed rehabilitation and immediately came to pick up the girls from Betty. Betty does not know what to do, as the girls' father says that they are leaving and will never see Betty again as he is angry with her because she is still helping the girls' mother. Father's anger stems from the mother's decision to end her relationship with father. The police tell Betty they cannot help as she does not have a custody order, and they have to protect the father's interests. Betty does not understand what has happened but knows she needs legal help.

Betty cannot afford an attorney due to her limited means. But Betty has a number of options for assistance with her trial court legal needs due to the active pro bono community and two law schools in the Pittsburgh area providing limited representation to those who cannot afford an attorney. Betty walks into a family law clinic, where law students help prepare documents and give advice to those seeking assistance. The student attorneys[7] prepare a custody pleading asking for Betty to have custody rights as the girls' grandparent.[8] As the next step in the process, the court schedules a hearing for Betty to explain how she has standing. There are no available pro bono programs that can help Betty with this hearing, but Betty feels well prepared so she heads to court confident that she will get an order allowing her to see her grandchildren. When she gets to court, the judge asks her why she has standing to see the children. She tells the court that all she wants to do is see her grandchildren. The judge asks if Betty still has custody of the children, and she admits that she does not.

The judge tells Betty she does not have standing and cannot ask the court for custody of the children. Her case is over before it began. Betty leaves court, unsure about what happened or what, if anything, she can do now. She knows the custody complaint that the students created for her raises a number of bases for standing that the court did not address when dismissing her case. She talks

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7. *See* PA. B. ADMISSION R. 321.
8. *See* 23 PA. CONS. STAT. §§ 5324-5325 (2014).

to several pro bono programs. They tell her she should file an appeal as long as she has a "meritorious claim." However, she does not even know where to start. Betty inquires to see if anyone can help her. No attorneys are available to take on a pro bono custody appeal. The law schools do not take appellate cases, but they inform her that she needs to get a number of documents filed within thirty days of the trial court's order.

Betty's situation is not unusual. In general, resources are not available for pro bono attorneys to take on appellate cases.[9] So Betty is left out in the cold unless she can find someone to help her quickly, due to the appellate timing and filing requirements. She must file her Notice of Appeal and Statement of Errors Complained of on Appeal simultaneously.[10] If she had assistance in the preparation of these documents, she may be able to proceed with her case, as her issues would be preserved. The appellate court would hear the merits of her case, and because the Pennsylvania statute governing standing for grandparents seeking partial physical custody and supervised physical custody allows Betty to proceed with her request for custody time with her grandchildren, Betty would likely be successful.[11]

Research suggests one of the largest hurdles pro se litigants face are those involving procedural issues.[12] Initially, a custody complaint requires that a person includes all demographic information: who the potential parties may be, their residences, and a basic reason for why it is in the best interest of the child to spend time with the requesting party.[13] Yet, if the case does not go as anticipated, the appellate process often has significant procedural pitfalls.[14] A litigant is given only thirty days from the date of the order's entry to file an appeal and list the perceived trial court errors.[15] This is a potential pitfall for a pro se litigant because if the litigant fails to raise issues properly, it can result in the appellate court finding waiver or dismissing the appeal.[16]

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9. While the state of Colorado has a successful appellate pro bono program, it has only accepted 18% of applications over the past five years. *See* Marcy G. Glenn, *Pro Se Civil Appeals—Resources and Opportunities*, COLO. LAW., June 2016, at 57, 58. The California courts have also recently developed an online self-help center focusing on appeals assistance for pro se litigants. *See Self Help Resources*, CAL. CTS., https://www.courts.ca.gov/2148.htm (last visited Oct. 5, 2019).

10. *See* PA. R. APP. P. 1925(a)(2)(i).

11. *See* 23 PA. CONS. STAT. §§ 5324-5325.

12. Tori R.A. Kricken, *The Justice Gap: The Impact of Self-Representation on the Legal System and Judicial System (and Beyond)*, WYO. LAW., Oct. 2016, at 16, 19.

13. *See* PA. R. CIV. P. 1915.15(a).

14. *See generally* PA. R. APP. P. 1925.

15. *See id.* at 903.

16. *Id.*

The initial filings in the appeal process are a significant hurdle for those who do not practice law given the timing and the technicalities involved. With respect to Pennsylvania, technology would assure that the litigant has completed a Notice of Appeal[17] and a Concise Statement of Errors Complained of on Appeal.[18] Specifically, technology could assure that Betty avoids the procedural minefields of the initial appellate filings. The Notice of Appeal itself requires a significant amount of both demographic and procedural information. The Concise Statement of Errors Complained of on Appeal requires a litigant to cite specific errors, identifying how the trial court made a legal error or abused its discretion.[19] An inappropriately drafted Concise Statement of Errors Complained of on Appeal leads to a finding of waiver (dismissal of the case) when:[20] it is vague;[21] it is not in the correct form;[22] it is not filed timely;[23] not all issues are raised prior to briefing;[24] issues are not ripe;[25] issues

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17.   *See id.* at 904, 905.

18.   *See id.* at 1925. Rule 1925 provides:

(a)(2)(i) The concise statement of errors complained of on appeal shall be filed and served with the notice of appeal required by Rule 905. *See* PA. R. APP. P. 905(a)(2). . . .

(b)(4) *Requirements; waiver.*

(i) The Statement shall set forth only those rulings or errors that the appellant intends to challenge.

(ii) The Statement shall concisely identify each ruling or error that the appellant intends to challenge with sufficient detail to identify all pertinent issues for the judge. The judge shall not require the citation to authorities; however, appellant may choose to include pertinent authorities in the Statement.

(iii) The judge shall not require appellant or appellee to file a brief, memorandum of law, or response as part of or in conjunction with the Statement.

(iv) The Statement should not be redundant or provide lengthy explanations as to any error. Where non-redundant, non-frivolous issues are set forth in an appropriately concise manner, the number of errors raised will not alone be grounds for finding waiver.

(v) Each error identified in the Statement will be deemed to include every subsidiary issue contained therein which was raised in the trial court; this provision does not in any way limit the obligation of a criminal appellant to delineate clearly the scope of claimed constitutional errors on appeal.

(vi) If the appellant in a civil case cannot readily discern the basis for the judge's decision, the appellant shall preface the Statement with an explanation as to why the Statement has identified the errors in only general terms. In such a case, the generality of the Statement will not be grounds for finding waiver.

(vii) Issues not included in the Statement and/or not raised in accordance with the provisions of this paragraph (b)(4) are waived.

19.   Commonwealth v. Hansley, 24 A.3d 410, 415 (Pa. Super. Ct. 2011).

20.   PA. R. APP. P. 1925(b)(4).

21.   *See Hansley*, 24 A.3d at 415.

22.   *Id.*

23.   *See In re* L.M., 923 A.2d 505, 508-09 (Pa. Super. Ct. 2007). While this is not a bright line rule in family law cases, it does pose a hurdle as it is within the discretion of the court to find waiver.

24.   PA. R. APP. P. 1925(b)(4)(vii).

25.   *See* Bayada Nurses, Inc. v. Commmonwealth of Pa. Dep't of Lab. and Indus., 8 A.3d 866, 874 (Pa. 2010).

are moot;[26] and issues are not limited, and are therefore deemed to be meritless.[27]

Betty's legal issue should be straight forward so long as she complies with the specific rules and facts that must be pled. However, the standard is not easily understood. With this in mind, it becomes even more concerning that in family law cases at least one party appears pro se approximately 80% of the time.[28] As a result, there is an ongoing effort to design methods to address what is becoming a "pro se problem" in the United States regarding appeals.[29] All of the alternatives, including lawyers taking pro bono cases, self-help centers and ghost writing, have fallen short. In fact, while the American Bar Association calls on attorneys to dedicate time to pro bono services, there are limitations in available time and resources on private attorneys' ability to take on those cases[30]

In 2017, Legal Services Corporation (LSC) reported that 86% of the civil legal problems reported by low-income Americans in the past year received inadequate or no legal help.[31] Due to the ongoing need and issues that litigants like Betty face, many jurisdictions have begun to explore non-attorney solutions to assist pro se litigants.

Artificial intelligence systems can be useful as a remedy to this problem, and have been identified as an asset for the delivery of legal services to low-income clients. In 2017, LSC funded twenty-five Technology Initiative Grants to twenty-two legal service organizations to develop technologies to improve efficiency and provide greater assistance for low-income Americans.[32]

By providing pro se litigants support through the use of technology, issues surrounding access to justice in appeals may be mitigated. Artificial intelligence systems can guide litigants through

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26. *See* Driscoll v. Zoning Bd. of Adjustment of Phila., 201 A.3d 265, 266 (Pa. Commw. Ct. 2018).

27. *Id.* at 268 n.2.

28. Deborah L. Rhode et al., *Access to Justice Through Limited Legal Assistance*, 16 NW. J. HUM. RTS. 1, 3 (2018); *see also* Michele N. Struffolino, *Taking Limited Representation to the Limits: The Efficacy of Using Unbundled Legal Services in Domestic-Relations Matters Involving Litigation*, 2 ST. MARY'S J. LEGAL MALPRACTICE & ETHICS 166, 197-98 (2012) ("In some states, as many as 80% of cases in family court involve at least one unrepresented party.").

29. Rhode, *supra* note 28, at 4-6.

30. *See* AM. BAR ASSOC. STANDING COMM. ON PRO BONO & PUB. SERV., SUPPORTING JUSTICE: A REPORT ON THE PRO BONO WORK OF AMERICA'S LAWYERS 20 (2018), https://www.americanbar.org/content/dam/aba/administrative/probono_public_service/ls_pb_supporting_justice_iv_final.pdf.

31. *See* LEGAL SERVS. CORP., *supra* note 1, at 6.

32. *2017 Annual Report Pro Bono and Tech*, LEGAL SERVS. CORP., https://www.lsc.gov/media-center/publications/2017-annual-report-pro-bono-and-tech (last visited Nov. 15, 2019).

procedural traps and formalities, and assure that pro se litigants are able to move their appellate issues forward, placing a band-aid on the significant justice gap associated with custody appeals.

For Betty, to avoid her appeal being dismissed due to the failure to comply with these requirements, decision tree algorithms[33] can be utilized to create a program that is easy for her to use so she may properly file the appeal-initiating documentation and avoid having her case dismissed prior to it being heard on the merits. The proposed program is a low cost, simple to use, and efficient way to remove a significant hurdle placed before the pro se litigant who desires to challenge a trial court's determination regarding the custody of a minor child.

II. THE LAW, DESIGN, AND IMPLEMENTATION PROCESS

In an effort to try to help bridge this justice gap, even in the smallest of ways, a program is being developed for litigants to appropriately comply with the initial filing procedures for appeals in child custody cases, using Pennsylvania as a test jurisdiction.[34] Pennsylvania appellate procedure for child custody actions is being utilized to complete this program.

Procedurally, there are two documents that must be completed and filed for the initiation of a child custody appeal in Pennsylvania. The first is the Notice of Appeal,[35] and the second is the Concise Statement of Errors Complained of on Appeal.[36] As child custody appeals are deemed part of the Children's Fast Track cases in Pennsylvania, these documents must be filed simultaneously, within thirty days of the entry of the trial court's decision.[37] The Notice of Appeal requires specific information, such as: litigant names, docket number, caption, indication of a transcript request, a copy of the order, docket entries, and an indication that the case is a "Children's Fast Track" case.[38] The Concise Statement of Errors Complained of on Appeal has similar specific requirements regarding what must be included in the document, such as requiring the litigant to identify the errors of the trial court.[39] In order to identify potential errors, the litigant is required to understand what a trial

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33. Generally, a decision tree algorithm is where the branches represent decisions and their potential outcomes or consequence. *See* Bogumil Kaminski et al., *A Framework for Sensitivity Analysis of Decision Trees*, 26 CENT. EUR. J. OPERATIONS RES. 135, 138 (2018).

34. The program is being developed with Crivella Technologies.

35. *See* PA. R. APP. P. 905(a)(1).

36. *See id.* at 905(a)(2); *Id.* at 1925(a)(2)(i).

37. *Id.* at 1925(a)(2)(ii).

38. *See id.* at 905(b).

39. *Id.* at 1925(b).

court is required to consider when making determinations relating to a litigant's child custody action.

Given the difficulties that can occur with determining the areas of potential errors, the program is being designed using decision tree algorithms. As a pilot, we are starting by addressing claims relating to standing, which was Betty's issue. To ultimately understand the design, it is necessary to begin by explaining the requirements Betty must meet in order to proceed with the litigation at the trial court level.

There are four groups of parties that are permitted to move forward with custody litigation in Pennsylvania.[40] These include: a parent of the child, a person who stands *in loco parentis*, individuals meeting certain requirements when the parents are unavailable, and grandparents/great-grandparents.[41] While there is no standard to meet for a parent to proceed with litigation aside from being "the parent," it becomes more complicated for third parties, such as grandparents and persons acting *in loco parentis*.[42]

Specifically, the law requires a person standing *in loco parentis* to plead that the relationship began with the consent of the parents and that they have acted as if they were a parent.[43] Both of these requirements are defined in the common law and require specific factual pleadings, such as how the party obtained consent from the parent, or how they have acted as a parent.[44]

A grandparent seeking custody who is not *in loco parentis* must show: the relationship began with the consent of a parent or by court order; they are willing to assume responsibility for their grandchild; and the child is determined to be dependent, at risk, or has lived with the grandparent for a minimum of twelve consecutive months.[45]

For grandparents or great-grandparents seeking partial custody, they must show one of the following: the parent of the child is deceased and the deceased parent is their child or grandchild; the grandparent's relationship with the child began with the consent of the parent or by court order, a custody action by the parents has commenced, and the parents do not agree with the grandparent having any custody of the child; or the child has resided with the

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40. 23 PA. CONS. STAT. § 5324 (2014).
41. *Id.*
42. *Id.*
43. K.W. v. S.L., 157 A.3d 498, 505 (Pa. Super. Ct. 2017).
44. *Id.* at 507.
45. 23 PA. CONS. STAT. § 5324.

grandparent or great-grandparent for at least twelve consecutive months.[46]

The last group who may seek custody are "individuals who meet certain criteria."[47] This requires the individual to show, by clear and convincing evidence: they have or are willing to assume responsibility for the child; the individual has an interest in the welfare of the child (and the court can consider the "nature, quality, extent and length" of involvement with the child); and neither parent has care and control of the child.[48] Notably, this type of standing is not available if there is a dependency proceeding or an order for permanent legal custody.[49]

When a party is not permitted to proceed with the litigation, such as the case with standing matters, it can be difficult to determine if there is a meritorious basis to file an appeal. This is a result of the limited record that is created in standing proceedings as well as the difficulties that individuals have explaining their circumstances when they do not understand the requirements for standing. This is generally the result of a litigant's lack of understanding of the steps necessary to prove that they have standing *in loco parentis*, as a grandparent, or as an "individual who meets certain criteria," and their ability to provide the necessary information to the court. Given the potential options for someone to have standing to proceed with custody litigation in Pennsylvania, it is easy to see how a pro se litigant may not be able to adequately articulate the error by the trial court, should one exist.

If the litigant does not accurately evaluate standing, the litigant's failure to raise it in a Concise Statement of Errors Complained of on Appeal may result in waiver and a refusal by the appellate court to address the issue.[50] Additionally, the failure to contemporaneously file this statement, which most pro se litigants are unaware of, can result in dismissal of the appeal in its entirety.[51] While the court is discouraged from dismissing a case in this manner, it is within the court's discretion to do so.[52] Further, given that standing is required for a person such as Betty to move forward with an action, the failure to raise the issue through the appeal process would

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46. *Id.* § 5325.
47. *See id.* § 5324(4).
48. *Id.*
49. *See id.* § 5324(5).
50. *See* M.G. v. L.D., 155 A.3d 1083, 1099 (Pa. Super. Ct. 2017), *appeal denied*, 169 A.3d 522 (Pa. 2017); *see also* PA. R. APP. P. 1925(b)(4)(vii).
51. *In re* K.T.E.L., 983 A.2d 745, 747 (Pa. Super. Ct. 2009).
52. *Id.*

effectively preclude the individual from making a request for custody of the child.

The development of the program is focused on Pennsylvania law because the inspiration came from the experiences faced by people like Betty. The jurisdiction is also an ideal setting for the initial tests of the program, given the limited and repetitive nature of issues raised in child custody appeals in Pennsylvania.

Looking at the past year, Pennsylvania child custody appeals that proceeded to argument in the intermediate appellate court (the Pennsylvania Superior Court) can be broken down into five areas. These areas involved issues dealing with: standing (who can bring the action), jurisdiction (what location is appropriate to hear the case), the factors utilized to determine the best interest of the child,[53] procedural errors with issues such as service and notice, and evidentiary issues. Utilizing these areas, we are designing the program to evaluate and determine if there is a meritorious claim for appeal to be raised in the Concise Statement of Errors Complained of on Appeal.

The program will take a litigant through prompts, leading the litigant to provide the necessary information for a complete Notice of Appeal. Following the completion of this document, the litigant will move through the decision tree to evaluate if the litigant meets the criteria for a meritorious claim in any of the five child custody areas that can be ripe for appeal. If the litigant does meet the criteria, language will be added to the Concise Statement of Errors Complained of on Appeal stating the litigant's meritorious claim(s). In the end, a litigant would have both a Notice of Appeal and a Concise Statement of Errors Complained of on Appeal completed and ready to be filed with the court within the designated time period.

When contemplating the design of the program, we wanted the program to be easy to use, readily available, and understandable to a non-lawyer. Accordingly, we determined it was best to design the program as a cell phone or tablet style application. Focusing on the issue that Betty presents, we chose the issue of standing in child custody actions because it is primarily statutorily driven and steps are available to determine if a litigant has standing to move forward. This process starts by having the application ask if the litigant is a parent and if the judge allowed a third party to participate in the litigation or if the litigant is a third party and the judge prevented the litigant from participating in the litigation. Once this determination is made, the application walks the litigant through

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53. *See* 23 PA. CONS. STAT. §§ 5324-5325, 5421.

the different areas where the trial court may have erred in making a standing determination.

Application of this program to Betty's situation is illustrated in the wire frames below, which show how Betty can reach her meritorious issue (in legal terminology) for the Concise Statement of Errors Complained of on Appeal. Betty, a grandmother, who was denied standing by the trial court, would start with the middle path of the wire frame in Figure 1. Because Betty was requesting less than 50% of the overnights with the children, the next step proceeds to the A-1 wire frame, continuing through the prompts to lead Betty down the path of determining if she has a meritorious issue for appeal.
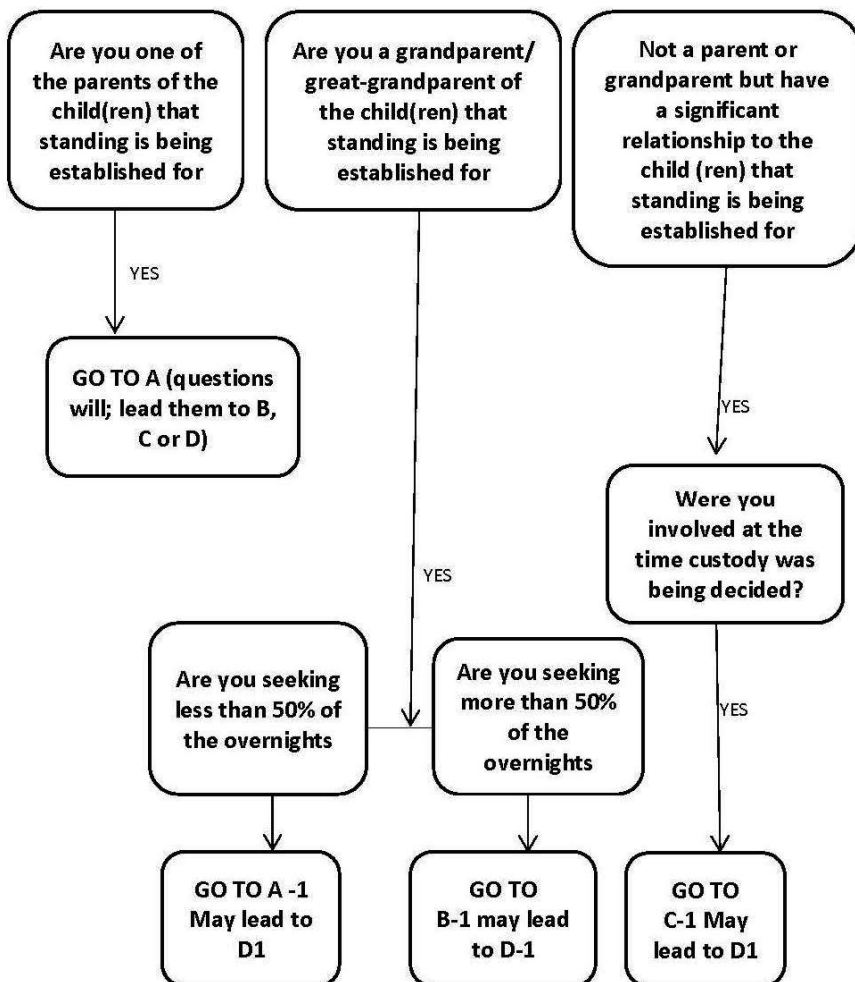
Figure 1: Wire Frame: Individual Standing Starting Point[54]

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54. Wire frame designed by Crivella Technologies.

Betty will work her way through the A-1 wire frame in Figure 2 below: she is a grandparent; neither one of the parents is deceased; her relationship with the children began with the consent of the parents; the parents have not commenced a custody action; the children have lived with her for twelve months and she filed her action within six months from the children being removed; and, as the court did not let her participate in the litigation, she now has an error that she may raise on appeal. As a result, an appropriate issue will be placed on her Concise Statement of Errors Complained of on Appeal.

At the end of reviewing these prompts, Betty would have a document stating the following: "The trial court erred in determining that Grandmother did not have standing to petition for grandparent custody rights under 23 Pa. Cons. Stat. § 5325(3)."[55] For Betty, this means she will be able to pursue her argument that the trial court erred in denying her standing, as she had primary custody of Barbara and Gail for twelve months and she filed her custody action within six months of the children's removal from her house.

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55. A Concise Statement of Errors Complained of on Appeal would include this language to preserve Betty's issue for appeal regarding the trial court's error in denying her standing request. *See* Grom v. Burgoon, 672 A.2d 823, 825 (Pa. Super. Ct. 1996).
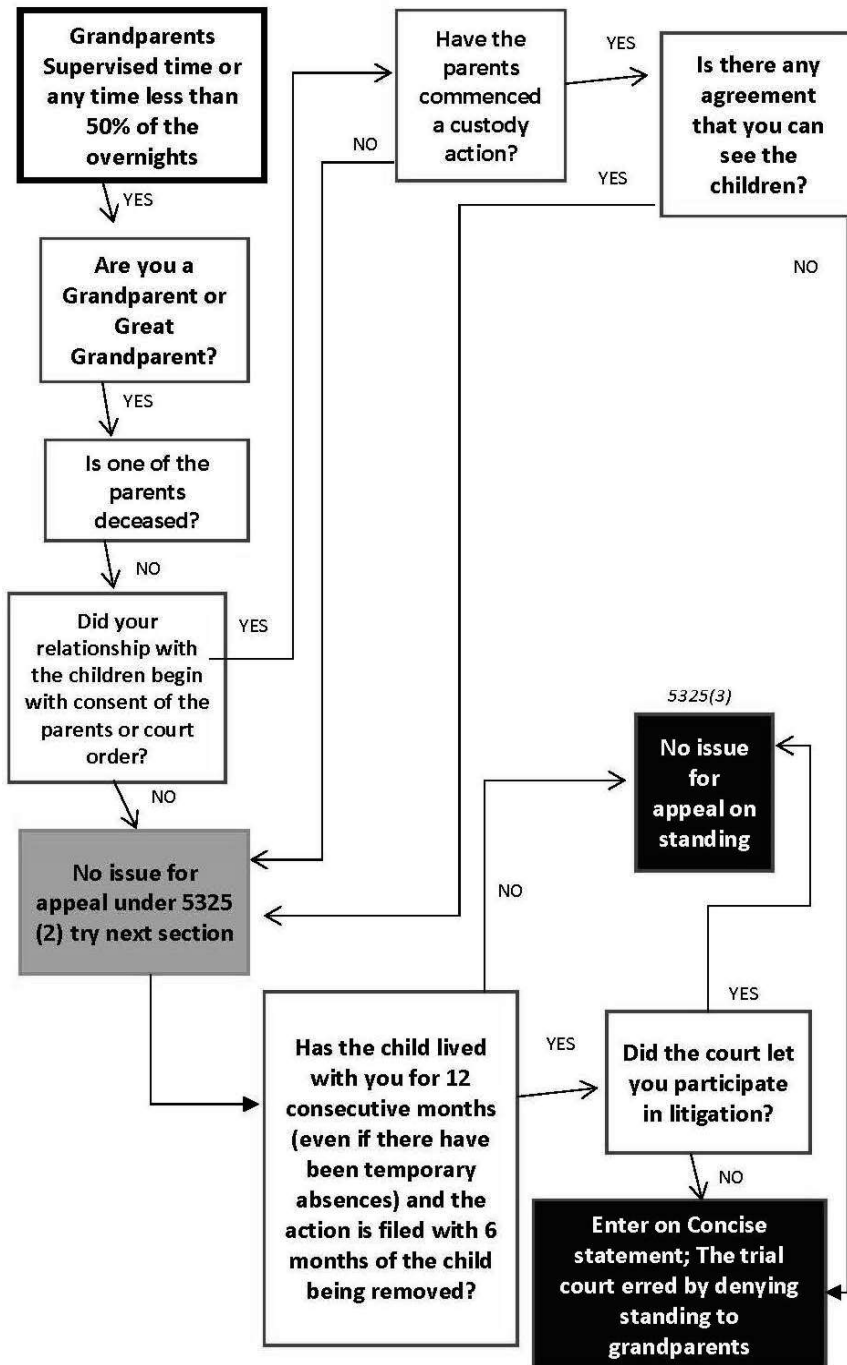
Figure 2: A-1 Wire Frame: Grandparent Partial Custody Standing Pursuant to 23 Pa. Cons. Stat. § 5325(3)[56]

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56.   Wire frame designed by Crivella Technologies.

When the remaining decision trees are completed, the most common meritorious issues that can be raised for a child custody appeal will be able to be evaluated for a pro se litigant. In the end, the program will generate a comprehensive Notice of Appeal and Concise Statement of Errors Complained of on Appeal for the litigant. These can then be reviewed by an attorney and filed with the court, and the appeal process will move to the next step without the risk of the appellate court finding waiver. Any self-help material or program designed to be used by a non-attorney must be designed to avoid legalese and to be user friendly.[57] Given the accessibility of smart phones and computer applications, the design will mirror the common applications that litigants are exposed to on a regular basis, such as online food ordering programs.

We are currently in the application development process and are not yet testing the program. To test, we hope to implement the program in a local Pittsburgh Appellate Pro Bono Program whereby attorneys will represent a litigant in a child custody appeal if there is a meritorious claim.[58] Part of the program requires that the pro se litigant fill out an application explaining their appellate issues.[59] In addition to completing the application, we will ask the litigant to utilize the program to generate their Notice of Appeal and Concise Statement of Errors Complained of on Appeal. These documents will be sent to the attorney reviewing the case for merit, in conjunction with the client's application. The attorney will then indicate whether they believe the case had a greater likelihood of surviving waiver based on the prepared documents. The ultimate goal is for these cases to proceed to the appellate court on issues of merit and not to be waived due to a pro se litigant's inability to complete procedural requirements.

III. APPLICATION EVOLUTION

While the program is using Pennsylvania law for the test version of the application, it is designed in a manner that can be utilized by other states by simply changing the prompts embedded in the decision trees. This is, in part, why we have focused on utilizing commonly available technologies at this point. As this will be a helpful tool for pro se litigants to overcome procedural hurdles, we want to make sure that the technology is easily adaptable and available

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57. James D. Greiner et al., *Self-Help, Reimagined*, 92 IND. L.J. 1119, 1156 (2017).

58. *Family Law Appellate Pro Bono Pilot Project*, ALLEGHENY COUNTY B. FOUND., http://www.pittsburghprobono.org/Family_Law_Appellate_Pro_Bono_Pilot_Project.asp (last visited Oct. 23, 2019).

59. *Id.*

without the need for significant funding sources, personnel resources, or any of the challenges we already have in addressing the ongoing justice gap.

The application has the potential to evolve beyond the initial appellate procedural filings. We are simultaneously compiling data on the success of each child custody action brought before the appellate court in Pennsylvania over the past five years. The goal is to identify winning arguments before the appellate court and to transpose those into the program so, at the time of filing the Notice of Appeal and Concise Statement of Errors Complained of on Appeal, the arguments in favor of or against the appeal themselves are evaluated for their likelihood of success. While this is a more complicated use of technology, which would impact the ease of use and potentially implicate the Rules of Professional Conduct, this is a particularly important evolution for child custody cases as a pro se litigant should have the opportunity to evaluate the pros and cons of their potential appeal given the potential ramifications of filing an appeal. While an appeal is pending, the underlying child custody order remains in effect and is non-modifiable.[60] As appeals can be lengthy, even when on a "fast track," this can leave a pro se litigant an extended period without the ability to seek modification of a child custody order and this ultimately may make an appeal unwise when evaluating it against the needs of the family and the factual scenario of the case. Evaluating the expansion of the use of artificial intelligence and technology in legal matters, such as this, is important given the ongoing needs of those who cannot afford counsel.

IV. CONCLUSION

Given the ongoing need for creative solutions to address the growing justice gap, it is necessary to assess non-traditional options for assisting litigants. With the difficulties pro se litigants face with procedural legal matters, programs such as the one proposed can help litigants avoid the procedural pitfalls in appeals, assuring that cases such as Betty's are heard on the merits and are not dismissed for procedural errors.

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60.   PA. R. APP. P. 1701.

AI Report: Humanity Is Doomed. Send Lawyers, Guns, and Money!

Ashley M. London, J.D.* and James B. Schreiber, Ph.D.**

I.   INTRODUCTION

When machines and computers, profit motives and property rights, are considered more important than people, the giant triplets of racism, extreme materialism, and militarism are incapable of being conquered.

-Martin Luther King, Jr.

Delivered 4 April 1967, Riverside Church, New York City, speaking about the Vietnam War.[1]

Warren Zevon knew when you are hiding in Honduras and "[t]he sh*t has hit the fan," it is time to call for the lawyers, guns, and money.[2] Replace "hiding in Honduras" with the real harms caused by Artificial Intelligence (AI) system algorithms, such as enabling systemic workplace gender discrimination, autonomous vehicles striking pedestrians with darker skin tones, and pedophiles being provided with video content of underage children, the refrain sounds more like: "send in the lawyers to sort out the enormous, manmade mess."

AI systems are powerful technologies being built and implemented by private corporations motivated by profit, not altruism. Change makers, such as attorneys and law students, must therefore be educated on the benefits, detriments, and pitfalls of the rapid spread, and often secret implementation of this technology. The implementation is secret because private corporations place proprietary AI systems inside of black boxes to conceal what is inside.[3] If they did not, the popular myth that AI systems are unbi-

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1. CLAYBORNE CARSON, A CALL TO CONSCIENCE: THE LANDMARK SPEECHES OF DR. MARTIN LUTHER KING, JR. 158 (2001) (ebook). Civil rights leader Martin Luther King, Jr. delivered this speech on April 4, 1967, at the Riverside Church in New York City. *Id.* He shared the program with other national leaders to condemn the Vietnam War and the arrogance of the wealthy West in its pursuit of profits over the welfare of its people and the people of the warn-torn country. *Id.*

2. Warren Zevon, *Lawyers, Guns and Money*, LYRICS, https://www.lyrics.com/lyric/ 1231457/Warren+Zevon/Lawyers%2C+Guns+and+Money (last visited Jan. 24, 2020).

3. *See* MEREDITH WHITTAKER ET AL., AI NOW REPORT 2018, at 4-5 (2018), https://ainow-institute.org/AI_Now_2018_Report.pdf. A "black box" system is one that is not transparent, in other words, what happens inside of that box is not open to scrutiny by anyone other than the creating entity or company. *Id.* Watchdog groups are working diligently to end the "black box" effect in the use of AI systems. *See id.* at 11. It is this secret nature of some AI systems that advocates say violates due process and has given rise to lawsuits that will be discussed later in this paper. *See id.*

ased machines crunching inherently objective data would be revealed as a falsehood.[4] Algorithms created to run AI systems reflect the inherent human categorization process and can, in some respects, become a lazy way to interact with the world because the systems attempt to outsource the unparalleled cognitive skills of a human being into a machine. AI systems can also be extremely dangerous because human categorization processes can be flawed by bias (explicit or implicit), racism, and sexism.

There is a big profit motive in AI system development and implementation. Revenue generated from the direct and indirect application of AI system software is estimated to grow to as much as $36.8 billion by 2025.[5] As a subset, the global legal analytics market alone is expected to reach a staggering value of $1,858 million by 2022.[6] But, as Fei-Fei Li, one of the major developers of these technologies recently argued, "we will hit a moment when it will be impossible to course-correct."[7] What she means is soon it may be impossible to reverse the damage done to vulnerable portions of the population through the widespread use of algorithmic-based systems. Li is a modern voice echoing the prescient statements made by Dr. King in 1967 about the cascade of evils facing society when the human moral compass is outsourced to machines, computers, algorithms, and the profits that flow from their rapid rise and ubiquitous use are prioritized over the conditio of humanity.[8] How many mistakes should a machine be allowed to make in the name of developing a deep learning function if those mistakes put marginalized human beings at a further disadvantage, and who is charged with policing this technology when it errs?[9]

In many cases, attorneys are in the best position to monitor, guide, and correct the use of AI systems steeped in the practice of

4. Nikhil Sonnad, *Data Scientist Cathy O'Neil on the Cold Destructiveness of Big Data*, QUARTZ (Dec. 7, 2016), https://qz.com/819245/data-scientist-cathy-oneil-on-the-cold-destructiveness-of-big-data/.

5. ADITYA KAUL & CLINT WHEELOCK, ARTIFICIAL INTELLIGENCE MARKET FORECASTS 2 (2016), https://www.tractica.com/wp-content/uploads/2016/08/MD-AIMF-3Q16-Executive-Summary.pdf#page=2.

6. *Legal Analytics Market to Reach $1.8 Billion by 2022–Automation in Legal Analytics for Data-Driven Decision-Making*, MKTS. INSIDER (July 26, 2017, 2:30 PM), https://markets.businessinsider.com/news/stocks/legal-analytics-market-to-reach-1-8-billion-by-2022-automation-in-legal-analytics-for-data-driven-decision-making-1002207338.

7. Jessi Hempel, *Fei-Fei Li's Quest to Make AI Better for Humanity*, WIRED (Nov. 13, 2018, 6:00 AM), https://www.wired.com/story/fei-fei-li-artificial-intelligence-humanity/.

8. CARSON, *supra* note 1, at 158.

9. Deep learning refers to a subset of machine learning where artificial neural networks, algorithms, learn from large amounts of data and make adjustments, predictions, or decisions. Bernard Marr, *What Is Deep Learning AI? A Simple Guide with 8 Practical Examples*, FORBES (Oct. 1, 2018, 12:16 AM), https://www.forbes.com/sites/bernardmarr/2018/10/01/what-is-deep-learning-ai-a-simple-guide-with-8-practical-examples/#70888ace8d4b.

navigating ethical quagmires and solving problems. After all, the individual licensure of every attorney in this country depends on the ability to abide by the Rules of Professional Conduct.[10] An attorney could be disbarred for violating any one of these rules. In contrast, AI system developers are under no such formalized ethical constraints, and indeed are under very few state or federal rules and regulations governing their conduct or product development.[11] This article suggests creating widely accepted and enforceable rules of ethics to govern so-called "Trustworthy AI." This article proposes that the first step in that direction is to introduce attorneys and law students to the basis of AI system development and the ethical guidelines recently promulgated by the European Union Commission (EU).[12] These guidelines suggest the fundamental approach to ensuring AI systems are ethical should be based upon a "[r]espect for fundamental rights, within a framework of democracy and the rule of law."[13]

When confronted with an AI issue, every attorney and law student should begin by asking the following questions. First, who developed the algorithm and for what purpose? Second, who chose the variables used? Third, who defined success? And forth, who was at the table when the decision points were implemented in the AI development process? Each of these value-laden decision points have an inherent power differential embedded into the decision-making

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10. *See* MODEL RULES OF PROF'L CONDUCT r. 8.4 (AM. BAR ASS'N 1983). This rule provides, in relevant part, that misconduct is: "(c) engag[ing] in conduct involving dishonesty, fraud, deceit or misrepresentation . . . [and] (g) engag[ing] in conduct that the lawyer knows or reasonably should know is harassment or discrimination on the basis of race, sex, religion, national origin, ethnicity, disability, age, sexual orientation, gender identity, marital status or socioeconomic status in conduct related to the practice of law." *Id.*

11. In 2017, a non-profit group, known as Future of Life Institute (FIL), established a set of guidelines that form an AI code of ethics known as the Asilomar AI Principles. *See Asilomar AI Principles*, FUTURE LIFE INST., https://futureoflife.org/ai-principles/ (last visited Jan. 24, 2020). This code includes suggestions such as: recommending a healthy exchange between AI researchers and policy makers; when applying AI to personal data, a person's real or perceived liberty must not be unreasonably curtailed; and humans should choose how and whether to delegate decisions to AI systems to accomplish human-chosen objectives. *Id.* Unlike the Model Rules of Professional Conduct for attorneys, these are guidelines without a mechanism for enforcement. *See id.* They have, however, been endorsed by California in August 2018, as well as by AI researchers at Google DeepMind, Facebook, Apple, and more. FLI Team, *State of California Endorses Asilomar AI Principles*, FUTURE LIFE INST. (Aug. 31, 2018), https://futureoflife.org/2018/08/31/state-of-california-endorses-asilomar-ai-principles/.

12. *See generally* HIGH-LEVEL EXPERT GRP. ON ARTIFICIAL INTELLIGENCE, EUR. COMM'N, ETHICS GUIDELINES FOR TRUSTWORTHY AI (2018), https://ai.bsa.org/wp-content/uploads/2019/09/AIHLEG_EthicsGuidelinesforTrustworthyAI-ENpdf.pdf [hereinafter EUR. COMM'N GUIDELINES].

13. *Id.* at 9.

apparatus.[14] Even armed with the best intentions, a developer cannot account for all potential sources of bias, including implicit or unconscious bias.[15] It becomes especially important then to ask the questions posed by Meredith Whittaker, Executive Director of the AI Now Institute, "[w]hat assumptions about worth, ability and potential do these systems reflect and reproduce? Who was at the table when these assumptions were encoded?"[16] The majority of people at the table developing these technologies are white, and they are male.[17] There is a crisis of diversity at the heart of the AI sector.[18] At Facebook for example, only 15% of all AI researchers are female.[19] At Google, that number shrinks to 10%.[20] For African American workers, those numbers are even smaller.[21] At Google, 2.5% of its full-time workforce is black, while at Microsoft and Facebook that number increases to 4%.[22] Current data on the state of

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14.   *See generally* DAVID EAGLEMAN, INCOGNITO: THE SECRET LIVES OF THE BRAIN (2011).

15.   *See About Us,* PROJECT IMPLICIT, https://implicit.harvard.edu/implicit/aboutus.html (last visited Jan. 22, 2020). Founded in 1998, Project Implicit is a non-profit collaboration between researchers from Harvard University, the University of Washington, and the University of Virginia. *Id.* The goal of the organization is to educate members of the public about hidden, or "implicit" biases. *Id.* The group developed the Implicit Association Test (IAT) that has generated data and research regarding implicit racial attitudes across the country. *See Preliminary Information*, PROJECT IMPLICIT, https://implicit.harvard.edu/implicit/takeatest.html (last visited Jan. 22, 2020). Implicit bias is defined as "[t]he attitudes or stereotypes that affect our understanding, actions, and decisions in an unconscious manner. [These are] [a]ctivated involuntarily, without awareness or intentional control. [They] [c]an be either positive or negative." CHERYL STAATS ET AL., STATE OF THE SCIENCE: IMPLICIT BIAS REVIEW 10 (2017), http://kirwaninstitute.osu.edu/researchandstrategicinitiatives/implicit-bias-review/. Implicit biases are formed as a result of mental associations that have formed from direct and indirect messages we receive from the world, and people, around us. *See id.*

16.   Eric Rosenbaum, *Silicon Valley Is Stumped: A.I. Cannot Always Remove Bias from Hiring,* CNBC (May 30, 2018, 9:43 AM), https://www.cnbc.com/2018/05/30/silicon-valley-is-stumped-even-a-i-cannot-remove-bias-from-hiring.html (quoting Meredith Whittaker, co-founder of the AI Now Institute at New York University and founder of Google's Open Research group).

17.   Tom Simonite, *AI Is the Future–But Where Are the Women?*, WIRED (Aug. 17, 2017, 7:00 AM), https://www.wired.com/story/artificial-intelligence-researchers-gender-imbalance/. It is notable that only 12% of machine learning researchers are women. *Id.* Further, a Google report released in June 2018 showed that only 23.8% of technical roles are filled by women. GOOGLE, GOOGLE DIVERSITY ANNUAL REPORT 2019, at 39 (2019), https://static.googleusercontent.com/media/diversity.google/en//static/pdf/Google_diversity_annual_report_2019.pdf. Facebook has reported that 22% of its workers in technical roles are women. Maxine Williams, *Facebook 2018 Diversity Report: Reflecting on Our Journey*, FACEBOOK (July 12, 2018), https://newsroom.fb.com/news/2018/07/diversity-report/.

18.   SARAH MYERS WEST ET. AL., DISCRIMINATING SYSTEMS: GENDER, RACE, AND POWER IN AI 3 (2019), https://ainowinstitute.org/discriminatingsystems.pdf.

19.   Akiva Thalheim, *Researchers Find 'Diversity Disaster' in Artificial Intelligence Industry*, WASH. SQUARE NEWS (Apr. 23, 2019), https://nyunews.com/news/2019/04/22/nyu-ai-institute-study-artificial-intelligence-discrimination/.

20.   *Id.*

21.   *Id.*

22.   WEST ET AL., *supra* note 18, at 11.

gender and racial diversity in the field of AI is decidedly grim, both in the corporate industrial sector and in academia, where 80% of all AI professors are men.[23] When AI tools such as facial recognition systems mistakenly categorize a black person's face as a gorilla,[24] or when Uber's application suspends transgender drivers due to an oversight in its programming,[25] these problematic outputs are a sign of flawed algorithmic input affecting human beings in discriminatorily, socially, and legally unacceptable ways. An urgent re-evaluation is in order, along with systemic design process changes, because the development of AI is not just about profits, it is about power.[26]

II.   THE MACHINES ARE COMING FOR LAW JOBS

For a profession operating in a system based upon the principle of stare decisis, there exists a strong bias supporting the rapid development and application of so-called machine learning in law and the legal field.[27] In a 2018 American Bar Association (ABA) study, attorneys reported saving time and increasing efficiency were the biggest advantages of adopting of AI systems in law firms.[28] Companies seeking to sell AI systems to law firms say firms need to adopt this technology as of yesterday to "[s]tay in the [g]ame."[29] AI systems allegedly help firms maximize their budgets by increasing speed in areas such as contract review, mechanizing repetitious

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23. *Id.* at 5 (citing YOAV SHOHAM ET AL., ARTIFICIAL INTELLIGENCE INDEX: 2018 ANNUAL REPORT 25 (2018), http://cdn.aiindex.org/2018/AI%20Index%202018%20Annual%20Report .pdf).

24. Tom Simonite, *When It Comes to Gorillas, Google Photos Remains Blind*, WIRED (Jan. 11, 2018, 7:00 AM), https://www.wired.com/story/when-it-comes-to-gorillas-google-photos-re-mains-blind/.

25. Jaden Urbi, *Some Transgender Drivers Are Being Kicked off Uber's App*, CNBC (Aug. 8, 2018, 11:16 AM), https://www.cnbc.com/2018/08/08/transgender-uber-driver-suspended-tech-oversight-facial-recognition.html?&qsearchterm=transgender uber.

26. *See* WEST ET AL., *supra* note 18, at 7.

27. Stare decisis means to stand by things decided and not to disturb settled points of law. *Stare decisis*, BLACK'S LAW DICTIONARY (8th ed. 1992). Stare decisis is the doctrine of precedent under which it is necessary for a court to follow earlier judicial decisions when the same points arise again in litigation. *Id.*

28. Victoria Hudgins, *ABA Survey: Only 10 Percent of Law Firms Are Currently Using AI*, N.Y.L.J. (Jan. 15, 2019), https://advance.lexis.com/document/index?crid=66005a4f-949b-48a2-8d2b-a779dbeecf65&pdpermalink=20bd3840-a329-4624-befe-4e26c60aeaf5&pdm-fid=1000516&pdisurlapi=true.

29. Erin Hichman, *Law Firms Need Artificial Intelligence to Stay in the Game*, CORP. COUNCIL (July 17, 2018), https://advance.lexis.com/document/index?crid=e1015f9e-64ef-46eb-a124-51e549c7516f&pdpermalink=d3e23699-b24b-4e0b-ba57-17b07b5d706e&pdm-fid=1000516&pdisurlapi=true.

tasks, and increasing a firm's ability to scale services to both new and old clients to turn higher profits.[30]

Promoters of the disruption of technology in the legal field say that in the "short run" AI systems will lead to "greater legal transparency, more efficient dispute resolution, improved access to justice . . . . [And] lawyers will be empowered to work more efficiently . . . ."[31] For example, the average human attorney can review a contract in ninety-two minutes, or approximately fifteen billable increments of six minutes each, while an AI system can perform the task in twenty-six seconds.[32] Big law firms, government and public-interest organizations, and law schools are all being asked to do more with less money, the idea that machines can become as powerful as an expensively trained advocate in the law is seductive. For example, an AI system dubbed Lex Machina (Latin for "law machine") acquired by LexisNexis in 2015, is on the thirteenth expansion of its legal analytics platform that began with a focus on Intellectual Property (IP) cases.[33] The product mines litigation data to provide attorneys with information such as the average duration of a legal matter, damage awards, resolution, opposing counsel litigation history, and historic rulings from judges on motions and other decisions.[34] The company's website says its programming is powered by proprietary algorithms that are "new," "unorthodox," and "extremely valuable."[35] Such enthusiastic promotion belies the fact that the development and implementation of AI systems is complex, multi-faceted, and potentially fraught with issues. Attorneys will therefore be called upon to course correct when the offspring of these projects go awry.

If profit is one of the biggest motives spurring law to look for ways to embrace AI systems, there are other identifiable factors at play

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30. *See id.*

31. Benjamin Alarie et al., How Artificial Intelligence Will Affect the Practice of Law 1 (2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3066816.

32. LawGeex, Comparing the Performance of Artificial Intelligence to Human Lawyers in the Review of Standard Business Contracts 14 (2018).

33. *See Lex Machina Launches Federal Environmental Litigation Module to Enable Attorneys to Use Legal Analytics for Case Success*, Lex Machina (June 11, 2019), https://lexmachina.com/media/press/lex-machina-launches-federal-environmental-litigation-module/.

34. *See Hichman, supra* note 29.

35. *What We Do*, Lex Machina, https://lexmachina.com/what-we-do/ (last visited Sept. 29, 2019).

in the sharp rise of legal technology applications, including: a re-
duction in entry-level law jobs across the country,[36] a recent slump
in law school admissions figures,[37] the expense of civil litigation,
and the need to try to close the ever-growing justice gap for low-
income families.[38] Lawsuits are expensive and so are the large
white-collar law firms that appear to be the fastest adopters of AI
system technology.[39] The average civil lawsuit in America today
costs between $43,000 and $122,000 from complaint to verdict.[40] It
is little wonder then that, according to the ABA's 2018 Legal Tech-
nology Survey Report, AI system usage is greatest at law firms with
over one hundred attorneys.[41] At least one large law firm, the prom-
inent international Big Law firm O'Melveney & Myers LLP, based
in Los Angeles, California, made headlines when it announced it
was pioneering the introduction and use of AI in its recruiting and
hiring process for associates to improve diversity.[42] While this may
not lower costs to its clients, a move to increase diversity is certainly
a good public relations for a large law firm. Black attorneys make
up approximately 3.3% of lawyers in Big Law, and women continue
to be underrepresented in leadership roles.[43] Fortune 500 compa-
nies are looking to spend their legal dollars with more diverse law
firms, so applying AI systems in this context serves both altruistic

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    36.   Stephanie Francis Ward, *Fewer Entry-Level Positions in Most Job Categories for 2017
Law Grads, New ABA Data Shows*, ABA J. (Apr. 20, 2018, 5:14 PM), https://www.abajour-
nal.com/news/article/fewer_entry_level_positions_in_most_job_catego-
ries_for_2017_law_grads_new_a (reporting that in 2017 law jobs decreased by 2.3%).
    37.   Ilana Kowarski, *Law School Applications Increased This Year*, U.S. NEWS & WORLD
REP. (Jan. 29, 2018, 8:00 AM), https://www.usnews.com/education/best-graduate-schools/top-
law-schools/articles/2018-01-29/law-school-applications-increased-during-president-trumps-
first-year (explaining that law school applications declined in 2017-18 but began to rise again
in 2018-19).
    38.   LEWIS CREEKMORE ET AL., THE JUSTICE GAP: MEASURING THE UNMET CIVIL LEGAL
NEEDS OF LOW-INCOME AMERICANS 6 (2017), https://www.lsc.gov/sites/default/files/images/
TheJusticeGap-FullReport.pdf (reporting 86% of civil legal problems reported by low-income
Americans in the past year received inadequate or no legal help).
    39.   *See* 1 AMERICAN BAR ASSOCIATION LEGAL TECHNOLOGY SURVEY REPORT,
TECHNOLOGY BASICS AND SECURITY 18 (2018).
    40.   PAULA HANNAFORD-AGOR & NICOLE L. WATERS, ESTIMATING THE COST OF CIVIL
LITIGATION 7 (2013), http://www.courtstatistics.org/~/media/Microsites/Files/CSP/DATA%
20PDF/CSPH_online2.ashx.
    41.   *See* 1 AMERICAN BAR ASSOCIATION LEGAL TECHNOLOGY SURVEY REPORT, *supra* note
39, at 21.
    42.   Press Release, O'Melveny & Myers LLP, O'Melveny Becomes First in Legal Industry
to Adopt Next-Generation Technologies that Propel Diversity and Inclusion (Nov. 19, 2018),
https://www.omm.com/our-firm/media-center/press-releases/omelveny-adopts-next-genera-
tion-technologies-that-propel-diversity-and-inclusion/.
    43.   Dylan Jackson, *Frustrated with Big Law Diversity, Many Companies Are Looking
Elsewhere*, LAW.COM (June 3, 2019), https://advance.lexis.com/search?crid=9dc6528f-bc7c-
434b-87ede198cb450e71&pdsearchterms=LNSDUID-ALM-AMLAWR-
20190603FRUSTRATEDWITHBIGLAWDIVERSITYMANYCOMPANIESARELOOKINGE
LSEWHERE&pdbypasscitatordocs=False&pdmfid=1000516&pdisurlapi=true#.

and profitability goals.[44] Since 2012, legal technology startups have raised $757 million in capital to develop new AI systems technology.[45]

In 2017, the McKinsey Global Institute found that while nearly half of all legal tasks could be automated by current technology, only 5% of all jobs could be entirely automated.[46] Applying its current definition of technology—widely available or being tested in a lab—McKinsey estimates 23% of a lawyer's job can be automated.[47] If lawyers and law students are not aware of the trends, the primarily privately-held technology companies alone will set the pace and tone of the adoption of AI systems. Legal professionals will increasingly be called upon to predict where conflicts will arise and how humans program personal bias and potential illegalities into these algorithmic models as well as to police offending AI systems.

III.   INSIDE THE BLACK BOX

AI systems are neither intelligent nor "artificial intelligence." It is more like, "artificial artificial intelligence."[48] AI is humans helping machines help humans perform tasks better, faster, more economically, and even predictively.[49] In seeking to assign that uniquely human characteristic of intelligence to computers, the risk of potential ethical issues increases in proportion to one's reliance on a machine with no independent moral compass, conscience, or rich background of experience (schemas and scripts) to draw upon to make nuanced distinctions.

There is also a fundamental difference in the application of automated or predictive analytics services and those that purport to use AI systems. For example, a credit card loyalty program might use predictive analytics to determine whether it could increase reward redemption by spending more money marketing to specific credit card holders.[50] Predictive analytics systems review data from the

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44.   *Id.*

45.   Steve Lohr, *A.I. Is Doing Legal Work. But It Won't Replace Lawyers, Yet.*, N.Y. TIMES (Mar. 19, 2017), https://www.nytimes.com/2017/03/19/technology/lawyers-artificial-intelligence.html.

46.   *See* JAMES MANYIKA ET AL., A FUTURE THAT WORKS: AUTOMATION, EMPLOYMENT, AND PRODUCTIVITY 2 (2017), https://www.mckinsey.com/featured-insights/digital-disruption/harnessing-automation-for-a-future-that-works.

47.   Lohr, *supra* note 45.

48.   *See* CATHY O'NEIL & RACHEL SHUTT, DOING DATA SCIENCE 169 (2014).

49.   *See id.*

50.   Vance Reavie, *Do You Know the Difference Between Data Analytics and AI Machine Learning?*, FORBES (Aug. 1, 2018, 7:00 AM), https://www.forbes.com/sites/forbesagencycouncil/2018/08/01/do-you-know-the-difference-between-data-analytics-and-ai-machine-learning/#2b1765ae5878.

past to spot patterns, which allow human users to make predictions, test certain assumptions, and take action.[51]

On the other hand, an AI system is a term used by the European Union to describe the next step on the predictive analytics continuum, which is also sometimes referred to as "machine learning."[52] AI systems make assumptions, reassess the models, and revaluate all of the data inputted into them without the intervention of a human "operator."[53] Taking this a step further, the term "deep learning" is used primarily within neural network systems by AI systems to complete complex tasks, like classifying large data sets, or operating a self-driving car where the machine must be prepared to interact with a variety of variables at lightning speed.[54] The system, essentially, begins training itself by making mistakes.

A. The AI Systems Creation Myth

Humans process a massive amount of data every day, and one way the brain manages to do that quickly and efficiently is by using its almost unparalleled ability to categorize everything —fellow humans, laws, social situations, and even recognizing everyday objects. "The need for effective retrieval from this vast storehouse of information has prompted humans to develop a storage strategy based on semantic coding and organization of input information."[55] In short, a process. In fact, scientists note human intelligence is based upon abilities that are superior to anything yet conceived and built by a human, i.e., "intelligent machines."[56] Statistical models can be used as one lens to understand and represent reality.[57] The models, though, are artificial constructions where assumptions are made, extraneous details are removed, and others are left as abstractions.[58] Each one of those assumptions, removals, and abstractions are decision points. Thus, one must not only examine what was included but focus also on what was not included and the processes that led to those decisions. AI systems will always be first

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51. *Id.*
52. EUR. COMM'N GUIDELINES, *supra* note 12, at 36. "Machine learning" is a term that will be used throughout this paper to signify "artificial intelligence sytems" that employ machine learning to make assumptions, learn, and provide predictions on larger scale. Reavie, *supra* note 50.
53. Reavie, *supra* note 50.
54. Marr, *supra* note 9.
55. Uday A. Athavankar, *Categorization . . . Natural Language and Design,* DESIGN ISSUES, Spring 1989, at 100, 100.
56. *Id.*
57. *See* O'NEIL & SHUTT, *supra* note 48, at 28.
58. *Id.*

and foremost, a human endeavor complete with very human defi-
ciencies, blind spots, and occasional flashes of brilliance. Acknowl-
edging the human bias encoded into an algorithm is the first step
in exploring the false creation narrative that AI systems are born
completely unbiased, operate as flawless science drones, and do not
make the same mistakes as humans.

Unlike machines, humans experience the world in real time and
there are many moments of curiosity or grey areas of doubt. These
moments generally create a desire to understand what is going on
or what has happened. "The fuzziness of [those] boundaries, [is] an
important characteristic of the human categorization process. . . ."[59]
To better understand the world, the mind does not finely discrimi-
nate between highly similar concepts.[60] Instead, "the mind auto-
matically selects the cognitively economical option of neglecting the
infinite differences among objects to behaviorally and cognitively
usable proportions."[61] While this process might not matter so much
when deciding upon whether or not to define a coffee-drinking re-
ceptacle as a Tervis Tumbler, a Starbucks travel mug, or a
Styrofoam cup, it becomes problematic when humans engage in so-
cial categorization. Decades of research have demonstrated that
categorizing people in terms of their social identities can lead to ste-
reotyping and prejudice.[62]

B.   Mathematical Models Used in Creating AI Systems

AI systems are the results of some mathematical model or algo-
rithm. Algorithms are nothing more than a set of rules that a com-
puter can follow. Models are mathematical expressions linking var-
iables of interest to other variables of interest.[63] When discussing
AI systems, terms like algorithms and machine learning are used
interchangeably. While the terms may have different meanings ac-
cording to the context in which they appear, the end goal is to pre-
dict and classify a set of data using programmer-driven decision
points. Prediction is where the goal is to forecast something like
the price of a car, house, or salary request. This is a numeric based
prediction. In classification, on the other hand, the goal is to accu-
rately place, a person for example, in a pre-defined category, such

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59.   Athavankar, *supra* note 55, at 104.
60.   *Id.* at 102.
61.   *Id.*
62.   Galen V. Bodenhausen et al., *Categorizing the Social World: Affect, Motivation, and Self-Regulation*, *in* 47 THE PSYCHOLOGY OF LEARNING AND MOTIVATION, CATEGORIES IN USE 123, 124 (Arthur B. Markman & Brian H. Ross eds., 2006).
63.   Model and algorithm are used interchangeably in this proposal for brevity.

as a yes or no. A third and slightly different goal is to create clusters that may be used later to predict or classify.

C.　*Linear / Logistic Models, Tree Based Models, and Neural Networks*

Three common prediction methods are used to reach the goal of building an accurate model, or an algorithm: linear/logistic models, tree based models, and neural networks.[64] The linear/logistic model involves the creation of a best fit line through a set of data points.[65] This mathematical procedure is used for finding the best-fitting curve to a given set of points by minimizing the sum of the squares of the offsets of the points from the curve.[66] "[T]he proof uses calculus and linear algebra" to find a relationship between variables.[67] It is useful because it is simple to use when predicting a continuous outcome, such as the price of a house. In applied statistics, an outcome variable is "predicted" as an equation of variables of interest, otherwise known as independent variables. Logistic regression is used when the outcome variable is categorical such as "yes" or "no."[68] These tools work well if the predictor variables are not overly related to each other, but they can also miss complex relationships between variables.

Tree based models come in three general types: decision trees, random forest, and gradient boosting. Decision trees are easy to understand and visually appealing.[69] These are generally yes or no rules based on the data and all possible outcomes that can be seen through the branches of the tree and are used for classification and regression. A random forest, a "collection of decision trees," is used as an ensemble whose results are aggregated,[70] and a random forest uses many decision trees based on rules created from subsamples.[71] The combination of these trees increases the performance level of

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64.　Robert Kelley, *Machine Learning Explained: Algorithms Are Your Friend*, DATAIKU (Jan. 19, 2017), https://blog.dataiku.com/machine-learning-explained-algorithms-are-your-friend.

65.　*See* DAVID W. HOSMER & STANLEY LEMESHOW, APPLIED LOGISTIC REGRESSION 1 (Noel A. C. Cressie et. al. eds., 2nd ed. 2000).

66.　Eric W. Weisstein, *Least Squares Fitting,* WOLFRAM MATHWORLD, http://mathworld.wolfram.com/LeastSquaresFitting.html (last visited Oct. 20, 2019).

67.　STEVEN J. MILLER, THE METHOD OF LEAST SQUARES 1 (2006), https://web.williams.edu/Mathematics/sjmiller/public_html/math/talks/talks.html.

68.　*See* HOSMER & LEMESHOW, *supra* note 65, at 1.

69.　*See generally* J.R. Quinlan, *Induction of Decision Trees*, 1 MACHINE LEARNING 81 (1986).

70.　Neil Liberman, *Decision Trees and Random Forests*, MEDIUM (Jan. 26, 2017), https://towardsdatascience.com/decision-trees-and-random-forests-df0c3123f991.

71.　*See* LEO BREIMAN, RANDOM FORESTS 13 (2001).

the model overall. By aggregating many smaller decision trees, this method limits overfitting as well as errors due to bias.[72] Gradient boosting uses a weaker decision tree than a random forest and creates a group of decision trees to create a high performing model. One issue in gradient boosting is small changes in the data set can create radical changes in the model along with difficulty in explaining the predictions.[73]

Neural networks use a hidden layer, commonly termed interconnected neurons, which send messages to each other.[74] A neural network is also known as "deep machine learning" and is a new name for an approach to AI systems in existence since 1944.[75] Neural nets are modeled loosely on the concept of the human brain and consist of deeply interconnected processing nodes.[76] Deep learning models use several of these layers stacked on top of each other to create results or decisions.[77] The significant difference between neural networks and the other methods is the ability to handle extremely complicated tasks, e.g., image recognition; but neural networks can be slow to develop.[78] In order to produce results or predictions, the nodes must be trained using weighted data sets.[79] Theorists find the level of opacity in the training and feeding of these neural nets to be problematic in terms of being able to identify problematic decision points being used to produce data.[80] Because of this, neural nets have cycled in and out of favor with developers since their inception.[81]

D. Feeding the Process with Value-Laden Data, an Inherently Biased Process

No matter what AI system is used, each one must be fed massive quantities of data to begin its process and each one employs value-laden assumptions. The data is typically messy when it is first collected. Therefore, the first step in any process requires that the

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72. *See* Liberman, *supra* note 70.

73. Kelley, *supra* note 64.

74. KEVIN GURNEY, AN INTRODUCTION TO NEURAL NETWORKS 13 (1997).

75. *See* Larry Hardesty, *Explained: Neural Networks*, MIT NEWS (Apr. 14, 2017), http://news.mit.edu/2017/explained-neural-networks-deep-learning-0414.

76.   *Id.*

77. *See* EUR. COMM'N GUIDELINES, *supra* note 12, at 36.

78. *See generally* Mengye Ren et. al., *Learning to Reweight Examples for Robust Deep Learning*, *in* 80 PROCEEDINGS OF MACHINE LEARNING RESEARCH, THIRTY-FIFTH INTERNATIONAL CONFERENCE ON MACHINE LEARNING 4334 (Jennifer Dy & Andreas Krause eds., 2019).

79. *Id.*

80. Hardesty, *supra* note 75.

81. *Id.*

data is organized and cleaned prior to running through the model in an attempt to achieve the desired result.[82] The desired result of any model must be defined as its "success," or what it hopes to achieve by running the data through the given set of decision points. Examples of successful endpoints for AI systems can include determining who is more likely to pass the bar exam, which consumers are more likely to purchase a promoted product, and who is more likely to be a recidivist in the criminal law context. If the data set is large enough, it is split into random parts to create an algorithm and then to verify or validate that model with the other data split or splits. Once this work is completed, new data typically arrives, and there will be a move to an optimization phase based on the current model and what was defined as success.

While this process may sound objective and very scientific, it is the opposite. Every system is laden with the values programmed into them by the human developers, and each programmed value will have an inherent power differential. Even the data that exists was not pulled together by a strictly objective decision-making system. Value laden means the person who developed the algorithm chose the variables included, the definition of success, and the optimization process of that success definition. That is a great deal of power. The most widely-reported issues are that of racial bias and sexism, but it would be a mistake to think that only those "hot-button" social issues are implicated. An individual who is subject to the application of any given algorithm could potentially be categorized in any number of ways separate and distinct from gender or skin color. "[H]umans are likely among the richly multidimensional stimuli"[83] and many distinct categories may be applied simultaneously such as occupation, religion, sexual orientation, socio-economic status, and education.

Dr. Cathy O'Neil, a data scientist, formerly working with Wall Street is at the forefront of ringing the alarm about the dangers of the sudden overarching influence of AI systems. Dr. O'Neil's research has demonstrated that mathematical models are not unbiased, and that the unregulated use of big data reinforces discrimination. Dr. O'Neil continues to call on the modelers of algorithms to take responsibility for the use of black box algorithms and charges policy makers to regulate their use.[84] Power differentials

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82. O'NEIL & SHUTT, *supra* note 48, at 41.
83. Bodenhausen et al., *supra* note 62, at 125.
84. *See generally* CATHY O'NEIL, WEAPONS OF MATH DESTRUCTION (2016).

focus on who is making the decision, how many people were involved in that decision, who is accountable for that decision, and who holds the decision makers accountable.

Decision points are human opinions embedded in a mathematical model.[85] Often, these systems are based on the opinions of the person who has access to the data and thinks these variables will work best or the variables that appear to work best. This personal conflict is reflected in an individual's selection of products and environment and also in the selection of variables plugged into an algorithm's model.[86] "One seeks assurance and psychological comfort that come from predictable responses expected from the category and also looks for deviations representing personal identity."[87] However, if a human programmer's personal identity (explicit or implicit) is that of a racist, then high levels of racial prejudice are almost inevitably going to become part of any machine-driven categorization scheme and the AI system will perpetuate a bias toward stereotypically expected behavior.[88]

IV.   THE PARADE OF HORRIBLES

Without an increase in oversight, big data algorithms can magnify and replicate the biases that exist in our society at large,[89] leading to bigger issues that have already begun to appear in the court systems. So, the fact that human beings create AI should give society pause because humans *are* fallible. The algorithmic systems that turn data into information and predictions rely on imperfect input, logic, probability, and those who design them.[90] Under former President Barack Obama, the White House released several key reports on big data to advance the conversation about the use of such systems and to ensure that these systems do not become barriers to entry for certain groups of people.[91] In addition, one of the reports sought to ensure that the output of these systems was

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85. *See generally* Michelle Alexander, *The Newest Jim Crow*, N.Y. TIMES (Nov. 8, 2018), https://www.nytimes.com/2018/11/08/opinion/sunday/criminal-justice-reforms-race-technology.html.

86. Athavankar, *supra* note 57, at 107.

87. *Id.*

88. Bodenhausen et al., *supra* note 62, at 127.

89. Rachel Goodman, *Why Amazon's Automated Hiring Tool Discriminated Against Women*, ACLU (Oct. 12, 2018, 1:00 PM), https://www.aclu.org/blog/womens-rights/womens-rights-workplace/why-amazons-automated-hiring-tool-discriminated-against.

90. Megan Smith et al., *Big Risks, Big Opportunities: The Intersection of Big Data and Civil Rights*, WHITE HOUSE: PRESIDENT BARACK OBAMA (May 4, 2016, 4:13 PM), https://obamawhitehouse.archives.gov/blog/2016/05/04/big-risks-big-opportunities-intersection-big-data-and-civil-rights.

91. *Id.*

not rooted in hidden stereotypes that could "hardwire discrimination, reinforce bias, and mask opportunity."[92] One critical area is the increasingly problematic use of algorithms in the criminal justice system. New policies in states such as California, New Jersey, and New York, are rolling out so-called "risk assessment" algorithms that recommend to judges whether a person who has been arrested should be released.[93] In Broward County, Florida, a risk assessment scoring system called COMPAS,[94] used on more than 7,000 people in 2013-2014, was shown to be biased against black suspects.[95] ProPublica obtained the risk scores and checked to see how many of the people classified by the AI system were charged with new crimes over the next two years and found that only 20% of the people predicted to commit violent crimes actually did.[96] It also found that the algorithm being used was only slightly better than a coin flip.[97] The program was also more likely to falsely flag black defendants as future criminals, at twice the rate as white defendants. While on the other hand, white defendants were mislabeled as low risk more often than black defendants.[98]

Michelle Alexander wrote in a New York Times opinion article about the problems on machine learning risk assessment algorithms, e-carceration, and the down-stream effects of those algorithms. The down-stream effects of these algorithms are not getting nearly enough attention—especially the risk that entire communities of people could become trapped in digital prisons that lock them out of opportunity.[99] E-carceration is a relatively new term of art used to describe the use of technology to deprive people of their liberty, specifically the use of algorithms that purport to appear colorblind and unbiased.[100] It is important for attorneys and law students to remember that these "products" are being created by private corporate interests and sold to states for shareholder profit. Even if the algorithms, programs, and GPS-enabled electronic monitoring devices that the algorithms control are employed by government entities subject to judicial oversight, the private corporations

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92. *Id.*
93. Alexander*, supra* note 85.
94. Julia Angwin et al., *Machine Bias*, ProPublica (May 23, 2016), https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing.
95. *Id.*
96. *Id.*
97. *Id.*
98. *Id.*
99. Alexander*, supra* note 85.
100. *Id.*

that produce these *are not held* to similar standards of transparency or accountability.[101]

The following are examples illustrating the how, why, and what can go wrong with the output of the application of AI systems in a civil context, or the downside risk. The companies employing these AI systems are largely protected by existing laws designed to keep corporate trade secrets concealed from public scrutiny and protected from litigation and recovery by damaged plaintiffs.

A.   AI and Hiring

As early as the 1990s, online job applications such as Monster.com allowed employers to advertise employment opportunities for a lower price than if the employer placed a help wanted ad in the classified section of the local newspaper.[102] Soon, employers began to accept applications via online platforms, which led to the need to find ways to track, sort, identify, and process the sheer volume of applications received in order to find a candidate that best suited the employers' needs.[103] Seeing an opportunity to generate revenue, technology vendors began making increasingly complicated programs that employed algorithms with lofty goals such as increasing diversity or forecasting future outcomes in the form of scores or rankings of candidates and using the incredible amounts of data being submitted via these online platforms from both job seekers and employers alike.[104] In 2018, a staggering 60% of technology companies reportedly plan to invest in AI software to facilitate recruitment because companies perceive that using machines instead of human capital saves time and money.[105]

Employers seeking workers have three basic goals: reduce time to hire, reduce cost per hire, and maximize the quality of a hire such that qualified (and that word alone is loaded with human-specified definitions of what it means to be "qualified") candidates will stay longer with the company to benefit the business.[106] Turnover in terms of time, money, and manpower is costly, and since it takes an

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101. *See generally id.*

102. Miranda Bogen & Aaron Rieke, Help Wanted: An Examination of Hiring Algorithms, Equity, and Bias 5 (2018), https://www.upturn.org/reports/2018/hiring-algorithms/.

103. *Id.*

104. *Id.*

105. Entelo, 2018 Recruiting Trends Report 5 (2018), https://cdn2.hubspot.net/hubfs/202646/Entelo%27s%202018%20Recruiting%20Trends%20Report.pdf?t=1530708036795.

106. Bogen & Rieke, *supra* note 102, at 6.

average of six weeks to fill a job opening,[107] employers and their recruiters want to get it right the first time.

There are hiring tools on the market that purport to assist employers in these goals. For example, Amazon, the automation reliant e-commerce giant, began using hiring tools in 2014 to ramp up its hiring process.[108] Using resumes submitted to the company over ten years (the data set), the algorithm used to sort through these resumes and penalized those that included words such as, "women" or "women's," and downgraded graduates of two all-female colleges.[109] On the other hand, it privileged resumes featuring strong, masculine, words such as "executed" and "captured."[110] Amazon abandoned its machine learning system for hiring because the system did not like women.[111] Given that Amazon's workforce is about 60% male, this is not shocking.[112] The company reportedly created 500 computer models and taught them to recognize 50,000 terms that showed up on candidates' resumes, but still ended up with biased results against gender and randomly promoted underqualified candidates.[113]

While Amazon admitted its mistake and said it was killing that particular machine learning project, the fact remains that companies around the world are implementing or have implemented technologies like this to recruit candidates for employment. Giant global companies such as Goldman Sachs Group Inc., Unilever, and Wal-Mart Stores Inc. are reportedly using algorithms to diversify candidate pools and to fast-track employees to management positions.[114] According to Unilever, the company's AI can filter between

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107. *Id.*

108. Goodman, *supra* note 89. Since January 2015, Amazon's Human Resources department has embarked on a hiring spree, tripling its workforce to a staggering 575,700 employees in less than five years. Reuters, *Amazon Scraps Secret AI Recruiting Tool That 'Didn't Like Women,'* DAILYMAIL (Oct. 9, 2018, 11:02 PM), https://www.dailymail.co.uk/sciencetech/article-6259205/Amazon-scraps-secret-AI-recruiting-tool-showed-bias-against-women.html. A recent Amazon 10-K filing shows the company employed approximately 647,500 full-time and part-time employees as of December 31, 2018. Amazon.com, Inc. Annual Report (Form 10-K) 4 (Jan. 23, 2019).

109. Sandy McCarthy, *Amazon Abandons Sexist AI-Powered Recruiting Tool*, STILLMAN ADVANCE (Oct. 13, 2018), https://advance.lexis.com/document?crid=f28c0d66-9369-4fb9-84ad-d60b2b9135f1&pddocfullpath=%2Fshared%2Fdocument%2Fnews%2Furn%3AcontentItem%3A5TGN-S981-DY7P-T1TN-00000-00&pdcontentcomponentid=172244&pdmfid=1000516&pdisurlapi=true.

110. *Id.*

111. *Id.*; Reuters, *supra* note 113.

112. Reuters, *supra* note 113.

113. *Id.*

114. Kelsey Gee, *In Unilever's Radical Hiring Experiment, Resumes Are Out, Algorithms Are In*, WALL ST. J. (June 27, 2017, 2:07 PM), https://www.wsj.com/articles/in-unilevers-radical-hiring-experiment-resumes-are-out-algorithms-are-in-1498478400.

60% and 80% of candidates resulting in 80% of applicants who are interviewed by a human in the company's Human Resources Department actually being hired.[115] However, the input of those algorithms and the results of its application are uniformly kept in the dark. As Goodman, a staff attorney at the American Civil Liberties Union (ACLU) Racial Justice Program points out, "these tools are not eliminating human bias—they are merely laundering it through software."[116]

B.   AI Systems and the First Amendment

Activists and watchdogs will tell you that the biggest concern regarding the proliferation of AI systems remains transparency. On April 2, 2018, a federal judge allowed attorneys with the ACLU to proceed with a First Amendment case[117] challenging the federal Computer Fraud and Abuse Act, which appears to prevent studies on the discriminatory use of algorithms by making it a crime to violate a website's terms of service.[118] Terms of service, contained in the fine print, often include rules against creating multiple tester accounts, providing inaccurate contact information, or using automated methods to record publicly available data like search results and ads.[119] Those terms are set by individual sites and can change at any time.[120] Researchers use practices like setting up dummy accounts to test whether sites are more likely to show higher interest rate loan ads to people of color or to show higher paying jobs to men who search employment listings.[121]

The case was filed on June 29, 2016 by the ACLU on behalf of plaintiffs Christian W. Sandvig, Kyratso Karahalios, Alan Mislove, Christopher Wilson, and First Look Media Works, Inc.; two of those plaintiffs were Associate and Assistant Professors of Computer Science at Northeastern University, who designed a study to test whether the ranking algorithms on major online hiring websites

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115.   *Id.*
116.   Goodman, *supra* note 89.
117.   Sandvig v. Sessions, 315 F. Supp. 3d 1 (D.D.C. 2018). The attorneys on the case are Esha Bhandari and Rachel Goodman of the American Civil Liberties Union Foundation and Arthur B. Spitzer and Scott Michelman of the American Civil Liberties Union of the District of Columbia, Washington, D.C. *Id.*
118.   *First Amendment Lawsuit Brought on Behalf of Academic Researchers Who Fear Prosecution Under the Computer Fraud and Abuse Act*, ACLU (Apr. 2, 2018), https://www.aclu.org/press-releases/judge-allows-aclu-case-challenging-law-preventing-studies-big-data-discrimination.
119.   *Id.*
120.   *Id.*
121.   *Id.*

produce discriminatory results.[122]   The study tested whether women or people of color were adversely affected by the use of these algorithms.[123] The complaint states that without the ability to conduct online audit testing, "policymakers and the American public will have no way to ensure that the civil rights laws continue to protect individuals from discrimination in the twenty-first century."[124] The court's most recent decision permits Professors Mislove and Wilson to proceed with their claims that their research activity—which requires providing false information to websites as part of their tester profiles—is protected under the First Amendment.[125] The case continues to work its way through the court system in the United States District Court for the District of Columbia.

C.   AI, Self-Driving Cars and YouTube's Pedophile Problem

Algorithmic output is ever-present, whether one is using a crosswalk as a pedestrian in a city that is testing autonomous vehicles or watching a video on YouTube. Self-driving cars are more likely to hit pedestrians of color regardless of the time of day, according to a February 2019 study of the object detection systems currently used in autonomous vehicles.[126] Touted as the modern solution for a reduction in transit costs that translate to better goods pricing for consumers, self-driving cars are also sold as a planet-saving solution to reduce our individual reliance on cars and, thus, reduce the consumption of fossil fuels and reduce emissions.[127] However, it was not until the Department of Defense sponsored a series of challenges between the years 2004-2007[128] that Google, Inc. began seriously investing in the technology to the point of testing autonomous vehicles in Pittsburgh, Pennsylvania.[129] As a result of the extensive testing being done in Pittsburgh, Mayor Bill Peduto signed an executive order outlining objectives and expectations for autonomous

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122.   Complaint for Declaratory and Injunctive Relief at 6, Sandvig v. Sessions, 315 F. Supp. 3d 1 (D.D.C. 2018) (No. 1:16cv1368).

123.   *Id.*

124.   *Id.* at 2.

125.   *Id.* at 35.

126.   BENJAMIN WILSON ET AL., PREDICTIVE INEQUITY IN OBJECT DETECTION 1 (2019), https://arxiv.org/abs/1902.11097.

127.   *See generally* Jeffrey B. Greenblatt & Susan Shaheen, Automated Vehicles, On-Demand Mobility, and Environmental Impacts, 2 CURRENT SUSTAINABLE/RENEWABLE ENERGY REP. 74 (2015).

128.   Wired Brand Lab, Ford Motor Co., *A Brief History of Autonomous Vehicle Technology,* WIRED,   https://www.wired.com/brandlab/2016/03/a-brief-history-of-autonomous-vehicle-technology/ (last visited Feb. 6, 2020).

129.   *See* Sabrina Bodon, *Here's What the City Discovered About Self-Driving Vehicle Testing in Pittsburgh*, WESA (Apr. 25, 2019), https://www.wesa.fm/post/heres-what-city-discovered-about-self-driving-vehicle-testing-pittsburgh#stream/0.

vehicle testing in March 2019.[130] Pittsburgh is one of the first cities to pass such legislation, which calls for transparency and knowledge of autonomous vehicle testing occurring on public streets.[131] Lawmakers were quick to note that these limitations and expectations did not apply to the technology's commercialization, and no provisions on enforcement or penalties were created for companies who fail to meet these standards.[132]

Today's autonomous cars are powered by predictive algorithms that rely on large sets of data that must perform tasks such as: recognizing road signs; obeying the applicable speed limit; and, perhaps most importantly, knowing when to apply the brake system to avoid hitting objects like human pedestrians.[133] It takes an enormous number of robust data sets being inputted into the algorithms by engineers for the machine learning mechanisms to begin accurately predicting the variables that these self-driving cars will encounter in real life.[134] The problem goes back to who is inputting this data and creating the programs. A team of researchers at Georgia Institute of Technology in Atlanta, Georgia, recently published their findings suggesting that the standard object detection used by autonomous vehicles has a higher predictive accuracy for pedestrians who score lower on the Fitzpatrick Scale of skin types.[135] First developed in 1972 by Harvard researcher and dermatologist Dr. Thomas B. Fitzpatrick, as part of a study on the effects of sunscreen and skin types, this scale characterizes the color of a person's skin based on its reactive categories, i.e., color.[136] This classification system was adopted by the Food and Drug Administration (FDA) in 1972 for the evaluation of sun protection factor (SPF) values of sunscreen.[137] Generally speaking, categories one through three correspond to lighter skin tones than categories four through six.[138]

The researchers noted that earlier studies, which showed issues with facial recognition software regarding the proper identification of both women and those with Fitzpatrick skin types four through

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130. Sarah Boden, *City and Autonomous Vehicle Companies Agree to Testing Guidelines*, WESA (Mar. 4, 2019), https://www.wesa.fm/post/city-and-autonomous-vehicle-companies-agree-testing-guidelines.
131. *Id.*
132. *Id.*
133. *See* Cade Metz, *How Driverless Cars See the World Around Them*, N.Y. TIMES (Mar. 19, 2018), https://www.nytimes.com/2018/03/19/technology/how-driverless-cars-work.html.
134. *Id.*
135. WILSON ET AL., *supra* note 126, at 1.
136. Silonie Sachdeva, *Fitzpatrick Skin Typing: Applications in Dermatology*, 75 INDIAN J. DERMATOLOGY VENEREOLOGY & LEPROLOGY 93, 93 (2009).
137. *Id.*
138. John D'Orazio et al., *UV Radiation and the Skin*, 14 INT'L J. MOLECULAR SCI. 12222, 12233 (2013).

six, compared to groups with a higher degree of facial recognition accuracy, i.e., white men, inspired them to employ the scale to categorize pedestrians for purposes of the study.[139] They also cite the ACLU report that found Amazon's facial recognition system incorrectly matched a number of darker-skinned members of Congress to mugshots from arrests across the country.[140]

The Georgia Tech researchers concluded that standard models for object detection, trained on standard data sets, appear to exhibit a higher rate of precision in regard to people lower on the Fitzpatrick skin type scale.[141] In plain language, this means that autonomous vehicles avoid hitting lighter skinned people at a higher rate than darker skinned people. The researchers also showed that some changes during the algorithm's "learning" phase—the time when it is beginning to crunch data to come to conclusions and make predictions that can be replicated over time with greater accuracy––can partially mitigate this disparity if the source of capture bias is not considered before the models are deployed.[142]

The study, which has not yet been peer reviewed, is not without its critics who say that the Georgia Tech researchers did not use the same datasets (i.e., the photos, images of pedestrians, and street conditions, for example) as the developers of the autonomous vehicles.[143]   If nothing else, this groundbreaking study offers critical insight into the risks of algorithmic bias, especially for those human beings with darker skin tones, and challenges developers to consider the diversity of data required to protect all drivers and pedestrians.

Algorithms used as part of online platforms can be just as dangerous if they are not programmed, employed, and monitored properly. For example, YouTube's Digital Playground, an automated recommendation system that connects viewers to content powered by AI technology, has come under fire in June 2019 for suggesting home videos of children to pedophiles.[144] Videos of children playing in their own backyards, wearing bathing suits, doing

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139. WILSON ET AL., *supra* note 126.

140. *See* Jacob Snow, *Amazon's Face Recognition Falsely Matched 28 Members of Congress with Mugshots*, ACLU (July 26, 2018, 8:00 AM), https://www.aclu.org/blog/privacy-technology/surveillance-technologies/amazons-face-recognition-falsely-matched-28.

141. WILSON ET AL., *supra* note 126.

142. *Id.*

143. Bill Howard, *Cameras, AI on Self-Driving Cars May Miss Darker-Skinned Faces*, EXTREMETECH (Mar. 7, 2019, 12:42 PM), https://www.extremetech.com/extreme/287152-cameras-ai-on-self-driving-cars-may-miss-darker-skinned-faces.

144. K.G. Orphanides, *On YouTube, a Network of Paedophiles Is Hiding in Plain Sight*, WIRED (Feb. 20, 2019), https://www.wired.co.uk/article/youtube-pedophile-videos-advertising.

gymnastics, or just getting dressed have racked up more than 400,000 views per video due to the automated algorithm that prompts users to view other video content through a progression of recommendations based on prior views.[145] YouTube's algorithm specifically suggests videos that are seemingly popular with other pedophiles, most of which have hundreds of thousands of views and feature disturbingly inappropriate comments.[146] While YouTube, which has billions of users worldwide, began disabling some of the comments when the matter was brought to its attention, the algorithm itself is still in use and drives 70% of views on the platform.[147] The company shrouds the details of how the system formulates these choices in secrecy. Jonas Kaiser, a researcher at Harvard's Berkman Klein Center for Internet and Society, first stumbled upon the videos while researching a project focusing on YouTube in Brazil.[148] He does not believe YouTube designed the program to serve the prurient interests of pedophiles, but the effect of a "disturbingly on point" algorithm is to connect these viewers with both innocent and sexually-charged video content driven by the expressed preferences of its users.[149]

YouTube has not discontinued the use of its Digital Playground algorithm because it is a lucrative business for the San Bruno, California based company purchased by Google in 2006 for $1.65 billion and now operating as a subsidiary of the tech giant.[150] The company continues to monetize the algorithm by selling advertisement space to major corporations who pay to place their content in streams of highly-popular videos.[151] In February 2019, Wired published an article in its United Kingdom online edition that showed one video of two young girls doing yoga was accompanied by pre-roll advertising from L'Oréal and had almost two millions views.[152] The magazine alerted other advertisers who began questioning YouTube's policies and pulling advertisement deals.[153] Official company policies promulgated in 2017 state that YouTube will disable comments on videos

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145. *See* Max Fisher & Amanda Taub, *On YouTube's Digital Playground, an Open Gate for Pedophiles*, N.Y. TIMES (June 3, 2019), https://www.nytimes.com/2019/06/03/world/americas/youtube-pedophiles.html.

146. *See* Orphanides, *supra* note 144.

147. Fisher & Taub, *supra* note 145.

148. *Id.*

149. *Id.*

150. Matt Marshall, *They Did It! YouTube Bought by Google for $1.65B in Less Than Two Years*, VENTUREBEAT (Oct. 9, 2006, 1:46 PM), https://venturebeat.com/2006/10/09/they-did-it-youtube-gets-bought-by-gooogle-for-165b-in-less-than-two-years/.

151. Orphanides, *supra* note 144.

152. *Id.*

153. *Id.*

where users say "inappropriate" things, "provid[e] guidance for creators who make family-friendly content," "engag[e] and learn[] from experts," and "doubl[e] the number of Trusted Flaggers" to heighten efforts to protect families and kids using the platform.[154] These vague policies should prompt any attorney or law student who has read cases such as *New York v. Ferber*,[155] *Jacobellis v. Ohio*,[156] and *United States v. Williams*,[157] to ask what those cases' principles really mean in practice. Because even when a questionable or inappropriate comment is disabled on these YouTube videos—typically of children acting innocently—the algorithm continues to promote these videos and allow viewers to continue to watch and share them, meaning that the cycle continues.[158]

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154. Johanna Wright, *5 Ways We're Toughening Our Approach to Protect Families on YouTube and YouTube Kids*, YOUTUBE (Nov. 22, 2017), https://youtube.googleblog.com/2017/11/5-ways-were-toughening-our-approach-to.html.

155. 458 U.S. 747 (1982). The Supreme Court reached a unanimous decision in this case out of New York that challenged a New York child pornography statute that prohibited persons from knowingly promoting a sexual performance by a child under the age of sixteen. *Id.* at 749. The statute gave an extremely wide definition of sexual conduct. *Id.* at 751. The Supreme Court held that the statute did not violate the First Amendment because of the state's overwhelming interest in "safeguarding the physical and psychological well-being of a minor" and protecting children from being exploited to produce pornographic materials. *Id.* at 756-57 (quoting Globe Newspaper Co. v. Superior Court, 457 U.S. 596, 607 (1982)). "The prevention of sexual exploitation and abuse of children constitutes a government objective of surpassing importance." *Id.* at 757.

156. 378 U.S. 184 (1964). The Supreme Court reversed the decision by the Supreme Court of Ohio that resulted in an upheld conviction against a local movie theater manager for possessing and exhibiting an allegedly obscene film. *Id.* at 195-96. While the court reversed the conviction of the theater manager upon judging the material in the movie not to be obscene, it reaffirmed that a state's interest in protecting children from obscene material was a "legitimate and indeed exigent interest of the States and localities throughout the Nation in preventing the dissemination of material deemed harmful to children." *Id.* at 195. The differentiating factor in this case is that the movie at issue contained a love scene between a make and a female, which the court concluded was not aimed at a child audience but instead the public at large. *Id.* at 195-96.

157. 553 U.S. 285 (2008). In this case, the Supreme Court decided that a federal statute aimed at criminalizing the possession and distribution of material described as child pornography (whether or not it actually depicted underage participants) was not overbroad and therefore not violative of the First Amendment. *Id.* at 288. The Court noted that the statute at issue "tracks the material held constitutionally proscribable in *Ferber* and *Miller*: obscene material depicting . . . children engaged in explicit conduct." *Id.* at 292-93. Further, Supreme Court precedent holds the First Amendment does not protect child pornography. *Id.* In this case, the statute required that the defendant holds material out to be real child pornography or that the defendant leads others to believe the material being offered is real child pornography; therefore, the issues are questions of fact and not vague or indeterminate. *Id.* at 306. "Child pornography harms and debases the most defenseless of our citizens. Both the State and Federal Governments have sought to suppress it for many years, only to find it proliferating through the new medium of the Internet." *Id.* at 307.

158. Orphanides, *supra* note 144.

D. Data Scraping from Social Networks Tested in Courts

The legal application of "scraping" data from social networks without the network's consent has been tested by the courts. The latest in a series of high-profile cases out of the United States Court of Appeals for the Ninth Circuit was decided on September 9, 2019 in *hiQ Labs, Inc. v. LinkedIn Corp.*[159] The court of appeals affirmed the district court's grant of a preliminary injunction in favor of hiQ Labs, Inc.[160] In effect, the court of appeals ruled that LinkedIn could not deny a data analytics company access to publicly available member profiles, a move allowing the controversial practice of data scraping to continue and placing the business interests of a company over the privacy concerns raised by LinkedIn Corp.[161] The court found that hiQ established a likelihood of irreparable harm to its business should the preliminary injunction be allowed to stand.[162] It noted that hiQ raised serious questions about whether its stated causes of action were preempted by the Computer Fraud and Abuse Act (CFAA).[163] Ultimately, the court decided the CFAA's prohibition on accessing a computer "without authorization" is only violated when the person attempts to "circumvent" a computer's generally applicable access rules;[164] not when a data scraping company like hiQ is accessing data made publicly available, like the LinkedIn user profiles.[165] The court also left open potential state law remedies to victims of data scraping such as: trespass to chattels, copyright infringement, misappropriation, unjust enrichment, conversion, breach of contract, and breach of privacy.[166]

The CFAA is the government's attempt to criminalize hacking, or the unauthorized access to computers and networks.[167] The CFAA provides a civil remedy that provides for a fine or imprisonment.[168]

Academics and researchers may now use this recent ruling to justify the use of data-scraping bots to conduct research into the discriminatory effects of algorithms. The analysis is different in the realm of profit-seeking companies such as hiQ who need access to

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159. 938 F.3d 985 (9th Cir. 2019).
160. *Id.* at 1005.
161. *Id.*
162. *Id.* at 993.
163. *Id.* at 999.
164. *Id.* at 999-1002.
165. *Id.* at 1001-02.
166. *Id.* at 1004.
167. Kim Zetter, *Hacker Lexicon: What Is the Computer Fraud and Abuse Act?*, Wired (Nov. 28, 2014, 6:30 AM), https://www.wired.com/2014/11/hacker-lexicon-computer-fraud-abuse-act/.
168. 18 U.S.C. § 1030(c) (2012).

data to survive. Litigation regarding the scope of the CFAA as to the legal and illegal harvesting and use of data will continue to be used to test the boundaries of what it means to be a public website and who can access and copy information scraped from a so-called public website.[169] The key CFAA language, "without authorization" may one day appear in front of the Supreme Court as courts across the country subject the federal statute to conflicting interpretations.[170]

E.   AI and Legal Research, Education, and Practice

Providing lawyers and law students with access to courses on legal analytics or data science will become an increasingly critical part of the modern legal practice and law school experience. Law schools that do not offer such courses in the design, development, implementation, use, and legal ramifications of big data will need to move in this direction or find themselves left behind. In fact, "technology competence" has been on the ABA's radar since the approval of an amendment to comment 8 of Model Rule 1.1 in 2012.[171] So far, thirty-eight states have adopted the revised comment, including the Commonwealth of Pennsylvania.[172] The revised comment reads as follows:

> [t]o maintain the requisite knowledge and skill, a lawyer should keep abreast of changes in the law and its practice, *including the benefits and risks associated with relevant technology*, engage in continuing study and education and comply with all continuing legal education requirements to which the lawyer is subject.[173]

At least two jurisdictions, Florida and North Carolina, have recently adopted mandates, which state that all licensed attorneys in

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169. Kate Riley, HiQ v. LinkedIn *and the Fight Against Data Scraping Bots*, FORDHAM INTELL. PROP., MEDIA & ENT. L.J.: BLOG (Mar. 28, 2018), http://www.fordhamiplj.org/2018/03/28/hiq-v-linkedin-and-the-fight-against-data-scraping-bots/.

170. Camille Fischer & Andrew Crocker, *Victory! Ruling in* HiQ v. LinkedIn *Protects Scraping of Public Data*, ELECTRONIC FRONTIER FOUND. (Sept. 10, 2019) https://www.eff.org/deeplinks/2019/09/victory-ruling-hiq-v-linkedin-protects-scraping-public-data.

171. MODEL RULES OF PROF'L CONDUCT r. 1.1 cmt. 8 (AM. BAR ASS'N 1983).

172. Robert J. Ambrogi, *Tech Competence*, LAWSITES, https://www.lawsitesblog.com/tech-competence (last visited Jan. 22, 2020).

173. MODEL RULES OF PROF'L CONDUCT r. 1.1 cmt. 8 (emphasis added).

those states must complete continuing legal education (CLE) credits devoted to technology training.[174] But as this article has illustrated, it will not be enough for attorneys and law students to simply know how to use the newest technologies, but rather they must also understand what is going on inside of the black boxes of AI systems to maintain competency.

One of the places attorneys and law students encounter AI systems every day is in the legal research systems used by popular legal databases such as LexisNexis, Westlaw, Ravel, Casetext, and Fastcase. Type in a case name or a search term, and voila, an unseen algorithm is generating the corresponding results. One might even expect each of the systems to return similar results when faced with similar or identical inquiries, but that is not the case. A 2017 study conducted by Susan Netlow Mart, an Associate Professor and Director of the Law Library at the University of Colorado School of Law, showed there was very little overlap in the cases that appeared in the top ten results returned by each of the databases she examined.[175] An average of 40% of the cases were unique to one database, and only about 7% of the cases were returned in search results in all six databases, which demonstrates that each database is somehow privileging information, or using different decision points, to get to the results generated.[176] If a researcher knew what a search algorithm was privileging, then better or more accurate results could be obtained for clients in a business where time really is money.[177] Simply answering inquiries is not where the AI application to legal research will stop. Legal research providers such as LexisNexis are rolling out the beta versions of analytics products now. For example, LexisNexis is releasing a product called, Context. This language analytics program supposedly will allow legal professionals to build arguments designed to sway judges in favor of their clients.

Machine intelligence is predicted to be one of the greatest disruptors of the role of lawyers in the history of the legal profession—most specifically in the areas of discovery, legal research, document generation, and predicting outcomes. Regulatory issues will con-

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174. Robert J. Ambrogi, *North Carolina Becomes Second State to Mandate Technology Training for Lawyers*, LAWSITES (Dec. 5, 2018), https://www.lawsitesblog.com/2018/12/north-carolina-becomes-second-state-mandate-technology-training-lawyers.html.

175. Susan Nevelow Mart, *The Algorithm as a Human Artifact: Implications for Legal [Re]Search*, 109 L. LIBR. J. 387, 390 (2017) (reporting that the study included Casetext, Fastcase, Google Scholar, Lexis Advance, Ravel, and Westlaw).

176. *Id.*

177. *Id.* at 389.

tinue to arise, as will issues in the area of professional responsibility, or legal ethics.[178] But the question remains: who or what is watching the computers and programmers responsible for creating these AI systems that we have shown touch on many aspects of our modern lives?

V.   A Path Forward to Creating Trustworthy AI

Created by humans, employed by humans, affecting humans, and profiting humans, AI systems should be developed and governed in a way to maximize trust in both their creation and output. Without aligning to ethical norms, AI systems cannot be trustworthy.[179] Lawyers and law students are charged with protecting fundamental human rights with a high degree of ethical responsibility. The first step to understanding what it means to create ethical computer systems is examining the only set of well-developed guidelines for the ethical implementation and use of AI systems in the world, those promulgated by the EU.

In 2018, the European Union Commission, which is a politically independent executive arm of the European Union,[180] produced the first report of its kind on the development of ethical guidelines for trustworthy AI in 2019.[181] The report and its guidelines attempt to set forth three pillars to substantiate its goal of supporting "ethical, secure and cutting-edge AI made in Europe."[182] The first two focus on the economics of AI development, but the third focuses on "ensuring an appropriate ethical and legal framework to strengthen European values."[183] The report was designed to be delivered to AI stakeholders, those people and corporations designing, developing, deploying, implementing, using, or being affected by AI.[184] Compliance with the guidelines is discretionary, but AI systems do not operate in a lawless world.[185]

The report outlined that trustworthy AI has three components, it should be lawful, ethical, and robust.[186] The focus within the report is on the ethics and robust components, as the legal component will

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178. Alarie et al., *supra* note 31, at 13.
179. Eur. Comm'n Guidelines, *supra* note 12, at 4-5.
180. *European Commission: Overview*, Eur. Union, https://europa.eu/european-union/about-eu/institutions-bodies/european-commission_en (last visited Oct. 2, 2019).
181. Eur. Comm'n Guidelines, *supra* note 12, at 1.
182. *Id.* at 4 (citations omitted). The first two pillars are: "i) increasing public and private investments in AI to boost its uptake[] and ii) preparing for socio-economic changes." *Id.*
183. *Id.*
184. *Id.* at 5.
185. *Id.* at 6.
186. *Id.* at 5.

vary from country to country. The ethics argument is founded on the fundamental rights established within the European Union Treaties and European Union Charter with a common component of human dignity.[187] Human dignity is the idea that every human being has intrinsic worth.[188] Additionally, every human is a moral subject and not an object, and thus, AI systems must be developed in a manner that "respects, serves and protects humans' physical and mental integrity, personal and cultural sense of identity, and satisfaction of their essential needs."[189] This statement presents a high bar conceptually, without details of what each of this means pragmatically. For example, what are the concrete red lines that would clearly infringe on mental integrity and, therefore, should not be crossed?[190] As noted by the Committee, the focus of what should be done versus what can be done becomes another central focal point in the ethical discussions of an AI system.[191]

The second fundamental right is the "freedom of the individual," which includes freedom to make life decisions for oneself and freedom from sovereign intrusion.[192] But, there is a clear acknowledgement that at times intervention must occur at the government level to ensure equal access the benefits and opportunities of using AI systems. Additionally, AI systems must not have "(in)direct [sic] illegitimate coercion, threats to mental autonomy and mental health, unjustified surveillance, deception and unfair manipulation."[193] Thus, the focus must be on how to improve individual life, freedoms, and positive engagement in society and not for power or manipulation. The result is to improve individual and collective well-being.[194] Related, the report authors also argue that AI systems must be based on a respect of democracy, justice, and the rule of law and that the systems should serve to maintain and foster democratic processes. Included in this argument is the commitment to the rule of law and to ensure due process and equality before the law.[195] The final fundamental rights are equality, non-discrimination, solidarity, and citizens' rights.[196] The AI system

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187. *Id.* at 9-10.
188. *Id.* at 10.
189. *Id.*
190. Thomas Metzinger, *Ethics Washing Made in Europe*, DER TAGESSPIEGEL (Aug. 4, 2019, 3:48 PM), https://www.tagesspiegel.de/politik/eu-guidelines-ethics-washing-made-in-europe/24195496.html; EUR. COMM'N GUIDELINES, *supra* note 12, at 11-12.
191. EUR. COMM'N GUIDELINES, *supra* note 12, at 10.
192. *Id.* at 10.
193. *Id.*
194. *See id.* at 11.
195. *Id.*
196. *Id.*

should not generate unfairly biased decisions, which obviously includes respecting vulnerable populations. AI systems have the potential to improve the function of government yet could negatively impact individuals and infringe on their rights; thus, safeguards must be built into the systems.

After the fundamental rights, the report states that there are four ethical principles to guide AI systems. They are: respect for human autonomy, prevention of harm, fairness, and explicability.[197] Respect for human autonomy in this context is the ability of individuals to have full and effective self-determination over themselves.[198] Again, the goal is to improve human experiences and is best accomplished with human oversight of the processes in the AI systems. Prevention of harm is met through the principle that AI systems should not adversely affect human beings.[199] This relates back to human dignity along with mental and physical integrity.[200] Technical robustness requires that it is not open to malicious use.[201] Thus, vulnerable populations should receive more attention and be included in the development and implementation of these systems.[202]

The Committee also created a "non-exhaustive" list of seven non-hierarchical interacting areas of concern that should be a focus during development, implementation, and the life cycle of the AI system:

1.   **Human agency and oversight[:]** Including fundamental rights, human agency and human oversight

2.   **Technical robustness and safety[:]** Including resilience to attack and security, fall back plan and general safety, accuracy, reliability and reproducibility

3.   **Privacy and data governance[:]** Including respect for privacy, quality and integrity of data, and access to data

4.   **Transparency[:]** Including traceability, explainability and communication

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197.   *Id.* at 12.
198.   *See id.*
199.   *Id.*
200.   *Id.*
201.   *Id.*
202.   *Id.*

5.　**Diversity, non-discrimination and fairness[:]** Including the avoidance of unfair bias, accessibility and universal design, and stakeholder participation

6.　**Societal and environmental wellbeing[:]** Including sustainability and environmental friendliness, social impact, society and democracy

7.　**Accountability[:]** Including auditability, minimisation and reporting of negative impact, trade-offs and redress.[203]

Of the seven areas of concern, transparency needs further discussion due to the key concepts of traceability, explainability, and communication.[204] These are related to explicability above but warrant more information. As the impact on people's lives increases, there must be a path for explaining the system's decision-making process. As for human decisions, the focus must also be on how the use of the system is shaping the decision-making process from its design to rationale to implementation. Finally, for communication, humans have the right to know that they are interacting with an AI system. There must also be a mechanism that allows humans to decide not to engage with the system.

The final version of the report is not without critics. Committee Member Dr. Thomas Metzinger wrote an editorial in Der Tagesspiegel, that the report is an ethics whitewashing and a marketing sales narrative.[205] More importantly, he writes that trustworthy AI is conceptual nonsense because machines cannot be trustworthy.[206] But Dr. Metzinger also noted the EU guidelines are currently the best thing that is out there at this time.[207]

In sharp contrast, the United States first introduced its "American AI Initiative" through an Executive Order issued by President Donald Trump in February 2019.[208] The order, titled "Executive Order on Maintaining American Leadership in Artificial Intelligence," lists five principles that drive the initiative and can be summarized as follows: (1) the United States must drive technological breakthroughs in AI systems; (2) the United States must drive development of technical standards to reduce barriers to testing and

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203.　*Id.* at 14.
204.　*See id.*
205.　Metzinger, *supra* note 190.
206.　*Id.*
207.　*Id.*
208.　Exec. Order No. 13,859, 84 Fed. Reg. 3967 (Feb. 11, 2019).

deployment of AI systems; (3) the United States must train American workers to develop and apply AI system technologies; (4) the United States "must foster public trust and confidence in AI technologies and protect civil liberties, privacy, and American values in their application in order to fully realize the potential of AI technologies for the American people;" and (5) the United States must promote an international environment to support "American AI research and innovation and open[] markets for American AI industries."[209]

The word "ethics" does not appear even once in the order. However, making a path for profitability and support of research and development for the creation and growth of the AI systems industry is front and center. In fact, President Trump specifically names artificial intelligence as a research and development priority in his 2019 Fiscal Year Budget, and he calls it a key area of focus.[210] The budget requests more than $84 billion in research, engineering, and prototyping activities to maintain "technical superiority."[211] The Executive Order calls on the National Science and Technology Council (NSTC) Select Committee on Artificial Intelligence to coordinate this American AI Initiative.[212]

In the meantime, lawyers and law students in the United States should consider using the EU Committee's framework to spark a discussion about the development of our own set of ethical guidelines for the development of so-called Trustworthy AI, especially as it inexorably assumes a role of dominance. As Ronald Regan said, restating a maxim first introduced by rabbinic sage Hillel the Elder, "[i]f not us, who? And if not now, when?"[213]

VI.   CONCLUSION AND AN ISSUE SPOTTING CHECKLIST

AI systems are only as good as the human creators behind the algorithms. AI systems can help close the justice gap for low-income families or help connect pedophiles to view video content featuring young children. AI systems can promote or disadvantage women and minority job candidates. AI systems can serve our virtues or our vices. As Dr. Martin Luther King, Jr. foretold, when

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209.   *Id.*
210.   OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, BUDGET OF THE UNITED STATES GOVERNMENT, FISCAL YEAR 2019, at 36 (2018).
211.   *Id.*
212.   Exec. Order No. 13,859, 84 Fed. Reg. at 3967.
213.   Yair Rosenberg, *If Not Now, When? A Recent History of Hillel's Misattributed Maxim, from Ivanka Trump to Ronald Reagan*, TABLET (Sept. 12, 2016, 4:35 PM), https://www.tabletmag.com/scroll/213190/if-not-now-when-a-recent-history-of-hillels-misattributed-maxim-from-ivanka-trump-to-ronald-reagan.

these machines powered by algorithms built for profit become more important than basic human dignity, then the destructive forces of our changeable human nature—the "giant triplets of racism, extreme materialism, and militarism"—are given free rein.[214] Have we hit the time when it is "impossible to course-correct" as Fei-Fei Li warns?[215] Or does humanity still have time to address the real issues caused by the proliferation of AI systems, without proper checks and balances before the very computers humans build independently decide how this all ends? It is time to send in the lawyers and the money. Maybe not the guns, oh, wait . . . [216]

AI ATTORNEY ISSUE-SPOTTING CHECKLIST

The following is a list of basic questions any attorney or law student should ask when working with AI systems, in addition to consulting the list of seven non-hierarchical interacting areas of concern listed in the EU report and discussed above. These are where the potential ethical issues may arise in the creation and application of any AI system.

- What is the goal of this algorithm?

- What data is being inputted?

- Who is in charge of inputting the data?

- What are the algorithm's decision points?

- Who decided on those decision points?

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214. Katrina vanden Heuvel, *Fifty Years Later, King's Warning Still Resonates*, NATION (Apr. 4, 2017), https://www.thenation.com/article/fifty-years-later-kings-warning-still-resonates/?print=1 (quoting Dr. Martin Luther King, Jr.).

215. Hempel, *supra* note 7.

216. *See* Ben Tarnoff, *Weaponised AI is Coming. Are Algorithmic Forever Wars Our Future?*, GUARDIAN (Oct. 11, 2018, 5:00 PM), https://www.theguardian.com/commentisfree/2018/oct/11/war-jedi-algorithmic-warfare-us-military; *see also Contracts for Oct. 25, 2019*, U.S. DEP'T DEFENSE, https://www.defense.gov/Newsroom/Contracts/Contract/Article/1999639/ (last visited Apr. 14, 2020). On Oct. 25, 2019, the U.S. Department of Defense announced that Microsoft Corporation had been awarded the $10 billion, ten year contract to create the Joint Enterprise Defense Infrastructure Program (JEDI) Cloud missile defense system. *Id.* This is a cloud computing system that weaponizes artificial intelligence and includes the use of unmanned drones that can be programmed to locate targets in real time, essentially making it less time consuming to find people to kill in war zones. *Id.* The system will be designed to serve United States forces all over the world. *Id.*

- Were potential issues of bias accounted for in constructing those decision points and how?

- Do you have an ethicist on the development team? Do you have a true critical outsider providing input?

Murray Excellence in Scholarship Lecture at Duquesne Law School on March 21, 2019

James Forman Jr.[*]

I.   HISTORY

I thought I would start by talking a little bit about what brought me to write *Locking Up Our Own*.[1]

Two motivations stand out. The first has to do with African American portrayals in popular media. Whenever I see a film or a television show that is completely void of African American representation in the narrative—or, just as bad—with one character who is made to stand in for the entire black community or represent the entire black perspective, it makes me a little angry. If it's a television show, I might just turn it off, because I refuse this distortion of the truth. *The truth* is a community that is diverse, complex, and full of individuals who disagree with one another.

Of course, Hollywood isn't the only place with this narrative problem. It lives in our politics and has mapped itself onto history. I knew that in this book, I wanted to tell the story of the last fifty years through the lens of African American communities, citizens, and leaders in their full depth and complexity. I wanted to show the intellectual, cultural, social, and political history that so often gets written off or written out. In other words, I wanted to tell the truth.

The second motivation came from my work in the criminal legal system. There are a lot of personal stories in this book, but there's one that really captures why I wanted to write it. It's a story from the introduction, and I would like to share some of it with you now.

I had been representing a teenage client named Brandon in the Washington, D.C. Superior Court. (That's not his real name; I

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1.   *See generally* JAMES FORMAN, JR., LOCKING UP OUR OWN (2017).

change everybody's names.) Brandon was fifteen years old and had been charged with possessing a gun as well as a small amount of marijuana. He had pled guilty, he was facing sentencing, and I was his public defender.

I had decided to become a public defender because I viewed it as the civil rights work of my generation. My parents met in the Student Nonviolent Coordinating Committee (SNCC), one of the four major civil rights organizations of the 1960s. Their generation changed this nation.

My dad is black; my mom is white. They were an interracial couple at a time when those marriages were illegal in many states in this country. Their generation changed so much of that, bringing us the Civil Rights Act of 1964, the Voting Rights Act of 1965, and Fair Housing Act of 1968.

In school, they'll teach you that all of this legislation was passed by Congress and signed by the President. And it was. But don't forget for a minute the reason why it happened. These laws were passed because people marched, and people demanded, and people organized, and people litigated, and people pressured, and people demanded change. Theirs was a generation that faced down Bull Connor's dogs and marched across the Edmund Pettus Bridge, that went to D.C. 250,000 strong for the March on Washington for Jobs and Freedom.[2] They made it possible for African Americans of my generation to have opportunities that were unimaginable in our parents' and our grandparents' generation.

And yet and still, even with all that progress, when I was graduating from law school I could see that there was unfinished business in the Civil Rights Movement. And the place where I saw the unfinished business—not the only place, but the place that I saw it most clearly—was in our criminal legal system.

We didn't have the term "mass incarceration" then. But even if we didn't know what to call it, we had the underlying statistics.

We already knew by the mid-1990s that one in three young black men was under criminal justice supervision.[3] We already knew that

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2. At the time, the New York Times reported that 200,000 individuals participated in the March. *See* E. W. Kenworthy, *200,000 March for Civil Rights in Orderly Washington Rally; President Sees Gain for Negro*, N.Y. TIMES (Aug. 29, 1963), https://archive.ny-times.com/www.nytimes.com/interactive/2013/08/24/us/march-on-washington-original-coverage.html?searchResultPosition=4. Other estimates put the number of participants at 250,000. *See March on Washington for Jobs and Freedom*, NAT'L PARK SERV., https://www.nps.gov/articles/march-on-washington.htm (last updated Aug. 10, 2017).

3. MARC MAUER & TRACY HULING, SENTENCING PROJECT, YOUNG BLACK AMERICANS AND THE CRIMINAL JUSTICE SYSTEM: FIVE YEARS LATER 1 (1995), https://www.sentencingpro-

the Sentencing Project reported that black women were the largest growing population in the prison system at the time.[4] We already had passed Russia and South Africa in the late 1980s to earn the dishonor of being the world's largest jailer.[5] We already accounted for a quarter of the world's prisoners despite having just five percent of its population.[6]

I had seen some of the transformations in American society that produced those numbers. I had seen them in my own life, growing up as a kid in the late '70s, early '80s. I grew up in Atlanta, in a mostly African American working-class neighborhood, with pockets of borderline middleclass. Two blocks in either direction from my house were two enormous hulking structures. If you went down the street, turned right and went two blocks, you got to the General Motors Plant. If you went down the street, turned left and went two blocks, you got to the Atlanta Federal Penitentiary.

Now, it's the '90s and I'm graduating law school, deciding what I'm going to do. One of those buildings has shut down, padlocked, with the jobs sent overseas. The other building has built an extra wing. And I don't think I need to tell this audience which is which.

I wanted to try to fight that struggle. That's why I was in the Superior Court in Washington, D.C., standing next to Brandon as his public defender. I was asking for a non-custodial sentence of probation. I had a letter from a teacher and a counselor at his school. His mother and grandmother were there in court. They were in the first row, just a few feet from me. They wanted him to come home. They had been at every court hearing asking for him to come home.

The prosecutor in the case was asking for him to go to Oak Hill. Now, Oak Hill is like a lot of juvenile facilities in this country. It combines a very nice-sounding name—what could be better than an oak tree on a hill—with a violent and brutal reality. It was a place where drugs were everywhere, and violence was commonplace. It was a place where young people often left worse off than they were when they entered.

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ject.org/wp-content/uploads/2016/01/Young-Black-Americans-and-the-Criminal-Justice-System-Five-Years-Later.pdf (noting that almost one in three black men between the ages of twenty and twenty-nine is under criminal justice supervision).

4. *Id.*

5. *See* The Associated Press, *U.S. Has Highest Rate of Imprisonment in World*, N.Y. TIMES (Jan. 7, 1991), https://www.nytimes.com/1991/01/07/us/us-has-highest-rate-of-imprisonment-in-world.html.

6. VINCENT SCHIRALDI & JASON ZIEDENBERG, THE PUNISHING DECADE: PRISON AND JAIL ESTIMATES AT THE MILLENNIUM 3 (2000), http://www.justicepolicy.org/research/2064.

The judge that had to make the decision in the case, Curtis Walker (again, not his real name), was an African American superior court judge.

He looked out into the courtroom, and he looked at Brandon. What did he see? He saw a young black man facing sentencing, an African American defense lawyer, and a black prosecutor.

The judge looked at Brandon and he said, "Son, Mr. Forman's been telling me that you have had a tough life. That you deserve a second chance. Well, son, let me tell you about tough. Let me tell you about Jim Crow segregation."

See, the judge had been a child during Jim Crow segregation, and he proceeded to lecture Brandon on what it was like.

He said, "So here's the thing: people fought, people marched, people died for your freedom. Dr. King died for you. And I'll tell you this: he didn't die for you to be running and gunning and begging and carrying on, embarrassing your family, embarrassing your community, carrying that gun. So, I hope Mr. Forman is right. I hope one day you turn it around. But today, in this courtroom, actions have consequences. Your consequence is Oak Hill."

I was so mad and frustrated. Think about it: the judge had just taken all of my motivations for becoming a public defender—the same history, the same heroes, the same decades of struggle—and twisted them into a rationale for locking Brandon up.

But over time, as I began to reflect and work through my anger, I started to realize that Judge Walker was not alone in those opinions he expressed. D.C.'s City Council had passed the gun and the drug laws that led to more severe punishments and higher rates of incarceration. The Council was majority-African American. The police chief and mayor were black, and the police force was majority-black.[7] And even with all that representation in local government, D.C. was doing many of the same things that the rest of the country was doing: passing similar laws, enacting similar policies, policing in similar ways, and producing the same results. One in three young black men were under criminal justice supervision nationally, and in D.C., it was one in two.[8]

And, so, I really began to wrestle with the question of: how did this come to be? What happened in this country over the last fifty years that was so powerful, so all consuming that even in this majority-black jurisdiction, where the black community had some

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7. *See* FORMAN, *supra* note 1, at 78.
8. *Id.* at 6.

measure of control over its local policies, local laws, and local polic-ing practices, that we were doing the same thing as the rest of the country? How did that come to be?

To answer that question, we have to start with the rising levels of crime and violence—and with them, fear and anger—in African American communities over the last fifty years, especially during the heroin epidemic of the '60s and the crack epidemic of the '80s and '90s.

Heroin did to black communities in the 1960s what crack would do two decades later.[9] The homicide rate in this country doubled in the 1960s, and it tripled in Washington, D.C.[10] In 1964, 3% of the people entering the D.C. jail were found to be heroin addicts.[11] By 1969, that 3% had become 45%.[12] That's an epidemic.

As significant as the epidemic itself was the reaction it generated in the community. To write this book, I had to review archives of City Council members. Many of them retired and turned over all their papers. And I was lucky, as a writer, that in some cases City Council members had kept all the correspondence they had received from constituents. Looking through file after file, for multiple sum-mers, I saw an incredible social history of a city in crisis.

The people writing to their mostly African American elected offi-cials were mostly African American citizens. D.C. was seventy per-cent African American at the time, which is why it was called "Choc-olate City."[13] Eleven out of the thirteen members of the first D.C. Council were African American.[14]

Those letters that I found in file after file revealed pain and suf-fering. People would say, "We just fought the Civil Rights Move-ment. I'm afraid to take my kids outside. I feel like a prisoner in my own home. I feel like a stranger in my own city streets."

And over and over again, the letters ended with some version of, "Do something. Do something. You've got to do something about it."

In the 1970s and '80s, there was an eight-hundred percent in-crease in black elected officials in this country because of the Voting

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9.   *See generally id.*

10.   *See* Debbie M. Price, *'Murder Capital' Label Has Long Stalked D.C.*, WASH. POST (Apr. 4, 1989), https://www.washingtonpost.com/archive/politics/1989/04/04/murder-capital-label-has-long-stalked-dc/06a3c715-5888-4c26-b6c7-64ef290b305d/.

11.   Robert L. DuPont & Richard N. Katon, *Development of a Heroin-Addiction Treatment Program: Effect on Urban Crime*, 216 [J]AMA 1320, 1320 (1971).

12.   *Id.*

13.   *See* FORMAN, *supra* note 1, at 18.

14.   *See id.* at 19.

Rights Act.[15] The people receiving these letters were the first gen-
eration of black elected officials to be elected in any number in this
country since Reconstruction.[16]

Of that first generation of black elected officials, many were from
the South, and some had participated in the Civil Rights Movement.
All of them remembered the long history of under-enforcement and
under-protection of the law that has been part of the black experi-
ence in this country since slavery.

My dad used to tell me about it. My dad grew up during the Jim
Crow era in Mississippi and then on the South Side of Chicago. He
told me, "We didn't call the police in our neighborhood, the black
neighborhood. We didn't call the police when there was a crime.
The police weren't going to respond to black victims. And if they
did, the only thing you could be sure of was that they were going to
make matters worse."

This generation, they remembered southern sheriffs—southern
sheriffs in cahoots with the klan (I say southern, but understand
that there's a "southern" mentality in many parts of this country).
When asked about a homicide in a black neighborhood, they would
say, "That's not a homicide, that's another dead black person." And
they didn't use the words "black person."

This generation remembered this history. They were shaped by
this history. And now, they were in office and they were bound and
determined with the limited power that they had to try to make the
law enforcement apparatus respond to those black citizens who
were asking for protection. Those black citizens wouldn't have even
bothered to write their elected officials during the Jim Crow era be-
cause they would have known they weren't going to get a response.
Now, there were finally some black elected officials in office, and
they were hoping and demanding to get a response to their con-
cerns.

So, crime is rising, people are scared, people are petitioning gov-
ernment. And there are at least some members of the government
that want to respond. So why was the overwhelming response over
the last forty or fifty years to turn to police, prisons, and prosecu-
tors?

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15. *See* Office of the Historian, *The Civil Rights Movement and the Second Reconstruc-
tion*, *1945-1968*, HIST., ART & ARCHIVES: U.S. HOUSE REPRESENTATIVES (2008), https://his-
tory.house.gov/Exhibitions-and-Publications/BAIC/Historical-Essays/Keeping-the-
Faith/Civil-Rights-Movement/.
16. *See* RICHARD M. VALELLY, THE TWO RECONSTRUCTIONS: THE STRUGGLE FOR BLACK
ENFRANCHISEMENT 1-4 (2004).

Locking Up Our Own is a book and a story that is rooted in black politics, black communities, and black elected officials. But any story, or any account that is rooted in the black community, also has to be cognizant of the larger structures, the larger society, the larger institutions that shape, limit, and constrain the ability of black elected officials to act.

Let me talk about some of those constraints. The first one is historical. Black elected officials in this country, especially in the 1970s and 1980s, but still today, were elected to represent communities that, because of a history of racism, could not accumulate meaningful wealth and political power. This started with slavery—and we have had slavery in this country for longer than we have not. I'm not talking about anything metaphorical. I mean actually: 1619 to 1865 is a longer period of time than 1865 to the present.

Slavery was followed with Jim Crow and institutionalized racism in the South and the North. How did that manifest itself in policy?

Well, it meant that if you were a black member of the military, and you went off to fight, when you came back and you were supposed to get the benefits of the GI Bill, they weren't available to you.[17]

It meant black homeowners weren't able to get loans from banks to improve their houses, and, therefore, were not able to accumulate wealth over generations to pass down to their children and to their grandchildren.

It manifested itself in public policy decisions like where to build highways. In this country, we built a National Highway System in the 1950s and 1960s. President Eisenhower initiated it, and we take it for granted to this day. But those highways had to be built somewhere. And where were they built? They were built through the neighborhoods with the least political capital.

I'll just give you the example of Atlanta. If you have driven to Atlanta, you have driven on I-75 or I-85.

You don't know it when you're driving there, but when you're driving on I-75 or I-85, you're driving through what was known as the Black Wall Street. Dr. King was raised there, on Auburn Avenue, which was a thriving black middle-class community into the 1950s and early 1960s, until it was demolished, destroyed, and cut in half by the Federal Highway System.[18]

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17.   *See* IRA KATZNELSON, WHEN AFFIRMATIVE ACTION WAS WHITE: AN UNTOLD HISTORY OF RACIAL INEQUALITY IN TWENTIETH-CENTURY AMERICA 115 (2005).

18.   *See* Kevin M. Kruse, *What Does a Traffic Jam in Atlanta Have to Do with Segregation? Quite a Lot.*, N.Y. TIMES (Aug. 14, 2019), https://www.nytimes.com/interactive/2019/08/14/magazine/traffic-atlanta-segregation.html.

So, this is the history. Because of a history of accumulated decisions in law and policy, African American communities had not been able to develop the wealth or the other resources to protect themselves without reliance on the State. Therefore, black communities were unduly reliant on police and prosecutors for protection. And police and prosecutors are who communities turn to when the other lines of defense have broken down. But they're never the communities' first choice for protection.

The second constraint is political. The people that I write about are local elected officials. Black political power has always been concentrated locally: city council, county council, mayors' offices. And local politics, I argue in the book, have been an important force in understanding how we ended up with mass incarceration, and what we need to do to respond to it.

But there are limits to local politics. Here is an example of one of those limits. The people that I write about, black elected officials, for the last fifty years, have had what I call an all-of-the-above strategy to fighting crime and violence. They say, "We want more police and more prosecutors," and sometimes they've unfortunately said, "We want more prisons."

But they have also said, "We want more money for drug treatment, and we want more money for housing, and we want more money for healthcare, and we want more money for education, and we want more money for jobs. We want national gun control to go alongside these local gun control laws we're passing. We want a Marshall Plan for urban America. We want the United States Government to do for its cities what it did for Europe after World War II, to rebuild, to revitalize, to reinvest."

For fifty years, elected officials have been going to Congress asking for money for all of the above. And for fifty years, they have been coming back from Congress with money for one of the above: law enforcement.

The last constraint that I'll mention is one that we collectively have to work on, to liberate ourselves from, in this moment. That is the constraint of our own imagination.

The generation of policymakers that gave us mass incarceration were constrained by their imaginations in how to respond to what were real and pressing social problems.

There are a lot of examples of this, but I will just give you one. One of the people I write about is a man named David Clarke. David Clarke was one of a handful of white members of that first City

Council.[19] He went to Howard Law School in the 1960s. Then he worked for Martin Luther King when he graduated law school, became a lawyer for poor people and was elected to the City Council.

And for these purposes, just know that David Clarke was not a drug warrior; he was the opposite. The first legislation that he pushed when he got into the City Council in 1975 was for marijuana decriminalization. It almost passed.[20]

In the early 1980s, he had been elevated to chair of the City Council, and heroin was back in force. He and the other City Council members were being deluged with letters from citizens about heroin addicts. Heroin addicts in public spaces, people gathering on park benches, people sleeping in alleys, people gathering on stoops, and people gathering on corners. Those citizens were saying, "You've got to do something about it."

David Clarke forwards all the letters to the head of the relevant government agency, and he gets a letter back each time: "Council Member Clarke, we've received your citizen complaint about heroin addicts. We're on the case."

Who did he forward the letters to? Remember, the problem is heroin addicts in public spaces. Did he forward the letters to the Departments of Mental Health, Public Health, Addiction Services, Treatment of Rehabilitation, or Social Work? No.

He was not a dug warrior, but he was an American. And like so many of us, he was constrained by his imagination. The idea that the problem of a heroin addict in a public space is properly solved by someone with handcuffs and a gun, who can only take someone in need of treatment to one place (the local jail), proceeds from deeply ingrained cultural and political assumptions—assumptions that rise to the surface more easily in hindsight. David Clarke forwarded those constituent letters to the police chief because he genuinely believed law enforcement would help solve this problem.

One of my main arguments in the book is that, to try to understand how we got to this system of mass incarceration, it's tempting to look at speeches of presidents or acts of Congress, which are undoubtedly important. But it's crucial that we take notice of the small, incremental decisions that gave life to this regime. Decisions made across the three thousand counties and fifty states that make up America, over nearly a fifty-year period. Many, though not all, of those decisions were made by well-intentioned people. Decisions

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19.   *See* FORMAN, *supra* note 1 at 18; *see also* Jonetta Rose Barras, *The Strange World of David Clarke*, WASH. CITY PAPER (Sept. 29, 1995, 12:00 AM), https://www.washingtoncitypaper.com/news/article/13006558/the-strange-world-of-david-clarke.

20.   *See* FORMAN, *supra* note 1, at 19-23.

like: which government agency should I reach out to for support when I'm in receipt of letters about heroin addicts in my community?

My argument is that those small decisions are the individual bricks that collectively built the prison nation that America has become.

II. THE PRESENT AND THE FUTURE

When I was a student, I would go to various social justice lectures. It seemed like the person would talk about the problem that they were working on, their life's work, their passion. Some of them were interesting and compelling, some of them were less so. But every time when the person finished talking about the problem, they would conclude in a way that appeared to say, "Okay, my work is done." They would leave the whole audience entirely depressed as they walked offstage.

I don't want to do that. This is a university and a law school that harbors a social justice mission among its core values, and I want to at least spend a couple of minutes thinking about how we respond to this problem that I've just described.

The first is connected to what I just said about how this system was built. Because it was built in a series of small steps made across so many domains and decisionmakers—many of them even hidden from public view—it's going to have to be dismantled and rebuilt in the same way. There's not going to be a silver bullet. There's not going to be a one-and-done act of federal legislation. Most of what needs to be done isn't federal at all. This is a problem that was overwhelmingly a state, county, and local problem. Eighty-eight percent of people incarcerated in this country are in state, county, and local prisons and jails, not federal ones.[21] Eighty-five percent of law enforcement is state, county, and local.[22]

This system was built with federal support at the state, county, and local level. That's where it's going to have to be taken down and demolished.

The local nature of this problem presents an opportunity because it puts us all closer to sources of solutions. It's hard to figure out exactly what to do in Washington, D.C., especially at this political moment. It can be productive to think about, "Well, what can I do

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21. *See* JENNIFER BRONSON & E. ANN CARSON, U.S. DEP'T OF JUSTICE, NCJ 252156, PRISONERS IN 2017, at 3 (2019), https://www.bjs.gov/content/pub/pdf/p17.pdf.

22. *See generally* DUREN BANKS ET AL., U.S. DEP'T OF JUSTICE, NCJ 249681, NATIONAL SOURCES OF LAW ENFORCEMENT EMPLOYMENT DATA (2016), https://www.bjs.gov/content/pub/pdf/nsleed.pdf.

in my neighborhood, in my community, in my city, in my county, in my state?"

So, let me just put a couple of ideas out on the table that should inform our thinking about solutions. The first is that the system, as it is currently constructed, is doing great harm—we have to start with the proposition that we need to "do less," to shrink the footprint of our criminal legal system.

Doing less has lots of specific manifestations. Here is an example: juvenile incarceration. When I was public defender in the 1990s, D.C. was sending hundreds of kids per year to out-of-state placements, to residential treatment facilities. There was a wide range of placements, but there was one school in particular that (once a judge had decided that he was going to send a juvenile to residential treatment, usually with the intention of helping the child), we would aggressively lobby for. This facility had a really great reputation. It was in Pennsylvania, as it happens, and it was called Glen Mills. But as many of you may have become aware, and if not, I hope you will become aware, Glen Mills has been ruined by scandal. Accounts of abuse and mistreatment have caused cities like Pittsburgh and Philadelphia to pull their kids out, enrollment that was once more than one thousand has declined to fewer than two hundred.[23]

It can be tempting to read the story of Glen Mills as an isolated failure. But it reflects an underlying structural problem, which is the mindset that incarceration is appropriate for young people in the first place.

So, when I say, "do less," in this instance, I mean provide for young people *in the community*, rather than sending them out to a facility. It might have a nice name, Glen Mills, or Oak Hill, but it's still fundamentally a prison, and it's necessarily going to be doing more damage than good over time. We have to free ourselves from the mindset that by being harsher and incarcerating more we're going to get better outcomes. We have to expand our imagination.

We are going to have to change our attitudes and practices in many more areas. Consider bail. We have more people today, right now, locked up in cages who have not been convicted of a crime— people who are waiting for trial, innocent under law—than we had

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23.   *See* Lisa Gartner, *More Than 80 Boys to Leave Glen Mills Schools After Inquirer Investigation of Abuse*, Phila. Inquirer (Feb. 27, 2019), https://www.inquirer.com/news/ glen-mills-schools-pa-abuse-philadelphia-michigan-texas-california-remove-students-investigation-20190227.html.

in our entire prison system in the early 1970s.[24] Most of those people are there because judges have imposed bail requirements that they can't meet because of poverty. The judge says, "$1,000, $10,000, $50,000," whatever it is, "Go and get ten percent, if you can get ten percent." For those who can come up with the money, this amounts to a tax on poor people, because you don't get most of that back when you post bond. But to a lot of people, ten percent might as well be one million dollars. As a result, we have wealthy people charged with very serious crimes getting released, while poor people charged with minor offenses get held in jail. And we just do it because we've been doing it. Fixing that system is going to require a culture change.

Over time, in New York City, for example, they've worked hard to produce some of this culture change, but they haven't gone nearly far enough. Over the last couple of decades, they have reduced the number of people that are held from 48% to 23%. From nearly half to nearly a quarter. That's a massive reduction, and significant, but not far enough. And during that time period, the return-to-court rate hasn't gone down. In fact, it's higher than the national average.[25]

This is going to require people in the system and those of us that are voting for people in the system—because remember, we vote for local prosecutors, and in many places, local judges too—to start demanding that our elected officials adopt a new set of policies, policies that push towards decarceration.

Let me mention one other area that's a passion of mine. Even though I've been focused on shrinking this system, getting people out of prisons, getting people out of jails, and returning folks to communities, it remains a fact that we're going to continue to have people locked up for the foreseeable future. This reality generates its own important questions: what are we doing with and for them? What opportunities are we providing, which, in turn, are opportunities for all of us in our communities? Because most people who are locked up do come home.

And we have a choice about the people that come home. Many of these people have been abused, neglected, degraded, dehumanized, and deprived of the opportunity to learn. If we continue with our

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24. *See* BERNADETTE RAPUY & DANIEL KOPF, DETAINING THE POOR: HOW MONEY BAIL PERPETUATES AN ENDLESS CYCLE OF POVERTY AND JAIL TIME 1 (2016), https://www.prison-policy.org/reports/DetainingThePoor.pdf.

25. *See* Eli Hager, *New York City's Bail Success Story*, MARSHALL PROJECT (Mar. 14, 2019, 7:00 AM), https://www.themarshallproject.org/2019/03/14/new-york-city-s-bail-success-story.

current system, we will only accelerate the cycle of recidivism, poverty, and disenfranchisement.

My particular focus is on education. You heard earlier on that I participate in a program, created at Temple University, called Inside-Out Prison Exchange.[26] It is a program that exists on this campus. It's in forty-six states.[27] I teach a class on the criminal justice system. I've been teaching it for years. And a few years ago, I said, "You know what? I want to do more. I want to challenge myself to do more." So now, I teach the same class that I used to teach inside a law school, but I teach it inside prison walls. In the fall, at a men's prison; in the spring, at a women's prison. And the class is made up of ten people who are incarcerated and ten people from my home university. Twenty students sitting in a seminar as equals. This is not law students going to the prison to teach, which is, in itself, a useful and important thing. But this isn't that. This is twenty people sitting in a circle debating theories of punishment and talking about probation, parole, judges, defense lawyers, and the role of prosecutors. It's an academic environment.

The research shows that, for every dollar that we invest in education for people who are incarcerated, as a society, we get five dollars in return.[28] That is because recidivism goes down and employment increases when people have had a chance to get an education.[29]

I see the great value of the class when I read the evaluations from my students. For the law students, as you could imagine, so much of law school is about teaching legal concepts, and in some places, it can be dry and removed from reality. You feel like you're reading all these appellate opinions, but it has nothing do with the real world. This class puts you in the place where punishment is being enacted, and it puts you in conversation with people upon whom punishment is being enacted.

And then for the students who are incarcerated, it's absolutely liberating. One of them wrote at the end of last semester, after the class in the men's prison, "I like the law and the policy that we learned in this class. But really, most of all, what I liked is that every week, when I came to class and I entered into the seminar

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26. INSIDE-OUT PRISON EXCH. PROGRAM, CHANGING THE WORLD FROM THE INSIDE-OUT (2019), https://www.insideoutcenter.org/PDFs_new/InfoGraphic_Sept2019_new.pdf.

27. *Id.*

28. *See generally* LOIS M. DAVIS ET AL., EVALUATING THE EFFECTIVENESS OF CORRECTIONAL EDUCATION: A META-ANALYSIS OF PROGRAMS THAT PROVIDE EDUCATION TO INCARCERATED ADULTS (2013), https://www.rand.org/content/dam/rand/pubs/research_reports/RR200/RR266/RAND_RR266.sum.pdf.

29. *See generally id.*

circle, I was entering a space where I was treated like I had ideas, where I was treated like I had something to say, where I was treated like, and on some days I even felt like, an intellectual. And I never feel that way in prison."

Let me end with not a particular policy subscription; it's not education, it's not ending juvenile incarceration, and it's not ending unaffordable cash bail. It's just a way of thinking about and responding to social problems. And it comes from a conversation I had with my dad.

It was a couple years before he passed away, and we had watched a movie about the Civil Rights Movement. The movie ended, and I turned to my dad. I said, "You were there. What did you think?" He said he liked the movie. He said he liked it especially because people watch movies more than they read books, which is probably something that I should have thought about before I chose my line of work.

But he said, "Here's what I didn't like. I didn't like that they made it seem like everybody in the '60s was in the Civil Rights Movement." And he said, "It wasn't like that. Our work was lonely. We were unpopular. I used to go recruit on campuses to try to get kids to join the movement, and administrators would run me off campus. Even Martin Luther King was unpopular when he died. They don't teach you this, but two months before his death, two-thirds of Americans had an unfavorable view of Martin Luther King, and one-third favorable."

My dad said, "Look, I'm not telling you this because I want credit for being there first, for seeing an issue before other people saw it." He said, "I'm telling you this because the way they present that history is demoralizing to your generation, because you work on an issue that you care about, mass incarceration, police shooting of unarmed black men, and you feel like when not that many people come to your meeting, that there must be something wrong with you or your issue because, look, everybody was in the Movement. But they weren't."

It's my dad's point. He said, "Look, 250,000 people came to the March on Washington, and that's a big number. But a decade later, ten million people were saying they were there. Right? What's that about?"

He kept saying, "When you are facing an injustice and it feels insurmountable, people will tell you change is impossible. But if you ignore that and you keep fighting against the system, keep fighting to change it with all the tools that you have, legal, political, and otherwise, when you take down that system, those same people

who told you it was impossible, they're not going to say they were wrong. They're going to turn around and say, 'oh, well, that was inevitable. I knew that was going to happen.' And then they're going to make a movie about it."

I don't know what the idea is that will come out of this room that will be bigger and bolder and better than any idea that I put forward. I don't know the group of people in this room that will come together.

I don't know what the ideas or who the people are; but I know the ideas are in the room, and I know that the people are in the room. And I know that when some of you, two, three, four, or five of you, ignore those who say that change is impossible, ignore those who say that the system is just going to go on and there's nothing you can do about it, that when y'all ignore those people and you come together to fight and resist and to overcome mass incarceration, one day, you will succeed. You will replace the system that we have now with a system that actually protects communities without all of these toxic consequences, which restores and heals and humanizes, and which provides genuine safety and justice.

And when you do that, they're going to make a movie about you, too. And I'll be in the front row, popcorn in hand, cheering you on. Thank you.

Saving the Electronic Person from Digital Assault: The Case for More Robust Protections over Our Electronic Medical Records

*Danielle M. Mrdjenovich**

I.   INTRODUCTION

Although hospital cyber security is highly regulated by the federal government, the current federal regulations fail to adequately protect patients' electronic health information from large-scale data breaches.[1] Because of the widespread use of electronic medical records in the United States, the increased threat of cyberattacks should concern every American patient.[2] In fact, the United States Department of Health and Human Resources Health Care Industry Cybersecurity Task Force has described the increased threat of cyberattacks as a "key public health concern" in the twenty-first century.[3]   Americans should be especially concerned about the threat of hospital data breaches in the aftermath of the Equifax data breach, which affected nearly half of all Americans.[4] Now that we as a country have an increased awareness about the consequences of a large-scale cyberattack, we must turn our attention to the threat of a hospital data breach.

Currently, hospital cyber security is governed by two pieces of federal legislation that work in tandem to protect patient health data: the Health Insurance Portability and Accountability Act (HIPAA)[5] and the Health Information Technology for Economic and Clinical Health (HITECH) Act.[6] Although federal legislation currently regulates the privacy, security, and confidentiality of our patient health information, the law must provide greater protections over our most private and most sensitive data.[7] This article proposes a two-pronged approach that will result in greater protection of our electronic medical records. First, this article argues that the courts should recognize a fundamental right to our medical records' privacy.   Second, this article proposes revisions to the current HIPAA laws that will provide for greater security of our electronic medical information.

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1.   *See* HEALTH CARE INDUS. CYBERSECURITY TASK FORCE, REPORT ON IMPROVING CYBERSECURITY IN THE HEALTH CARE INDUSTRY 1 (2017), https://www.phe.gov/preparedness/planning/cybertf/documents/report2017.pdf.

2.   *See id.*

3.   *Id.* at 2.

4.   IDENTITY THEFT RES. CTR., EQUIFAX ONE YEAR LATER—AFTERMATH REPORT 1 (2018),   https://www.idtheftcenter.org/wp-content/uploads/2018/08/ITRC_Equifax-Breach-Aftermath-Report-2018-2.pdf.

5.   HIPAA, Pub. L. No. 104-191, 110 Stat. 1936 (1996) (codified as amended in scattered sections of 18, 26, 29, and 42 U.S.C.).

6.   HITECH Act, 42 U.S.C. §§ 17901-17953 (2012 & Supp. IV 2016 & Supp. V 2017).

7.   *See* Jay Edelson & Aaron Lawson, *Rethinking Healthcare Data Breach Litigation*, COMPETITION, Winter 2017-2018, at 105, 105-06.

II.   BACKGROUND

Hospital medical records are protected by HIPAA[8] and the HITECH Act.[9] HIPAA laws require all health-care providers to protect all medical records' privacy and security.[10] If a health-care provider violates patient confidentiality, then that provider may be subject to a monetary penalty.[11] Although these laws provide more protection over electronic medical data than most other industries in the United States, these laws have not adequately adapted to the threat of large-scale data breaches to hospitals and health insurance providers.[12] This section will discuss the HIPAA and HITECH statutory scheme and the increased threat of cyberattacks on hospitals and health insurance providers in the United States.

A.   HIPAA

HIPAA requires hospitals and health insurance providers to protect the confidentiality of all patient health data.[13] HIPAA laws apply to all medical records in both paper and electronic format.[14] Congress originally passed HIPAA in 1996

> to improve the Medicare program under title XVIII of the Social Security Act . . . , the medicaid program under title XIX of such Act . . . , and the efficiency and effectiveness of the health care system, by encouraging the development of a health information system through the establishment of uniform standards and requirements for the electronic transmission of certain health information.[15]

When initially passed, HIPAA's primary purpose was to expand patient access to health care and health insurance in the United States.[16] In this original bill, however, Congress included a directive to the Secretary of Health and Human Services (HHS) to

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8. *See* HIPAA, 110 Stat. 1936.
9. *See* HITECH Act, 42 U.S.C. §§ 17901-17953.
10. HIPAA, 42 U.S.C. § 1320d-2(d) (2012 & Supp. IV 2016 & Supp. V 2017).
11. HITECH Act, 42 U.S.C. § 17939.
12. R. Bradley McMahon, Note, *After Billions Spent to Comply with HIPAA and GLBA Privacy Provisions, Why Is Identity Theft the Most Prevalent Crime in America?*, 49 VILL. L. REV. 625, 644 (2004).
13. HIPAA, 42 U.S.C. § 1320d-2(d).
14. *See* 45 C.F.R. § 164.502 (2019).
15. HIPAA, 42 U.S.C. § 1320d note (Purpose Section).
16. Donald M. Berwick & Martha E. Gaines, *How HIPAA Harms Care, and How to Stop It*, 320 [J]AMA 229, 229 (2018).

submit recommendations to Congress about the appropriate standards for protecting patient health information.[17] The 1996 HIPAA law also directed the Secretary of HHS to enact regulations to protect electronic health records.[18] Although the privacy portion of the law was more of an afterthought, this is the portion that has gained notoriety amongst clinicians and patients.[19] Thus, the modern era of hospital privacy regulation was born.

In 2000, HHS promulgated the HIPAA Privacy and Security Rules, and these rules were further modified in 2002.[20] The HHS Office for Civil Rights (OCR) enforces the Privacy and Security Rules.[21] These rules require "covered entities" to protect confidential patient information.[22] "Covered entities" include health plans, health-care clearinghouses, and health-care providers who transmit health information electronically.[23] In other words, a health insurance plan, a hospital system, or an individual doctor's office are all "covered entities" for the purposes of HIPAA laws.[24]

HIPAA also applies to any "business associates" of the "covered entities."[25] According to the HIPAA Privacy and Security Rules, a "business associate" assists a "covered entity" with "a function or activity regulated by this subchapter, including claims processing or administration, data analysis, processing or administration, utilization review, quality assurance, patient safety activities . . . , billing, benefit management, practice management, and repricing."[26] Additionally, a "business associate" must comply with all HIPAA rules if it provides the "covered entity" with "legal, actuarial, accounting, consulting, data aggregation . . . , management, administrative, accreditation, or financial services" and "the provision of the service involves the disclosure of protected health information."[27]

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17. HIPAA, 42 U.S.C. § 1320d-2.
18. *Id.*
19. Berwick & Gaines, *supra* note 16, at 229.
20. JONATHAN I. EZOR, PRIVACY AND DATA PROTECTION IN BUSINESS: LAWS & PRACTICES 145 (2012).
21. OCR, *HIPAA Enforcement*, U.S. DEP'T HEALTH & HUM. SERVS. (July 25, 2017), https://www.hhs.gov/hipaa/for-professionals/compliance-enforcement/index.html.
22. 45 C.F.R. §§ 160, 164 (2019).
23. *Id.* § 160.103.
24. *See id.*
25. *Id.*
26. *Id.*
27. *Id.*

B. *HITECH Act*

Passed in 2009, the HITECH Act created additional protections for electronic patient information beyond the scope of HIPAA.[28] As our society moved into the digital age, Congress realized the need for stronger protections over our electronic medical records.[29] The HITECH Act also included provisions designed to encourage all hospital systems to install electronic medical record systems and to convert their medical records into an electronic format.[30]

The HITECH Act created a penalty scheme if a covered entity should accidentally disclose protected health information.[31] Fines under the HITECH Act range from $100 to $1,500,000.[32] The penalty scheme is based upon the severity of the privacy breach as well as the culpability of the covered entity.[33] For example, in a large data breach, a covered entity can be subject to a fine of: $100 per record[34] for accidental disclosures;[35] $1000 per record[36] for disclosures that occurred due to a reasonable cause rather than willful neglect;[37] $10,000 per record[38] for disclosures due to willful neglect;[39] or $50,000 per record[40] for disclosures due to willful neglect if the entity fails to take corrective action following the wrongful disclosure.[41]

The HITECH Act also includes reporting requirements mandating that the covered entity notify consumers after a data breach of any size.[42] The Act states:

> [a] covered entity that accesses, maintains, retains, modifies, records, stores, destroys, or otherwise holds, uses, or discloses unsecured protected health information . . . shall, in the case of a breach of such information that is discovered by the covered entity, notify each individual whose unsecured protected health information has been, or is reasonably believed by the

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28. HITECH Act, 42 U.S.C. §§ 17901-17953 (2012 & Supp. IV 2016 & Supp. V 2017).
29. Arthur E. Peabody, Jr., *The Evolution of HIPAA, in* HEALTH CARE IT 141, 141 (Arthur Peabody, Jr. ed., 2013).
30. HITECH Act, 42 U.S.C. §§ 17901-17953.
31. *Id.* § 17939.
32. HIPAA, 42 U.S.C. § 1320d-5(a)(3) (2012 & Supp. IV 2016 & Supp. V 2017).
33. *Id.*
34. *Id.* § 1320d-5(a)(3)(A).
35. *Id.* § 1320d-5(a)(1)(A).
36. *Id.* § 1320d-5(a)(3)(B).
37. *Id.* § 1320d-5(a)(1)(B).
38. *Id.* § 1320d-5(a)(3)(C).
39. *Id.* § 1320d-5(a)(1)(C)(i).
40. *Id.* § 1320d-5(a)(3)(D).
41. *Id.* § 1320d-5(a)(1)(C)(ii).
42. HITECH Act, 42 U.S.C. § 17932(a) (2012).

covered entity to have been, accessed, acquired, or disclosed as a result of such breach.[43]

If the data breach includes more than 500 patient records, the covered entity must then notify the individual consumers affected by the breach as well as the Secretary of HHS and local media outlets.[44]

C.   Current Limitations to HIPAA and the HITECH Act

Despite offering some of the strongest cyber protections of any industry in the country, there are several limitations to the HIPAA statutory scheme.[45] As a result of these limitations, patient's electronic medical records are not being adequately protected.[46] HIPAA requires a state actor, such as the OCR, to bring a claim against the covered entity in the event of a data breach–the federal regulations do not create an individual cause of action for the victims of a cyberattack.[47] As a result, if a consumer's health data has been compromised, the consumer only has two available avenues for recourse, either: (1) file a complaint on the HHS website to prompt an OCR investigation or (2) attempt to bring a tort or contract action within the state or federal court system.[48]

An OCR investigation into a data breach begins when a person who suspects a HIPAA violation has occurred files a complaint with the Secretary of HHS on the HHS website.[49] After receiving the patient complaint, the OCR then begins an investigation into the alleged violation.[50] If the OCR determines that the covered entity did not comply with HIPAA laws, then the OCR will either impose a fine upon the hospital[51] or reach a settlement agreement with the hospital.[52] If the OCR assesses penalties against the covered entity, then the covered entity pays that fine to the federal government rather than the individual victims of the cyberattack.[53] As a result, an individual person will not recover any monetary damages at the

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43. *Id.*
44. *Id.* § 17932(e)(2)-(4).
45. *See* McMahon, *supra* note 12, at 644.
46. *See* MARK A. HALL ET AL., HEALTH CARE LAW AND ETHICS 170 (8th ed. 2013).
47. *Id.* at 172.
48. EZOR, *supra* note 20, at 167.
49. *See* 45 C.F.R. § 160.306 (2019); *see also* OCR, *HIPAA What to Expect*, U.S. DEP'T HEALTH & HUM. SERVS. (June 16, 2017), https://www.hhs.gov/hipaa/filing-a-complaint/what-to-expect/index.html?language=es.
50. *See* 45 C.F.R. § 160.306(c); *see also* OCR, *HIPAA What to Expect*, *supra* note 49.
51. *See* 45 C.F.R. § 160.402; *see also* OCR, *HIPAA What to Expect*, *supra* note 49.
52. *See* 45 C.F.R. § 160.416; *see also* OCR, *HIPAA What to Expect*, *supra* note 49.
53. *See* 45 C.F.R. § 160.424.

conclusion of an OCR investigation.[54] Instead, that individual must resort to tort and contract remedies in state and federal courts for legal redress.[55]

Additionally, personal health records created and stored on medical devices and third-party applications are not included within HIPAA's regulatory framework because these applications are not considered "covered entities" for HIPAA purposes.[56] Because these medical devices and applications are neither "covered entities" nor "business associates," HIPAA does not protect the valuable medical information stored on these devices and within these applications.[57] For example, many Americans rely on medical devices such as pacemakers or glucose meters to track and store their medical data.[58] Oftentimes, these devices do not fall under the HIPAA Rules; instead, the Food and Drug Administration promulgates the appropriate security regulations.[59] Health tracking applications such as Fitbit, MyFitness Pal, or Apple Health have also become increasingly popular.[60] Interestingly, the default settings on an Apple Watch automatically monitor the user's activity, including heart rate and the number of steps taken throughout the day.[61] Apple Watch and iPhone users can also monitor their calorie intake, the number of minutes spent meditating, and the number of hours spent sleeping on Apple's Health application.[62] Commentators have expressed concern that "HIPAA and other federal and state privacy laws are too focused on formal data custodians and data collected in narrow contexts of treatment and medical research."[63] As a result, there is an entire swath of patient medical information that is unprotected by HIPAA; this valuable medical data is even more vulnerable to a cyberattack than the medical data stored by a hospital.[64] In addition to the structural limitations of the HIPAA and

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54. *See* EZOR, *supra* note 20, at 167 (explaining that private litigation is one way for a victim of a hospital cyberattack to seek recovery).

55. *See id.*

56. Glenn Cohen & Michelle M. Mello, *HIPAA and Protecting Health Information in the 21st Century*, 320 [J]AMA 231, 232 (2018).

57. *Id.*

58. David J. Dykeman et al., *Medical Devices in the Digital Age*, *in* HEALTH CARE IT 83, 107 (Arthur Peabody, Jr. ed., 2013).

59. *Id.* at 107-08.

60. *See* Cohen & Mello, *supra* note 56, at 232.

61. *Use the Health App on Your iPhone or iPod Touch*, APPLE (Nov. 29, 2018), https://support.apple.com/en-us/HT203037.

62. *Id.*

63. Lawrence O. Gostin et al., *Health Data and Privacy in the Digital Era*, 320 [J]AMA 233, 234 (2018).

64. *Id.*

HITECH laws, hospitals have also become increasingly prone to cyberattacks in the past decade.[65]

D.   Recent Cyberattacks at Large Hospitals in the United States

The need for further legislation is made clear by the increased likelihood of cyberattacks upon the health-care industry. According to a report from the FBI Cyber Division, electronic medical records can be sold on the black market for up to $50 per record.[66] In comparison, stolen social security numbers or credit card numbers are only worth $1 on the black market.[67] Like financial records, medical records often contain a patient's social security number and credit card numbers.[68] As a result, electronic health data is often more valuable to hackers than financial records alone.[69]

In addition to credit card and social security numbers, electronic medical records also contain valuable information about a patient's health insurance.[70] This data is extremely valuable to hackers because it can be used to buy medical equipment or prescription drugs.[71] Because doctors and nurses rely so heavily upon the information within the patient's medical record to treat the patient, medical identity theft raises serious concerns about the integrity of the data in the medical record.[72] A stolen medical identity can pose a serious health risk if an unconscious patient has been rushed to the emergency room and cannot verify his or her past medical or prescription history.[73] Because the patient cannot speak, the doctors and nurses must instead rely upon the medical information within the patient's chart.[74] If the information in that patient's chart has been corrupted due to medical identity theft, this creates

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65.   Lucy L. Thomson, *Health Care Data Breaches and Information Security, in* HEALTH CARE IT 253, 253 (Arthur Peabody, Jr. ed., 2013).

66.   FBI CYBER DIV., HEALTH CARE SYSTEMS AND MEDICAL DEVICES AT RISK FOR INCREASED CYBER INTRUSIONS FOR FINANCIAL GAIN (2014), http://www.calhospital.org/sites/main/files/file-attachments/dp___attachment_fbi_alert.pdf.

67.   *Id.*

68.   Brigid Sweeney, *The Frightening New Frontier for Hackers: Medical Records*, MOD. HEALTHCARE (Apr. 10, 2017), https://www.modernhealthcare.com/article/20170410/NEWS/170419987.

69.   *Id.*

70.   *Id.*

71.   *Id.*

72.   *See* Scott Rupp, *Why Do Hackers Want Medical Records?*, ELECTRONIC HEALTH REP. (Apr. 18, 2018), https://electronichealthreporter.com/hackers-want-medical-records/.

73.   *Id.*

74.   *See id.*

the dangerous possibility that a doctor or nurse could accidently administer a dangerous dose of medication or begin a transfusion using the wrong blood type.[75]

To further exacerbate the problem, the United States health-care system is notoriously vulnerable due to legacy equipment and limited information technology budgets; thus, hospitals and health insurance providers are easy targets for cyberattacks.[76] Additionally, HIPAA and the HITECH Act have created incentives for hospitals to install electronic medical record software, and the recent "[e]fforts to modernize healthcare facilities to match the rapidly advancing technological landscape has created and exposed a host of vulnerabilities that are actively targeted by malicious parties."[77] These additional vulnerabilities can be expected because "[o]ften, technology is involved in various privacy problems, as it facilitates the gathering, processing, and dissemination of information."[78] A hospital's electronic medical records are no different: "[m]assive data storage can also be vulnerable to cyberattacks and inadvertent release of sensitive data."[79] In describing the issues related to cyberattacks at hospital systems, the Health Care Industry Cybersecurity Task Force, which was created by Congress as a part of the Cybersecurity Act of 2015, states unequivocally: "cybersecurity attacks disrupt patient care."[80]

As a result, patient medical data has been particularly vulnerable to cyberattacks.[81] In 2018, nearly ten million medical records were compromised.[82] 2015 was a record year for compromised health records; over 121 million health-care records were compromised.[83] Since 2014, hackers have gained access to 161,080,500 health-care records.[84]

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75. *See id.*

76. *See* HEALTH CARE INDUS. CYBERSECURITY TASK FORCE, *supra* note 1, at 1.

77. Bach Nguyen, Note, *Exploring Applications of Blockchain in Securing Electronic Medical Records*, 20 J. HEALTH CARE L. & POL'Y 99, 100 (2017).

78. Daniel J. Solove, *A Taxonomy of Privacy*, 154 U. PA. L. REV. 477, 564 (2006).

79. Gostin et al., *supra* note 63, at 234.

80. HEALTH CARE INDUS. CYBERSECURITY TASK FORCE, *supra* note 1, at 1.

81. *Id.*

82. IDENTITY THEFT RES. CTR., 2018 END-OF-YEAR DATA BREACH REPORT (2018), https://www.idtheftcenter.org/wp-content/uploads/2019/02/ITRC_2018-End-of-Year-Aftermath_FINAL_V2_combinedWEB.pdf (reporting that 9,927,798 health records were stolen in 2018).

83. IDENTITY THEFT RES. CTR., DATA BREACH REPORTS (2015), https://www.idtheftcenter.org/images/breach/DataBreachReports_2015.pdf [hereinafter 2015 DATA BREACH REPORTS].

84. *See* 2018 END-OF-YEAR DATA BREACH REPORT, *supra* note 82 (reporting 5,302,846 compromised health records in 2017 and 9,927,798 compromised health records in 2018); IDENTITY THEFT RES. CTR., DATA BREACH REPORTS: 2016 END OF YEAR REPORT (2017), https://www.idtheftcenter.org/images/breach/2016/DataBreachReport_2016.pdf (reporting

Even outside of the health-care space, data breaches are important matters of public concern. The 2017 Equifax data breach exposed the private financial information of at least 148 million Americans.[85] The attack affected nearly 45% of American consumers;[86] those consumers must now actively monitor their credit reports for decades in order to protect against identity theft.[87] This massive data breach received broad media coverage and increased public awareness about the vulnerability of our private data as well as the need for additional data security.[88]

Following the Equifax data breach, hospital data breaches should start receiving greater national attention. Americans would be surprised to learn that over 161 million patient health records have been compromised since 2014.[89] This number is greater than the number of records stolen in the Equifax data breach.[90] Hospital data breaches are a serious and systemic problem that should be receiving the same national media attention as the 2017 Equifax hack.

The 2015 data breach of the nation's largest health insurance provider, Anthem Inc. (Anthem), reveals the dramatic threat of cyberattacks on our nation's hospitals and health insurance providers.[91] Cyber criminals hacked into Anthem's network and stole the medical records of over 79 million patients.[92]

In the aftermath of the Anthem hack, both the OCR and private plaintiffs pursued claims against Anthem; the OCR investigated the cyber breach,[93] and consumers sought damages in a class action

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15,942,053 compromised health records in 2016); 2015 DATA BREACH REPORTS, *supra* note 83 (reporting 121,629,812 compromised health records in 2015); IDENTITY THEFT RES. CTR., DATA BRE$CH [SIC] REPORTS (2014), https://www.idtheftcenter.org/images/breach/ DataBreachReports_2014.pdf [hereinafter 2014 DATA BREACH REPORTS] (reporting 8,277,991 compromised health records in 2014).

85.   EQUIFAX ONE YEAR LATER—AFTERMATH REPORT, *supra* note 4, at 1.

86.   *See id.*

87.   McKay Smith & Garrett Mulrain, *Equi-Failure: The National Security Implications of the Equifax Hack and a Critical Proposal for Reform*, 9 J. NAT'L SEC. L. & POL'Y 549, 551 (2018).

88.   *See id.* at 552-53.

89.   *See* 2018 END-OF-YEAR DATA BREACH REPORT, *supra* note 82; DATA BREACH REPORTS: 2016 END OF YEAR REPORT, *supra* note 84; 2015 DATA BREACH REPORTS, *supra* note 83; 2014 DATA BREACH REPORTS, *supra* note 84.

90.   EQUIFAX ONE YEAR LATER—AFTERMATH REPORT, *supra* note 4, at 1.

91.   *Anthem to Pay Record $115M to Settle Lawsuits over Data Breach*, NBC NEWS (June 23, 2017, 6:41 PM), https://www.nbcnews.com/news/us-news/anthem-pay-record-115m-settle-lawsuits-over-data-breach-n776246 [hereinafter *Anthem*].

92.   *Id.*

93.   *See* Erica Teichert, *Anthem to Pay $16M in Record Data Breach Settlement*, MOD. HEALTHCARE (Oct. 16, 2018, 1:00 AM), https://www.modernhealthcare.com/article/20181016/ NEWS/181019927/anthem-to-pay-16m-in-record-data-breach-settlement.

lawsuit in federal court.[94] The Anthem case was the largest health-care data breach in history, and consequently, its $16 million settlement with HHS and the OCR was the largest HIPAA settlement ever reached.[95] The victims of the Anthem attack will not receive this money; instead, the settlement will be paid to the United States Treasury.[96]

In the civil suit, Anthem and the class-action plaintiffs reached a civil settlement of $115 million.[97] When divided among the class members, that settlement can only compensate the victims for two years of credit monitoring services.[98] If the class members had already enrolled with a credit monitoring service, then those plaintiffs may be eligible to receive a $50 cash payment.[99] Despite obtaining one of the largest data breach settlements in history, it is clear that neither a $50 payment nor two years of free credit monitoring services can adequately compensate the victims for this egregious disclosure of their most private data.[100] In fact, this pitiable compensation is typical of the settlement awards received by data breach victims.[101] For example, the Equifax data breach victims received a similar settlement for one year of credit monitoring.[102]

Oftentimes, the victims of medical identity theft must take steps to resolve the identity theft on their own initiative.[103] The resolution of a cyberattack can be both costly and time consuming.[104] Thirty six percent of the victims of a cyberattack spent an average of $18,660 to resolve the identity theft.[105] These expenses include the cost of identity protection, credit reporting, legal counsel, medical services due to a lapse of health-care coverage, and reimbursements to health-care providers to pay for the medical expenses incurred by imposters.[106] Additionally, the resolution of a cybercrime can be extremely time consuming.[107] In fact, many patients report

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94. *Anthem*, *supra* note 91.
95. Teichert, *supra* note 93.
96. *See* 45 C.F.R. § 160.424 (2019).
97. Teichert, *supra* note 93.
98. *Id.*
99. *Anthem*, *supra* note 91.
100. *See* Teichert, *supra* note 93.
101. *See* Smith & Mulrain, *supra* note 87, at 556.
102. *See id.* (noting that "the one-year protection plan fell far short of what was needed for aggrieved customers").
103. PONEMON INST., 2013 SURVEY ON MEDICAL IDENTITY THEFT 2-5 (2013), https://www.ponemon.org/local/upload/file/2013%20Medical%20Identity%20Theft%20Report%20FINAL%2011.pdf.
104. *Id.*
105. *Id.* at 4-5.
106. *Id.*
107. *Id.* at 2.

that it has taken a year or longer to resolve their case of medical identity theft.[108]

E.   Why We Need Additional Protection over Our Electronic Medical Records

Because of the increased threat of cyberattacks, the courts and legislatures must proactively respond to this impending threat.[109] The recent Anthem data breach "should be a call to arms" for all hospitals and health insurance providers.[110] Despite the severity of the situation, "[s]ignificant players in the healthcare space, however, have not responded to these incidents with the urgency that, we believe, the situation requires. They are instead content to cast themselves as unwitting victims, even when best practices dictate more proactive measures."[111]

Because electronic medical records contain a person's most private data, we must work proactively to improve our hospital cyber security.[112] The Health Care Industry Cybersecurity Task Force, which was created by Congress as a part of the Cybersecurity Act of 2015, explains that although a one-year identity protection plan is standard across other industries following a cyberattack, this solution is insufficient in the health-care space because "it does not provide the patient with adequate protections based on the *sensitivity, value, and permanence* of their health care data, which is *priceless.*"[113]

Electronic patient medical information is more valuable to hackers than basic financial information alone.[114] Electronic medical records typically contain a patient's social security number as well as credit card or banking information.[115] These records, however, also contain the most private and intimate details about that person's life.[116] They can contain details about patients' sexually transmitted diseases, pregnancies, mental health records, and drug histories.[117] Some of this information may be embarrassing and could

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108.   *Id.*
109.   Edelson & Lawson, *supra* note 7, at 106.
110.   *Id.*
111.   *Id.*
112.   Thomson, *supra* note 65, at 264.
113.   HEALTH CARE INDUS. CYBERSECURITY TASK FORCE, *supra* note 1, at 15 (emphasis added).
114.   FBI CYBER DIV., *supra* note 66.
115.   Sweeney, *supra* note 68.
116.   Thomson, *supra* note 65, at 264.
117.   *Id.*

even be used to unlawfully discriminate against individuals in the workplace.[118]

For example, a railroad company was fined by the Equal Employment Opportunity Commission for secretly conducting genetic testing upon its employees to screen for diseases that could negatively affect job performance.[119] This example illustrates how an electronic medical record could potentially contain personal genetic information that could be used to discriminate against the patient in the workplace. Furthermore, researchers increasingly use biobanks storing "large sets of patient data and biological samples" in attempts to understand and cure diseases.[120] Advances in biobank research, however, create confidentiality and privacy concerns if the information in the biobank has not been properly de-identified.[121] The genetic material stored in a biobank is literally the essence of that individual person.[122] As a result, we must make every effort to protect this personal health information.

III.   ANALYSIS

The law must intervene to help protect patients from the increased threat of cyberattacks upon our electronic medical records. This article proposes both a judicial and legislative solution to help address the indignity that occurs when cyber criminals access and steal a patient's valuable medical data. This author proposes a judicial and legislative solution to help combat the increased problem of hospital cyberattacks. First, this author proposes that the United States Supreme Court recognize a fundamental right to the privacy of our medical records based upon prior Supreme Court decisions regarding information privacy and medical decision making. Additionally, this article proposes that the OCR should modify all "addressable" standards within the HIPAA Security Rules to be "required" for all large covered entities.[123]

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118.   EZOR, *supra* note 20, at 102.

119.   *Genetic Discrimination*, NAT'L HUM. GENOME RES. INST., https://www.genome.gov/about-genomics/policy-issues/Genetic-Discrimination (last updated Sept. 24, 2019).

120.   HALL ET AL., *supra* note 46, at 276.

121.   Heather L. Harrell & Mark A. Rothstein, *Biobanking Research and Privacy Laws in the United States*, 44 J.L. MED. & ETHICS 106, 108-09 (2016).

122.   *See* Catherine M. Valerio Barrad, Comment, *Genetic Information and Property Theory*, 87 NW. L. REV. 1037, 1071 (1993) ("A person's DNA existed from the moment he began to exist as an individual. In addition, the individual has no control over the specific information encoded in his DNA that determines his unique characteristics or traits; this information also existed intact at the time the person began to exist.").

123.   45 C.F.R. § 164.306(b)-(d) (2019).

A.   *Proposed Judicial Solution: Affording Federal Constitutional Protection to Patient Medical Records*

As the threat of cyberattacks increases, HIPAA laws no longer adequately protect our patient health information.[124] Additionally, state and federal governments have increasingly begun to accumulate and store both identified and de-identified health information for reporting and research purposes.[125] Of the 6,210 hospitals in the United States, 1,180 of those hospitals are public hospitals that are operated by either state or federal governments.[126] Thus, government entities have increasingly begun to aggregate, collect, and store our electronic medical data.[127]

Some patients could turn to the United States Constitution to help protect their private medical records. This article proposes the creation of a fundamental right to the privacy of our medical records. This proposed fundamental privacy right is derived from previous Supreme Court decisions discussing information privacy[128] and medical privacy,[129] as well as the common- law doctrines of implied breach of contract, assault, and battery.[130] A fundamental privacy right to medical records would afford patients the security of knowing that their medical records and, ultimately, their medical decisions are protected under the Constitution.[131]

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124.   HEALTH CARE INDUS. CYBERSECURITY TASK FORCE, *supra* note 1, at 1.

125.   Wendy K. Mariner, *Reconsidering Constitutional Protection for Health Information Privacy*, 18 U. PA. J. CONST. L. 975, 976 (2016).

126.   AM. HOSP. ASS'N, FAST FACTS ON US HOSPITALS (2019), https://www.aha.org/system/files/2019-01/2019-aha-hospital-fast-facts.pdf.

127.   Mariner, *supra* note 125, at 976.

128.   *See generally* NASA v. Nelson, 562 U.S. 134, 138 (2011) (discussing the possible constitutional right to the privacy of private health information stored by the government in an electronic database); Whalen v. Roe, 429 U.S. 589, 605 (1977) (establishing a possible constitutional right to information privacy in another case involving the storage of electronic health data by a state government).

129.   *See generally* Washington v. Glucksberg, 521 U.S. 702, 725 (1997) (declining to establish a fundamental right to obtain a physician-assisted suicide); Cruzan v. Dir., Mo. Dep't of Health, 497 U.S. 261, 279 (1990) (establishing a fundamental right to privacy in medical decision making).

130.   *See generally* Samuel D. Warren & Louis D. Brandeis, *The Right to Privacy*, 4 HARV. L. REV. 193, 193-94, 210-11 (1890) (explaining how the common-law doctrines of breach of contract, assault, and battery lead to the creation of a tort cause of action for breach of privacy).

131.   *See generally Whalen*, 429 U.S. at 600, 605 (noting the "genuine concern" that private health data may be inadvertently released when "vast amounts of personal information" is stored "in computerized data banks or other massive government files").

1. *A Constitutional Right to Informational Privacy*

Based upon the constitutional right to information privacy discussed in *Whalen v. Roe*[132] and *NASA v. Nelson*,[133] the Supreme Court should recognize the existence of a constitutional right to information privacy. This constitutional right to information privacy should also protect the privacy of our electronic medical records. In *Whalen v. Roe*, the United States Supreme Court first recognized that a constitutional right to information privacy may exist.[134] The plaintiffs in this case challenged a New York state law that created a database that stored the names and addresses of all patients using Schedule II drugs for both medical and nonmedical purposes.[135] The plaintiffs alleged that the storage of their personal medical information within the database violated their constitutional privacy rights.[136] The Court held that the right to privacy protects at least two different interests: the right to avoid disclosure of personal matters and a right to independence in decision making.[137] The Court further recognized that the storage of this medical information in the state database presents

> a genuine concern that the information will become publicly known and that it will adversely affect their reputations. This concern makes some patients reluctant to use, and some doctors reluctant to prescribe, such drugs even when their use is medically indicated. It follows, they argue, that the making of decisions about matters vital to the care of their health is inevitably affected by the statute. Thus, the statute threatens to impair both their interest in the nondisclosure of private information and their interest in making important decisions independently.[138]

Because the state had provided adequate protections over the information stored in the database, the Court ultimately held that this database was constitutional.[139] The Court acknowledged, however, that it was "not unaware of the threat of privacy implicit in

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132. 429 U.S. at 605.
133. 562 U.S. at 138.
134. 429 U.S. at 591-93.
135. *Id.* at 591.
136. *Id.* at 599-600.
137. *Id.*
138. *Id.* at 600.
139. *Id.* at 603-04.

the accumulation of vast amounts of personal information in computerized data banks or other massive government files."[140] And the right of a government entity "to collect and use such data for public purposes is typically accompanied by a concomitant statutory or regulatory duty to avoid unwarranted disclosures."[141] Additionally, the Court acknowledged that this duty to avoid the unwarranted disclosure of the plaintiffs' private medical information "arguably ha[d] its roots in the Constitution."[142] Although the Court did not ultimately create a constitutional duty mandating that government entities must protect the privacy of the electronic information within their possession, it certainly suggested that such a duty could exist.[143] The lower federal courts have since read *Whalen* to create a duty to safeguard the private information that is entrusted to government entities.[144]

The Supreme Court further hinted that this right to information privacy may exist in *NASA v. Nelson*.[145] In this case, National Aeronautics and Space Administration (NASA) employees claimed that the government violated their constitutional privacy interests in avoiding the wrongful disclosure of personal matters through the administration of NASA's standard employee background investigation.[146] The challenged background investigation included questions about prior treatment for illegal drug use.[147] Writing for the majority, Justice Alito stated: "[w]e assume, without deciding, that the Constitution protects a privacy right of the sort mentioned in *Whalen*."[148] The Court observed that the "remote possibility" of disclosure of this private information "does not undermine the Privacy Act's substantial protections."[149] The Court ultimately held "that the Government's inquiries do not violate a constitutional right to informational privacy."[150] In a concurring opinion, Justice Scalia wrote separately to clarify that "[a] federal constitutional right to 'informational privacy' does not exist."[151] Based upon the holdings in *Whalen v. Roe* and *NASA v. Nelson*, courts should recognize the

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140. *Id.* at 605.
141. *Id.*
142. *Id.*
143. *Id.*
144. Solove, *supra* note 78, at 518, 530.
145. 562 U.S. 134, 138 (2011).
146. *Id.*
147. *Id.*
148. *Id.*
149. *Id.* at 158.
150. *Id.* at 159.
151. *Id.* at 160 (Scalia, J., concurring).

right to information privacy and should include the privacy of our electronic medical information within that constitutional right.

2. A Constitutional Right to Dignity in Medical Decision Making

Whalen v. Roe[152] and *NASA v. Nelson*[153] support the argument that a constitutional right to information privacy should exist,[154] and furthermore, the Supreme Court decisions in *Cruzan v. Director, Missouri Department of Health*[155] and *Washington v. Glucksberg*[156] suggest that the Constitution protects the right to freedom in our health-care decisions.[157] In *Cruzan*, the Supreme Court recognized that a patient possesses a fundamental privacy right to terminate medical treatment at the end of life.[158] In this case, the Court considered whether the parents of an incompetent young woman living in a persistent vegetative state could make the decision to terminate their daughter's life support.[159] The challenged Missouri state law required a heightened showing of an incompetent person's wishes whenever a surrogate makes the decision to terminate life support on an incompetent person's behalf.[160] Although the Court ultimately found that the patient's as applied challenge must fail, the Court included statements about the individual right to autonomy in medical decision making.[161] The majority opinion, written by Chief Justice Rehnquist, stated, "we assume that the United States Constitution would grant a competent person a constitutionally protected right to refuse lifesaving hydration and nutrition."[162] Justice O'Connor wrote a concurring opinion where she clarified that:

> [r]equiring a competent adult to endure such procedures against her will burdens the patient's liberty, dignity, and freedom to determine the course of her own treatment. Accordingly, the liberty guaranteed by the Due Process Clause must protect, if it protects anything, an individual's deeply personal

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152.   429 U.S. 589, 605 (1977).
153.   562 U.S. at 138.
154.   *Id.*; *Whalen*, 429 U.S. at 605.
155.   497 U.S. 261, 279 (1990).
156.   521 U.S. 702, 725 (1997).
157.   *Id.*; *Cruzan*, 497 U.S. at 279.
158.   *Cruzan*, 497 U.S. at 279.
159.   *Id.* at 265.
160.   *Id.* at 268-69.
161.   *Id.* at 279.
162.   *Id.*

decision to reject medical treatment, including the artificial delivery of food and water.[163]

Justice Brennan's dissent discussed the importance of dignity in medical decision making.[164] Justice Brennan described the decision of whether to continue medical treatment at the end of life as both "difficult and personal."[165] Justice Brennan explained "that [the young woman] has a fundamental right to be free of unwanted artificial nutrition and hydration," and, as a result, she "is entitled to choose to die with dignity."[166] Thus, he would have found that the challenged Missouri law could not pass the strict scrutiny test.[167]

In the landmark physician-assisted suicide case of *Washington v. Glucksberg*, the Court considered "how best to protect dignity and independence at the end of life."[168] In fact, in her concurrence, Justice O'Connor advocated for what is known as the principle of double effect: "a patient who is suffering from a terminal illness and who is experiencing great pain has no legal barriers to obtaining medication, from qualified physicians, to alleviate that suffering, even to the point of causing unconsciousness and hastening death."[169] Justice Stevens concurred in the judgment and explained that the right to refuse medical treatment at the end of life "is an aspect of a far broader and more basic concept of freedom that is even older than the common law. This freedom embraces not merely a person's right to refuse a particular kind of unwanted treatment, but also her interest in dignity . . . ."[170]

The *Cruzan* and *Glucksberg* decisions support the argument that the Constitution protects our freedom and individual liberty in decision making regarding our personal health-care choices. This freedom in medical decision making includes the decision of whom we choose to share our most confidential medical information with. A hospital breaks patient confidentiality whenever its data is breached. Whenever a hospital data breach occurs, a hospital thus breaks patient confidentiality. The hospital data breach is a violation of the patient's personal liberty because that patient no longer controls who has access to his or her medical information. Thus, a

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163. *Id.* at 289 (O'Connor, J., concurring).
164. *See id.* at 302 (Brennan, J., concurring).
165. *Id.* at 303.
166. *Id.* at 302.
167. *Id.*
168. 521 U.S. 702, 716 (1997).
169. *Id.* at 736-37 (O'Connor, J., concurring).
170. *Id.* at 743 (Stevens, J., concurring).

data breach violates the constitutional principle of freedom in medical decision making established in *Cruzan* and *Glucksberg* because it takes away the patient's choice of deciding who gets to learn about his or her most private health information.

3.   A Constitutional Right to the Privacy of Our Patient Medical Records

Although many of the Justices spoke of human dignity and individual privacy rights in the *Cruzan* and *Glucksberg* opinions, *Cruzan* recognized, as a facet of those privacy rights, a "constitutionally protected liberty interest in refusing unwanted medical treatment."[171] This liberty interest is based upon the common-law doctrine of informed consent.[172] The Court explained that "[a]t common law, even the touching of one person by another without consent and without legal justification was a battery."[173] As a part of this common-law "notion of bodily integrity,"[174] the patient has a right "not to consent, that is, to refuse treatment."[175]

Conversely, the *Glucksberg* Court held that a patient does not have a fundamental privacy right to a physician-assisted suicide.[176] The *Glucksberg* Court performed a historical analysis and determined that the law has never recognized a common-law right to commit suicide or to assist another person in committing suicide.[177] The Court noted that "for over 700 years, the Anglo-American common-law tradition has punished or otherwise disapproved of both suicide and assisting suicide."[178] As a result, the Court declined to recognize an individual privacy right to physician-assisted suicide.[179]

Writing for the majority in *Glucksberg*, Chief Justice Rehnquist distinguished the *Cruzan* case from the matter before the Court, explaining that "[t]he right assumed in *Cruzan*, however, was not simply deduced from abstract concepts of personal autonomy."[180] Instead, the fundamental right recognized in *Cruzan* was based upon "the common-law rule that forced medication was a battery,

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171.   *Cruzan*, 497 U.S. at 278.
172.   *Id.* at 269-70.
173.   *Id.* at 269.
174.   *Id.*
175.   *Id.* at 270.
176.   Washington v. Glucksberg, 521 U.S. 702, 735 (1997).
177.   *Id.* at 710-16.
178.   *Id.* at 711.
179.   *Id.* at 735.
180.   *Id.* at 725.

and the long legal tradition protecting the decision to refuse unwanted medical treatment, our assumption was entirely consistent with this Nation's history and constitutional traditions."[181]   The Court acknowledged that "[t]he decision to commit suicide with the assistance of another may be just as personal and profound as the decision to refuse unwanted medical treatment, but it has never enjoyed similar legal protection."[182]

The courts should recognize that the Constitution protects a fundamental right to the privacy of our patient medical records. Although the common-law privacy right is a relatively new development in the history of the common law, courts can rely on the more ancient doctrines of implied breach of contract, assault, and battery as the source of this fundamental right.[183] By relying upon these well-established common-law doctrines, the fundamental right to privacy of our medical records is thus rooted in "this Nation's history and constitutional traditions."[184]

The common-law privacy right, which is distinct from the constitutional privacy right recognized in *Griswold v. Connecticut*,[185] *Roe v. Wade*,[186] *Cruzan v. Director,* and *Missouri Department of Health*,[187] was first discerned in the classic Harvard Law Review article written by Samuel Warren and Louis Brandeis, *The Right to Privacy*.[188] Warren and Brandeis argued that the advances of modern technology during the industrial age created the necessity for a common-law privacy right.[189] Warren and Brandeis examined a variety of common-law cases and perceived that the right to privacy existed within the common-law doctrines of assault and battery,[190] property law,[191] slander,[192] libel,[193] breach of an implied contractual term,[194] and breach of confidence.[195]

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181.   *Id.*
182.   *Id.*
183.   *See generally* Warren & Brandeis, *supra* note 130, at 193-94, 210-11 (explaining how the common-law doctrines of breach of contract, assault, and battery lead to the creation of a tort cause of action for breach of privacy).
184.   *Glucksberg*, 521 U.S. at 725.
185.   381 U.S. 479, 485-86 (1965).
186.   410 U.S. 113, 153 (1973).
187.   497 U.S. 261, 278 (1990).
188.   Warren & Brandeis, *supra* note 130, at 213.
189.   *Id.* at 195-96.
190.   *Id.* at 193-94.
191.   *Id.* at 204.
192.   *Id.* at 197.
193.   *Id.*
194.   *Id.* at 210-11.
195.   *Id.* at 207-08.

Following the publication of *The Right to Privacy* in 1890, the courts slowly began to recognize a cause of action based upon the invasion of privacy.[196] The Restatement of Torts first recognized a tort cause of action for the interference with privacy in 1939.[197] In 1960, Dean William Prosser revisited *The Right to Privacy* in his own famous law review article discussing the right to privacy.[198] In this article, Dean Prosser examined the evolution of the common-law privacy right since the publication of *The Right to Privacy* in 1890.[199] After examining hundreds of judicial decisions across the country, Dean Prosser concluded that the right to privacy had fully emerged as a common-law cause of action in the United States.[200] Although the common-law privacy doctrine may seem to be the most fitting common law analogy for the recognition of a fundamental right to the privacy of our medical records, the right of privacy is only a recent common law development;[201] as a result, this common-law privacy right cannot be considered part of the history and traditions of our country. Instead, the courts must rely upon an even older common-law doctrine that is rooted in the history and traditions of our country to find a new fundamental right that protects the privacy of our medical records.[202]

The Right to Privacy cited to the common-law doctrines of implied breach of contract, assault, and battery in support of its authors' newly proposed common-law privacy right.[203] Today, courts can rely upon these same three common-law doctrine in support of a fundamental right to the privacy of our medical information.

Warren and Brandeis cited the common-law doctrine of implied contractual terms in support of their proposed privacy right.[204] Similarly, the common-law doctrine of implied contractual terms can also be used to establish a new fundamental right to the privacy of our medical records. Enforcing the implied terms in a contract has been a feature of the common law since the time of the founding; in 1807, the United States Supreme Court defined an implied con-

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196.   William L. Prosser, *Privacy*, 48 CALIF. L. REV. 383, 386 (1960).
197.   RESTATEMENT OF TORTS § 867 (Am. Law Inst. 1939).
198.   Prosser, *supra* note 196, at 383-88.
199.   *Id.*
200.   *Id.* at 422.
201.   *See id.* at 383-388 (describing how the courts slowly began to recognize a privacy cause of action in tort law following the publication of *The Right to Privacy* in 1890).
202.   *See* Washington v. Glucksberg, 521 U.S. 702, 710 (1997) (noting that the Court begins its inquiry, "as we do in all due process cases, by examining our Nation's history, legal traditions, and practices").
203.   Warren & Brandeis, *supra* note 130, at 193-94, 210-11.
204.   *Id.* at 210-11.

tract as "that which the law (to prevent a failure of justice) presumes the parties to have made, where they have failed to make an express contract for themselves; and courts will vary the terms of such implied contract according to the principles of natural justice."[205] Contract law is a particularly appropriate analogy in the context of medical records because recent scholars have explained that the law of contracts is necessary to understand the relationship between a doctor and a patient.[206] The doctor-patient relationship "is contractual in two important ways: it is a voluntary relationship and once initiated, it is subject to the application of principles from the law of contracts in the determination of the rights and duties of the parties."[207]

Although the common law may not have recognized a cause of action for the breach of confidentiality in an individual doctor-patient relationship at the time of the founding,[208] the large-scale collection, aggregation, and storage of electronic medical records in modern times presents a unique set of challenges that did not exist before the invention of computers. Because federal laws heavily incentivize and encourage the use of electronic medical records, patients have no choice but to accept that their patient information will be stored electronically by large hospital systems.[209] Because patients have no control over hospital cyber-security measures, patients also must accept that their electronic medical information may be vulnerable to cyberattacks. As a result, patients have no choice but to trust that their hospitals will keep their private information safe from a data breach.

Because of the disproportionate relationship between the patient and the hospital, courts should recognize that an implied term exists within this contractual relationship. That implied term would include a promise from the hospital to protect the patient's medical records from a cyberattack. Hospital systems would thus break that implied promise every time that a patient's confidential medical record has been compromised in a data breach.

205.　French's Ex'x v. Bank of Columbia, 8 U.S. 141, 144 (1807).

206.　Joseph M. Healey, Jr. & Kara L. Dowling, *Controlling Conflicts of Interest in the Doctor-Patient Relationship: Lessons from* Moore v. Regents of the University of California, 42 MERCER L. REV. 989, 999 (1991).

207.　*Id.*

208.　Neil M. Richards & Daniel J. Solove, *Privacy's Other Path: Recovering the Law of Confidentiality*, 96 GEO. L.J. 123, 135 (2007).

209.　*See* Arthur E. Peabody, Jr., *Electronic Health Records: Technology Standards and Incentives for Meaningful Use*, *in* HEALTH CARE IT 177, 197 (Arthur Peabody, Jr. ed., 2013).

The modern-day contract between the hospital system and the patient is of greater financial significance than the contract between a local doctor and a patient at the time of the founding. That original relationship was based upon trust and personal interactions, whereas the medical system today has been described as "more impersonal and less humane."[210] Interestingly, some authors argue that the introduction of health information technology, including electronic medical records software, is partially responsible for the "depersonalization of health care."[211] Because the practice of medicine has changed significantly since 1791, courts should recognize the existence of an implied contract term to secure all patient health records within the context of the modern-day doctor-patient relationship.

Warren and Brandeis also relied upon the evolution of the law of assault and battery in support of their newly proposed privacy right.[212] *The Right to Privacy* discussed how the common-law doctrine of battery, which was designed to protect a person from physical injury, subsequently led to the creation of assault law.[213] Assault law evolved from the law of battery under the theory that assault law protected an individual from the threat of a physical injury rather than the actual physical injury itself.[214] The authors thus argued that assault law had led to the inevitable creation of "the right to be let alone" and their newly proposed privacy right.[215]

Similarly, the cyberattacks upon our electronic medical records can be compared to the common-law doctrines of assault and battery. Warren and Brandeis explained in *The Right to Privacy* that battery and assault law evolved to protect every individual's right to bodily integrity.[216] Although electronic medical records are certainly intangible records, these records contain some of the most intimate details about a person's tangible, physical body.[217] If the law is prepared to accept assault and battery as an affront to our physical personhood, then the common-law concepts of assault and battery should also apply to our electronic personhood. With the recent scientific breakthroughs in genetic testing, biobanks, and

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210. James E. Bailey, *Does Health Information Technology Dehumanize Health Care?*, 11 AM. MED. ASS'N J. ETHICS 181, 181 (2011).
211. *Id.*
212. Warren & Brandeis, *supra* note 130, at 193-94.
213. *Id.*
214. *Id.*
215. *Id.* at 193.
216. *Id.* at 193-94.
217. Sharona Hoffman & Andy Podgurski, *Balancing Privacy, Autonomy, and Scientific Needs in Electronic Health Records Research*, 65 SMU L. REV. 85, 88-89 (2012).

gene therapy, our electronic medical records contain more detailed intangible information about our tangible, physical bodies.[218] As a result, a cyberattack upon a hospital system is more than a simple data breach. It is a digital assault upon our electronic personhood. Thus, courts can analogize to the ancient common-law doctrines of assault and battery to establish a new fundamental right to the privacy of our medical records.

In addition to federal constitutional protection, patients can also look to the constitutions of their respective states for additional protection over their electronic medical records. Each individual state has its own state constitution that can provide greater protections for individual liberties than the federal Constitution alone.[219] The federal Constitution is a floor not a ceiling.[220] And state constitutions may provide greater individual rights than the federal Constitution.[221] In his often-quoted law review article discussing the power of the state constitutions, Justice Brennan opined "[s]tate constitutions, too, are a font of individual liberties, their protections often extending beyond those required by the Supreme Court's interpretation of federal law."[222] As a result, absent precedent from the United States Supreme Court creating a fundamental right to the privacy of our electronic medical records, the state supreme courts can intervene and decide that patients have a fundamental right to the protection of their electronic medical records.[223] State courts may be even more eager to create this new fundamental privacy right if the citizens of that particular state have been especially victimized by large-scale data breaches.

B.   Proposed Legislative Solution: Making All Addressable HIPAA Standards Required for Large Covered Entities

Congress and the OCR can also protect the privacy of our medical records through the implementation of legislative reform. Because of the devastating consequences of a medical data breach, Congress and HHS should adopt additional regulations to help monitor and

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218. *Id.*
219. ROBERT F. WILLIAMS, THE LAW OF AMERICAN STATE CONSTITUTIONS 114 (2009).
220. William J. Brennan, Jr., *The Bill of Rights and the States: The Revival of State Constitutions as Guardians of Individual Rights*, 61 N.Y.U. L. REV. 535, 550 (1986).
221. *Id.*
222. William J. Brennan, Jr., *State Constitutions and the Protection of Individual Rights*, 90 HARV. L. REV. 489, 491 (1977).
223. *See supra* notes 219-222 and accompanying text.

prevent cyberattacks. Congress and HHS must create stronger pro-
tections of our valuable patient health data through federal legisla-
tion.[224]

Currently, the HIPAA Privacy and Security Rules permit a de-
gree of flexibility for covered entities; however, HHS should ensure
that large covered entities adopt even stricter security standards.[225]
This article proposes that all "addressable" standards in the HIPAA
Security Rule should be "required" standards for all large covered
entities. This solution will also include a provision that allows
smaller independent doctor's offices to continue to make case-by-
case determinations of whether to implement HIPAA's addressable
standards.[226]

Many other authors have offered suggestions and ideas for re-
forming hospital cyber security. These solutions have ranged from
monumental changes, such as large scale privacy reform in the
United States modeled after the European Union's General Data
Protection Regulation,[227] to incremental changes, such as requiring
encryption of all health-care data.[228]

Student author, Ryan Garner, has recognized that the lack of
data encryption at American hospitals poses a major threat to cyber
security.[229] He offered a solution to amend the HIPAA Security
Rule to change data encryption from an "addressable" standard to
a "required" standard.[230] In fact, Garner's suggestion helped to
spark this author's proposal. This paper builds upon Garner's un-
derstanding of the need for additional security measures in order to

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224.   *See, e.g.*, Solove, *supra* note 78, at 564 (explaining that "[t]he way to address privacy
problems is to regulate these activities"); Edelson & Lawson, *supra* note 7, at 106 (urging
that the inaction of hospitals and health insurance providers to take proactive measures to
prevent data breaches "requires legislators and the courts to intervene before it is too late");
HEALTH CARE INDUS. CYBERSECURITY TASK FORCE, *supra* note 1, at 2 (noting that "health
care cyber security is a key public health concern that needs immediate and aggressive at-
tention").

225.   *See* Modifications to the HIPAA Privacy, Security, Enforcement, and Breach Notifi-
cation Rules Under the HITECH and GINA Acts, 78 Fed. Reg. 5566, 5589 (Jan. 25, 2013) (to
be codified at 45 C.F.R. pt. 160, 164) (noting that "the requirements of the Security Rule
were designed to be technology neutral and scalable to all different sizes of covered entities and
business associates); *see also* JOHN J. TRINCKES, JR., THE DEFINITIVE GUIDE TO COMPLYING
WITH THE HIPAA/HITECH PRIVACY AND SECURITY RULES 167 (2013) (explaining that "the
HIPAA Security Rule is designed to be scalable across small and large covered entities").

226.   45 C.F.R. § 164.306(b)-(d) (2019).

227.   Elizabeth A. Brasher, Note, *Addressing the Failure of Anonymization: Guidance from
the European Union's General Data Protection Regulation*, 2018 COLUM. BUS. L. REV. 209,
251-53 (2018).

228.   Ryan L. Garner, Note, *Evaluating Solutions to Cyber Attack Breaches of Health Data:
How Enacting a Private Right of Action for Breach Victims Would Lower Costs*, 14 IND.
HEALTH L. REV. 127, 164 (2017).

229.   *Id.*

230.   *Id.*

appropriately protect our nation's electronic medical records.[231] This paper also builds upon Garner's recognition that the current version of HIPAA does not adequately protect our electronic medical records, and one way to address that deficiency is to build upon HIPAA's existing framework to create additional cyber-security protections.[232]

Readers may be surprised to learn that HIPAA actually offers some degree of flexibility for the enforcement of the HIPAA standards: although many of the standards found in the HIPAA Security Rules are "required," some of the standards are "addressable."[233] If a standard is "addressable" rather than "required," the covered entity may take the following factors into account when deciding whether to implement the security standard: "(i) The size, complexity, and capabilities of the covered entity or business associate. (ii) The covered entity's or the business associate's technical infrastructure, hardware, and software security capabilities. (iii) The costs of security measures. (iv) The probability and criticality of potential risks to electronic protected health information."[234] This flexibility leads to a troubling result because it gives individual entities the ability to decide whether to adopt certain provisions of HIPAA's Security and Privacy Rules.[235] Currently, all covered entities are permitted to make a case-by-case determination over whether to implement the addressable HIPAA standards.[236]

HIPAA would offer stronger cyber-security protections if HHS amended all the "addressable" security standards to now be "required" standards for all large covered entities.[237] HHS considered, debated, and approved the addressable and required security standards when it initially promulgated HIPAA's Security Rule in 2000.[238] Professor Glenn Cohen of Harvard Law School and Professor Michelle Mello of Stanford Law School explain that despite the initial criticisms of HIPAA as being both too unwieldy and too narrow:

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231. *Id.*
232. *Id.*
233. 45 C.F.R. § 164.306(d) (2019).
234. *Id.* § 164.306(b)(2).
235. TRINCKES, *supra* note 225, at 166-67.
236. *Id.*
237. 45 C.F.R. § 164.306(d)(1).
238. *See* Modifications to the HIPAA Privacy, Security, Enforcement, and Breach Notification Rules Under the HITECH and GINA Acts, 78 Fed. Reg. 5566, 5591 (Jan. 25, 2013) (to be codified at 45 C.F.R. pt. 160, 164) (declining to make business associate agreements an addressable standard in the HIPAA Security Rules).

[o]ver time, however, HIPAA has proved surprisingly functional. Particularly after being amended in the 2009 HITECH (ie, the Health Information Technology for Economic and Clinical Health) Act to address challenges arising from electronic health records, HIPAA has accomplished its primary objective: making patients feel safe giving their physicians and other treating clinicians sensitive information while permitting reasonable information flows for treatments, operations, research, and public health purposes.[239]

Because HIPAA already provides some protections over patient medical records, it will be a quicker and more efficient solution to build off the existing architecture of HIPAA and the HITECH Act rather than creating an entirely new framework for data privacy in the United States.

Although this relatively straightforward solution may not be as comprehensive as a massive overhaul of United States data privacy laws, it has the benefit of being more likely to occur. Because legislative reform takes time, a more moderate proposal may be the quickest way to affect actual change of hospitals and health insurance providers. This proposal does not preclude others from suggesting more impactful and lasting changes, but this solution has the benefit of offering a realistic short-term solution that will have a more immediate impact over the security of our electronic medical records.

This proposal also has the benefit of considering the size and resources of an individual provider or small physician group. One criticism of HIPAA is that "[t]he specifics are largely left to the provider and their capabilities and budget, which is the reason why there are such broad discrepancies in security across the healthcare industry."[240] When the OCR passed the HIPAA Security Rule, it understood that a one-size-fits-all solution would not work for every hospital and every health insurance provider in the country.[241] In fact, "the HIPAA Security Rule is designed to be scalable across small and large covered entities. Since each covered entity is different, the rules were not developed to be so specific that a covered entity does not have the latitude to decide how best to meet the requirements."[242] Although it may have been desirable to leave some

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239. Cohen & Mello, *supra* note 56, at 231.
240. Nguyen, *supra* note 77, at 105.
241. TRINCKES, *supra* note 225, at 167.
242. *Id.*

discretion up to the individual health-care providers when the Privacy and Security Rules were originally passed, the information age has left patients' electronic medical records vulnerable to cyberattacks. The Equifax and Anthem data breaches prove that Congress can no longer depend upon the individual hospitals and health insurance providers to adequately protect the sensitive medical information that their patients have entrusted to them.

Under this proposal, changing the HIPAA standards from addressable to required will depend upon the entity's size. HIPAA requirements already vary depending upon the covered entity's size. This proposal is a continuation of that framework. This solution is both realistic and practical because it accomplishes the goal of creating greater protection over the electronic medical records at the large United States hospitals that hold the greatest proportion of patient data without imposing overly exacting monetary requirements upon smaller local practices. This solution follows the existing HIPAA framework by considering the varying resources and capabilities of health-care providers across the country.[243] Small individual providers will not be forced to adopt the same degree of sophisticated technological infrastructure to protect against cybercrimes as a large health-care conglomerate. This solution considers that a small, independent doctor's office has different constraints than a large covered entity such as Anthem, the largest health insurer in the country.[244]

The increasing prevalence of cyberattacks on hospitals and health insurance companies is a serious threat to all American patients.[245] The frequency and severity of these attacks has increased dramatically in recent years.[246] The public backlash following the Equifax data breach demonstrates the public concern regarding the security of our personal data stored in the electronic files of our nation's banks, hospitals, educational institutions, and government entities.[247] Although other authors have called for more dramatic reform of data privacy laws in America, these proposals are outside of the scope of this article.[248] Instead, this article proposes a modest solution to the immediate problem: cyber criminals compromise our electronic medical data on a daily basis. Although this proposal is modest, it is a first step towards assuring Americans that their

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243. *Id.*
244. *Anthem*, *supra* note 91.
245. HEALTH CARE INDUS. CYBERSECURITY TASK FORCE, *supra* note 1, at 1.
246. Thomson, *supra* note 65, at 253.
247. Smith & Mulrain, *supra* note 87, at 552-53.
248. Brasher, *supra* note 227, at 251.

medical records are properly safeguarded by the institutions that they are entrusting with the custody of their electronic medical records.

IV. CONCLUSION

The threat of a large-scale data breach of our electronic health records should be a serious concern for all Americans. The protected health information that is collected, stored, and aggregated at hospitals and health insurance providers nationwide is extremely valuable to hackers because these records not only contain financial information such as social security numbers and credit card numbers,[249] but these records also contain some of the most private and intimate details about our medical care.[250] As a result, the law must provide greater protections over our most valuable patient information. This article has offered both judicial and legislative solutions for how we can start to combat this problem and protect our most private patient information from the threat of a cyberattack.

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249.   Sweeney, *supra* note 68.
250.   Thomson, *supra* note 65, at 264.

The Gutting of the Peer Review Protection Act: How *Reginelli v. Boggs* Weakened the Protection of Medical Peer Review in Pennsylvania and Why the General Assembly Must Act to Restore That Protection

*Samuel C. Nolan**

I.   INTRODUCTION

The medical peer review process is vital to many of the goals of the United States medical community. This process, through which physicians review the clinical performance of their colleagues, is designed to promote quality of care, improve patient safety, and lower overall health care costs by preventing medical malpractice and accompanying lawsuits.[1] Understanding the importance of the peer review process and the reluctance of physicians to participate in the

   1.   *See generally* Kenneth R. Kohlberg, *The Medical Peer Review Privilege: A Linchpin for Patient Safety Measures*, 86 MASS. L. REV. 157, 157 (2002).

process without legal protections, legislatures in all fifty states and the District of Columbia have passed laws to keep the peer review process confidential.[2] These laws protect physicians from liability for their good faith actions as peer reviewers, impose confidentiality requirements on the process, and provide an evidentiary privilege which protects peer-review-related records and proceedings from discovery in lawsuits.[3]

Pennsylvania's peer review statute, the Peer Review Protection Act (PRPA),[4] was recently scrutinized by the Pennsylvania Supreme Court in *Reginelli v. Boggs*.[5] In *Reginelli*, a 4-3 majority narrowly interpreted the evidentiary privilege of the PRPA,[6] holding that the privilege cannot be extended to documents controlled by a non-licensed entity, such as a medical practice group.[7] The court also held that the privilege cannot apply to documents created by one member of the medical staff who reviews the cases of another member of the medical staff, outside of a pre-established committee.[8] As the three-justice dissent pointed out, this holding is at odds with the intent of the Pennsylvania General Assembly in drafting the PRPA.[9] This Note will further argue that this holding, which limits the protections of the PRPA to specific individuals and organizations in a conceptualization of a peer review process, unsupported by modern hospitals and health care systems, undermines the very goals of ensuring confidentiality for peer review activities, and jeopardizes the objectives of an effective peer review process. Finally, this Note will address why the Pennsylvania General Assembly must now act quickly to restore the broad protection of the PRPA, given the Act's ultimate objective of keeping patients safe.

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2. George E. Newton II, *Maintaining the Balance: Reconciling the Social and Judicial Costs of Medical Peer Review Protection*, 52 ALA. L. REV. 723, 723 (2001) ("[E]very state legislature and Congress provide protection to the participants and work product of peer review committees in the form of statutory privilege, confidentiality requirements, and limited immunity from legal liability or some combination of these.").

3. *Id.* at 723-24.

4. PRPA, 63 PA. STAT. AND CONS. STAT. ANN. §§ 425.1-425.4 (West 2017).

5. 181 A.3d 293 (Pa. 2018).

6. *Id.*; 63 PA. STAT. AND CONS. STAT. § 425.4.

7. *Reginelli*, 181 A.3d at 308. A medical practice group, or "physician group," is a collection of physicians who share resources and contract as a single entity. *See* Philip Masters, *Types of Medical Practices*, AM. C. PHYSICIANS, https://www.acponline.org/about-acp/about-internal-medicine/career-paths/residency-career-counseling/guidance/types-of-medical-practices (last visited Mar. 30, 2019). These groups vary in size and may be composed of physicians from a single specialty or multiple specialties. *Id.* Physician groups often contract with hospitals to provide medical staffing. *Id.*

8. *Reginelli*, 181 A.3d at 304.

9. *Id.* at 320 (Wecht, J., dissenting).

II.   PEER REVIEW GENERALLY

A.   Brief History and Purpose

Medical peer review is the process by which physicians and other health care providers evaluate the clinical performance of their colleagues.[10] The peer review process is designed to ensure that providers are treating patients to an adequate standard of care, which in turn improves patient safety and reduces the risk for medical malpractice suits.[11] Peer review is the primary "method of evaluating the quality of physician services at . . . hospital[s]" and "is performed in a variety of settings, such as part of the quality assurance program of a hospital or other health care institution, a medical society or a third-party payer of health care expenses."[12] One of the "fundamental rationale[s] behind the peer review process is efficiency—practicing physicians are in the best position to determine the competence of other practicing physicians."[13]

In a hospital setting, physicians are reappointed to the medical staff every two years.[14] That reappointment process includes a peer review of the physician's core competencies.[15] Hospitals may also conduct a focused peer review of a physician if a specific medical incident or quality concern is raised.[16] Hospitals also engage in ongoing peer review as a way to continually improve patient care by randomly selecting cases for review, or evaluating threshold indicators, hoping to root out underlying issues or substandard care.[17]

The underpinnings of peer review are built into the Medicare Conditions of Participation which require that hospitals "develop, implement, and maintain an effective, ongoing, hospital-wide, data-

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10.   Kohlberg, *supra* note 1, at 157.

11.   *See id.*; *see also* Laurie K. Miller, *Defending the Peer Review Privilege: Guidance for Health Care Providers and Counsel After Wheeling Hospital*, 120 W. VA. L. REV. ONLINE 34, 35-37 (2017) (discussing the importance of peer review as a tool for reviewing and improving physician performance and patient care).

12.   Miller, *supra* note 11, at 34 (quoting Susan O. Scheutzow, *State Medical Peer Review: High Cost but No Benefit–Is It Time for a Change?*, 25 AM. J.L. & MED. 7, 12-13 (1999)).

13.   Newton, *supra* note 2, at 723; *see also* Bredice v. Doctors Hosp., Inc., 50 F.R.D. 249, 250 (D.D.C. 1970) ("The value of these discussions and reviews in the education of the doctors who participate, and the medical students who sit in, is undeniable.").

14.   Lisa M. Nijm, *Pitfalls of Peer Review: The Limited Protections of State and Federal Peer Review Law for Physicians*, 24 J. LEGAL MED. 541, 544 (2003).

15.   *Id.*

16.   *Id.*

17.   Dinesh Vyas & Ahmed E. Hozain, *Clinical Peer Review in the United States: History, Legal Development and Subsequent Abuse*, 20 WORLD J. GASTROENTEROLOGY 6357, 6358 (2014).

driven quality assessment and performance improvement pro-
gram."[18] Furthermore, the Joint Commission[19]—the nation's fore-
most hospital accrediting body—"requires hospitals to conduct peer
review to retain accreditation."[20] It is, therefore, a practical neces-
sity for hospital medical staff to conduct peer review. [21] Addition-
ally, the federal Health Care Quality Improvement Act,[22] which was
enacted to give medical staff the tools to identify incompetent phy-
sicians, relies primarily on the medical peer review process as a
means of detecting and reporting such physicians to the National
Practitioner Data Bank.[23]

Apart from being required for accreditation, peer review is con-
ducted primarily in the interest of the public good. As the Pennsyl-
vania Superior Court has stated, peer review statutes like the
PRPA are designed "to encourage increased peer review activity
which will result, it is hoped, in improved health care."[24] To achieve
that end, however, state legislatures like Pennsylvania's have

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18.   42 C.F.R. § 482.21 (2019).

19.   The Joint Commission is an "independent, not-for-profit organization" that evalu-
ates, "accredits[,] and certifies nearly 21,000 health care organizations and programs in the
United States." *About the Joint Commission*, JOINT COMMISSION, https://www.jointcommis-
sion.org/about_us/about_the_joint_commission_main.aspx (last visited Feb. 2, 2019). "Joint
Commission accreditation and certification is recognized nationwide as a symbol of quality
that reflects an organization's commitment to meeting certain performance standards." *Id.*
Joint Commission accreditation satisfies the accreditation standards of the Centers for Med-
icare and Medicaid Services. *CMS and JCAHO Make It Easier for Consumers to Assess Hos-
pital Quality*, CTRS. FOR MEDICARE & MEDICAID SERVS. (Sept. 15, 2004), https://
www.cms.gov/newsroom/press-releases/cms-and-jcaho-make-it-easier-consumers-assess-
hospital-quality (announcing that the Centers for Medicare & Medicaid Services (CMS) and
the Joint Commission (formerly the Joint Commission on the Accreditation of Healthcare
Organizations) had adopted unified performance metrics for hospitals).

20.   Vyas & Hozain, *supra* note 17, at 6357.

21.   About ninety-five percent of physicians participate as providers under Medicare and
are therefore governed by CMS's accreditation requirements. *See* HARRIET KOMISAR, AARP
PUB. POL'Y INST., MEDICARE'S FINANCIAL PROTECTIONS FOR CONSUMERS: LIMITS ON BALANCE
BILLING AND PRIVATE CONTRACTING BY PHYSICIANS 1 (2017), https://www.aarp.org/content/
dam/aarp/ppi/2017-01/medicare-limits-on-balance-billing-and-private-contracting-ppi.pdf.

22.   42 U.S.C. §§ 11101-11152 (2012).

23.   Teresa L. Salamon, Note, *When Revoking Privilege Leads to Invoking Privilege:
Whether There Is a Need to Recognize a Clearly Defined Medical Peer Review Privilege in*
Virmani v. Novant Health, Inc., 47 VILL. L. REV. 643, 644-45 (2002). The National Practi-
tioner Data Bank is a repository containing information on physicians who have engaged in
malpractice or who have been subject to an adverse action by a hospital or other health care
entity. *About Us*, NAT'L PRAC. DATA BANK, https://www.npdb.hrsa.gov/topNavigation/
aboutUs.jsp (last visited Apr. 20, 2019). The Data Bank helps hospitals identify and prevent
physicians from moving from state-to-state or hospital-to-hospital without their "previous
damaging performance" being discovered. *Id.*

24.   Sanderson v. Frank S. Bryan, M.D., Ltd., 522 A.2d 1138, 1139 (Pa. Super. Ct. 1987);
see also Robinson v. Magovern, 83 F.R.D. 79, 87 (W.D. Pa. 1979) (stating that the PRPA,
specifically, was designed "to encourage peer evaluation of the health care . . . so as to: (1)
improve the quality of the care rendered; (2) reduce morbidity and mortality; and (3) keep
within reasonable bounds the cost of health care.").

found they must remove the barriers keeping physicians from freely participating in the peer review process.[25] Physicians have historically "been reluctant to serve on peer review committees"[26] for fear of being involved in legal actions for defamation, discrimination, and antitrust.[27] Additionally, physicians may be reluctant to participate in the peer review of their colleagues because they are concerned about professional and personal retaliation: from losing patient referrals, which can affect a physician's financial earnings, to losing friends and jeopardizing other personal relationships.[28] Given these possible consequences, even when physicians participate in the peer review process, it is difficult to ensure that peer review is being done thoroughly and effectively.

Recognizing this reluctance and the value of the peer review process, state legislatures across the country have passed laws to protect the integrity of the process.[29] As mentioned, these laws generally provide immunity for physicians who participate in reviewing the care provided by their peers and create an evidentiary privilege protecting records and proceedings from discovery in a lawsuit against the hospital or other peer reviewing body or individual.[30] Without this evidentiary protection, even if the hospital, medical staff, physician groups, and individual physicians are diligent in maintaining confidentiality, physicians may be less likely to engage in a meaningful peer review process, knowing that their peer review records may be uncovered through litigation. Hence the need for a broad, predictable peer review protection. Without such protection, the trust upon which the modern peer review process is built may evaporate quickly, discouraging physicians from conducting the kind of thorough, candid peer review required to achieve the important objectives of the process.

B.   Peer Review in the Modern Hospital

A hospital medical staff is the collection of practitioners—primarily physicians and advanced practice professionals, such as ad-

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25.   Newton, *supra* note 2, at 723.

26.   Nijm, *supra* note 14, at 541.

27.   Jeanne Darricades, Comment, *Medical Peer Review: How Is It Protected by the Health Care Quality Improvement Act of 1986?*, 18 J. CONTEMP. L. 263, 271 (1992).

28.   *See id.*

29.   *See*, *e.g.*, 63 PA. STAT. AND CONS. STAT. ANN. §§ 425.1-425.4 (West 2017); DEL. CODE ANN. tit. 24 § 1739 (West, Westlaw through 81 Laws 2018); WYO. STAT. ANN. § 35-2-910 (West, Westlaw through 2018 Budget Sess.).

30.   *See generally* DEL. CODE ANN. tit. 24 § 1739; WYO. STAT. ANN. § 35-2-910.

vanced practice nurses and physician assistants—who are credentialed to treat patients in a given hospital.[31] Unlike most businesses, hospitals did not historically employ the physicians who work and operate within their facilities.[32] Instead, a significant portion of a hospital's medical staff was comprised of private practice physicians.[33] Today, the medical staff more often consists of physicians from hospital-affiliated medical groups and other outside employers, today, "[p]eer review occurs in numerous settings, from the hospital to private practice. . . . [and] may occur in a medical practice group or in a managed care organization."[34]

Despite these changes, the hospital still often exists at the center of the peer review process.[35] In many hospitals, medical staff leadership selects members of the medical staff to serve on a peer review committee.[36] Some state laws prescribe specific criteria that a peer review committee must meet,[37] while others leave those decisions to the medical staff.[38] In general, however, these committees are formed "to evaluate and improve the quality of health care rendered by providers of health services."[39] The members of such a committee then analyze and critique the services rendered by physicians at the hospital, most often by reviewing the medical charts generated for each patient interaction.[40] While most peer review is done internally, peer review committees occasionally send cases for external review if they lack the resources to accommodate a thorough review.[41] This may occur if, for example, there is only one physician

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31. Letter from Dir. of the Survey and Certification Grp., Ctr. for Medicaid and State Operations, to the State Survey Agency Dirs., Ctr. for Medicaid and State Operations (Nov. 12, 2004), https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/SCletter05-04.pdf (defining the composition and role of the medical staff).

32. *See Updated Physician Practice Acquisition Study: National and Regional Changes in Physician Employment 2012-2016*, PHYSICIANS ADVOC. INST. (Sept. 2016), http://www.physiciansadvocacyinstitute.org/Portals/0/assets/docs/PAI-Physician-Employment-Study.pdf. The Physicians Advocacy Institute is a national, not-for-profit advocacy group. *Id.* To produce this study, the Physicians Advocacy Institute collaborated with Avalere Health, a health care consultant group, to examine and report on "national and regional changes in physician employment trends." *Id.*

33. *See id.*

34. Nijm, *supra* note 14, at 556 n.1.

35. *See* Brendan A. Sorg, Comment, *Is Meaningful Peer Review Headed Back to Florida?*, 46 AKRON L. REV. 799, 802-03 (2013).

36. *Id.*

37. *E.g.,* IND. CODE ANN. § 34-6-2-99 (West, Westlaw through 2018 Second Reg. Sess.).

38. *E.g.,* ARK. CODE ANN. § 20-9-501 (West, Westlaw through 2018 Fiscal Sess.).

39. *Id.* § 20-9-501(1) (establishing the goals of a peer review committee under Arkansas law).

40. Vyas & Hozain, *supra* note 17, at 6358 ("Today, the majority of peer review conducted in the United States occurs exclusively through retrospective chart review . . . .").

41. *See, e.g.,* Patrick v. Floyd Med. Ctr., 565 S.E.2d 491, 497 (Ga. Ct. App. 2002) (discussing external peer review).

in the hospital belonging to a given specialty, or a potential conflict of interest arises.[42]

III.   PENNSYLVANIA'S PEER REVIEW PROTECTION ACT (PRPA)

Passed in 1974,[43] the PRPA provides two key protections for physicians and health care organizations regarding the peer review process in Pennsylvania: an *immunity* provision, protecting eligible individuals and organizations from legal liability,[44] and an *evidentiary* privilege, protecting the confidentiality of "proceedings and records of a review committee," by limiting their discoverability in legal proceedings. [45] The PRPA was described by the General Assembly as "[a]n Act providing for the increased use of peer review groups by giving protection to individuals and data who report to any review group."[46] Beyond that description, as the Pennsylvania Superior Court has lamented, "[u]nfortunately, minimal legislative history regarding the [PRPA] was recorded."[47] The Pennsylvania Superior Court, however, has stated that "[a] major concern of the legislature when it created the [PRPA] was confidentiality."[48] Like other peer review statutes, the confidentiality protections of the PRPA were designed "to serve the legitimate purpose of maintaining high professional standards in the medical practice for the protection of patients and the general public."[49] As the Pennsylvania Superior Court has recognized:

> the need for confidentiality in the peer review process stems from the need for comprehensive, honest, and sometimes critical evaluations of medical providers by their peers in the profession. Without the protection afforded through the confidentiality of the proceedings, the ability of the profession to police itself effectively would be severely compromised.[50]

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42. *Id.*

43. *See* 63 PA. STAT. AND CONS. STAT. ANN. § 425.1 (West 2017).

44. *Id.* § 425.3.

45. *Id.* § 425.4. The evidentiary privilege of the PRPA, found in section 425.4, is at the heart of *Reginelli* and is quoted and discussed in more detail below.

46. PRPA, Pub. L. 564, No. 193 (1974) (current version 63 PA. STAT. AND CONS. STAT. ANN. § 425.1).

47. Sanderson v. Frank S. Bryan, M.D., Ltd., 522 A.2d 1138, 1140 (Pa. Super. Ct. 1987).

48. *Id.* ("The purpose of the bill is to provide protection to those persons who give testimony to peer review organizations. Hearing on H.B. No. 1729, 158 Pa. Legis. J.-House at 4438 (1974) (statement of Representative Wells).").

49. Cooper v. Del. Valley Med. Ctr., 630 A.2d 1, 7 (Pa. Super. Ct. 1993), *aff'd*, 654 A.2d 547 (Pa. 1995).

50. Young v. W. Pa. Hosp., 722 A.2d 153, 156 (Pa. Super. Ct. 1998) (citation omitted).

The protections of the PRPA were never intended to be limitless. For example, the Pennsylvania Superior Court once stated that the PRPA "does not 'protect non-peer review business records, even if those records eventually are used by a peer review committee.'"[51] Additionally, the Pennsylvania Supreme Court established that the PRPA does not apply to a plaintiff-physician challenging peer review of his own work, where he alleged that the peer review was not done appropriately or in good faith.[52]

Prior to *Reginelli*, Pennsylvania state courts had, however, construed the PRPA rather broadly, aligned with the "overriding intent of the Legislature to protect peer review records."[53] The Pennsylvania Superior Court, for instance, held in 2005 that credentialing documents were protected under the PRPA, though the word "credentialing" appears nowhere in the statute.[54] In the same case, the Pennsylvania Superior Court refused to draw "a distinction between multi-person committees [explicitly mentioned in the PRPA] and single individuals [performing peer review functions]" under the PRPA.[55] The Pennsylvania Superior Court labeled the plaintiff's contrary as "flawed," stating that making such a distinction "would be a distracting and meaningless exercise" in light of the PRPA's goals.[56] Then, in 2006, the Pennsylvania Superior Court held that a peer review report generated by an outside specialist was protected, while also holding that a billing manager's presence within a peer review committee did not destroy the privilege.[57] Based on these holdings, prior to *Reginelli*, there existed a "pre-

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51.   Yocabet v. UPMC Presbyterian, 119 A.3d 1012, 1025 (Pa. Super. Ct. 2015) (quoting Dodson v. DeLeo, 872 A.2d 1237, 1242 (Pa. Super. Ct. 2005)).

52.   Hayes v. Mercy Health Corp., 739 A.2d 114, 115 (Pa. 1999).

53.   Troescher v. Grody, 869 A.2d 1014, 1022 (Pa. Super. Ct. 2005) (disapproved of by Reginelli v. Boggs, 181 A.3d 293, 305 n.9 (Pa. 2018)); *see also* Piroli v. Lodico, 909 A.2d 846, 849 (Pa. Super. Ct. 2006) (disapproved of by *Reginelli*, 181 A.3d at 305 n.9); *Young*, 722 A.2d at 156.

54.   *Troescher*, 869 A.2d at 1022. Credentialing documents are documents created and reviewed in the course of deciding whether a physician is qualified to work in a hospital. *See generally Ambulatory Care Program: The Who, What, When, and Where's of Credentialing and Privileging*, JOINT COMMISSION, https://www.jointcommission.org/assets/1/6/AHC_who_what_when_and_where_credentialing_booklet.pdf (last visited Oct. 26, 2019).

55.   *Troescher*, 869 A.2d at 1022.

56.   *Id.*

57.   *Piroli*, 909 A.2d at 851-52.

sumption that all peer review is generally protected from discovery."[58] After *Reginelli*, however, the existence of that presumption has become uncertain.[59]

IV.   *REGINELLI V. BOGGS*

A.   *Factual and Procedural History*

The evidentiary dispute in *Reginelli*, which implicated the PRPA, arose out of an action for medical malpractice.[60] Monongahela Valley Hospital (the hospital) contracted with UPMC Emergency Medicine, Inc. (the physician group) for emergency department physician staff and administrative services.[61] Doctors Marcellus Boggs and Brenda Walther were both employed by the physician group and served on the medical staff of the hospital.[62] This is a common arrangement in hospitals.[63] Dr. Walther was the director of the hospital's emergency department, and was Dr. Boggs's supervisor.[64]

Eleanor Reginelli was brought to the hospital's emergency department, where she was treated by Dr. Boggs for gastric discomfort.[65] A few days after her discharge, Mrs. Reginelli suffered a heart attack.[66] She and her husband alleged that Dr. Boggs had failed to diagnose her underlying condition.[67] The couple filed a complaint alleging negligence against Dr. Boggs, the hospital, and the physician group, corporate negligence against the hospital, and loss of consortium against all defendants.[68]

During her deposition, Dr. Walther testified that she maintained a performance file on Dr. Boggs, which included notes she created when reviewing a selection of Dr. Boggs' cases.[69] Dr. Walther maintained similar files for other emergency department physicians.[70] Learning of this, the Reginellis filed a discovery request, seeking to

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58.   Mark A. Kadzielski & Jenna N. Scott, *Peer Review Privilege Limited by Pennsylvania Supreme Court Decision Has Implications for Healthcare Providers Nationwide*, BAKERHOSTETLER (Apr. 3, 2018), https://www.bakerlaw.com/alerts/peer-review-privilege-limited-by-pennsylvania-supreme-court-decision-has-implications-for-healthcare-providers-nationwide.

59.   *Id.*

60.   Reginelli v. Boggs, 181 A.3d 293, 296 (Pa. 2018).

61.   *Id.*

62.   *Id.*

63.   *See Updated Physician Practice Acquisition Study*, *supra* note 32.

64.   *Reginelli*, 181 A.3d at 296.

65.   *Id.*

66.   *Id.*

67.   *Id.*

68.   *Id.*

69.   *Id.* at 297.

70.   *Id.*

discover the performance file Dr. Walther maintained regarding Dr. Boggs.[71] After the hospital objected to the production of this file, citing the protection afforded under the PRPA, the Reginellis filed a motion to compel.[72] The trial court granted the motion, ordered the hospital to produce Dr. Boggs's performance file, included with its order a direction that the file remain confidential with the Reginellis' counsel, and ordered that the file not be copied or reproduced.[73] Though not previously involved with this action, the physician group filed a motion for a protective order, asserting its own protection under the PRPA for the peer review conducted by its employee, Dr. Walther.[74] Before the trial court ruled on the physician group's motion for protective order, both the physician group and the hospital appealed the trial court's order to the Pennsylvania Superior Court.[75]

The Pennsylvania Superior Court affirmed the trial court's order.[76] It held, first, that the physician group was not entitled to claim the protection of the evidentiary privilege under the PRPA because the physician group, "as an independent contractor, is not an entity enumerated in the [PRPA] as being protected by [the] peer review privilege."[77] Second, the superior court ruled that the hospital could not claim the privilege because it neither created nor maintained the performance file in question.[78] Third, the superior court stated that even if one of the parties could claim the privilege, the privilege had been destroyed when the physician group shared the performance file with the hospital.[79] The superior court thus rejected the physician group's contention that Dr. Walther was the only person to possess the file, stating "it is apparent that [the physician group] shared the file with [the hospital], since the Reginellis sought the file from [the hospital] and [the hospital] has provided it in camera."[80]

The hospital and physician group each appealed the decision to the Pennsylvania Supreme Court.[81] The Court granted review of the following issues with respect to the hospital:

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71. *Id.*
72. *Id.*
73. *Id.*
74. *Id.*
75. *Id.* at 298.
76. *Id.*
77. *Id.* at 299 (quoting Reginelli v. Boggs, Nos. 1584 WDA 2014 & 1585 WDA 2014, 2015 WL 6456401, at *3 (Pa. Super. Ct. 2015)).
78. *Id.* at 299 (citing *Reginelli*, 2015 WL 6456401, at *3).
79. *Id.* at 299.
80. *Id.* (quoting *Reginelli*, 2015 WL 6456401, at *3).
81. *Id.*

1. Whether the Superior Court erred by holding an outside medical provider's peer review proceedings regarding its employees who staff a hospital's Emergency Department under a contract with that hospital are not entitled to protection from disclosure under the [PRPA]?

2. Whether the sharing of peer review records by a third-party medical provider that operates a hospital's Emergency Department with the administration of that hospital constitutes a waiver of peer review protection as to those records?

3. Whether a hospital that contracts with a third-party medical provider to operate the hospital's Emergency Department may claim protection under the [PRPA] for records of peer review proceedings conducted by the medical provider regarding its employees who staff the hospital's Emergency Department?[82]

The Court also granted review of the following issues with respect to the physician group:

1. Whether the Superior Court's holding directly conflicts with previous Superior Court holdings that an outside entity can be appointed or retained by a hospital to conduct peer review and that the review is entitled to protection under the [PRPA]?

2. Whether the Superior Court's holding directly conflicts with the intent of the [PRPA] and this Court's holdings that the provision of peer review materials to the hospital does not constitute a waiver of the [PRPA]?[83]

B.   Majority Opinion

Writing for a four-justice majority, Justice Christine Donohue first concluded that the language of the PRPA is "unambiguous," cautioning that the court could not ignore the language in pursuit of its spirit.[84] The court undertook a strict, narrow reading of the PRPA, reasoning that because the PRPA is an evidentiary exception, it should not be "expansively construed."[85] With this established, the court then examined the five questions on review in three main parts. First, it "consider[ed] [the physician group's] as-

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82. *Id.* at 300 n.6.
83. *Id.*
84. *Id.* at 300 (citing 1 PA. STAT. AND CONS. STAT. ANN. § 1921(b) (West 2008)).
85. *Id.* (citing Commonwealth v. Stewart, 690 A.2d 195, 197 (Pa. 1997)).

sertion of its entitlement to claim the [PRPA's] evidentiary privilege" as a "professional health care provider" under the PRPA.[86] Second, the court considered the hospital's argument that it is a "professional health care provider" and that the PRPA's protection should apply to the performance review of one member of its medical staff, Dr. Boggs, by another member of its medical staff, Dr. Walther.[87] Third, it examined the arguments of the physician group and the hospital that the PRPA authorizes a hospital's peer review committee, like the one in operation at the hospital, to conduct peer review activities through an outside entity, like the physician group, pursuant to a contract.[88] Each of these main points is further explored below.

The relevant portion of the PRPA's evidentiary privilege is as follows:

> [t]he proceedings and records of a review committee shall be held in confidence and shall not be subject to discovery or introduction into evidence in any civil action against a professional health care provider arising out of the matters which are the subject of evaluation and review by such committee and no person who was in attendance at a meeting of such committee shall be permitted or required to testify in any such civil action as to any evidence or other matters produced or presented during the proceedings of such committee or as to any findings, recommendations, evaluations, opinions or other actions of such committee or any members thereof . . . .[89]

Noting that the PRPA's evidentiary privilege only applies to "professional health care providers" as defined in Section 425.2, the court rejected the physician group's argument that it was, indeed, a professional health care provider.[90] The court stated that—

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86. *Id.* at 302.
87. *Id.* at 304.
88. *Id.* at 306.
89. 63 PA. STAT. AND CONS. STAT. ANN. § 425.4 (West 2017).
90. *Reginelli*, 181 A.3d at 301-303 (quoting 63 PA. STAT. AND CONS. STAT. ANN. § 425.2) ("'Professional health care provider' means: (1) individuals or organizations who are approved, licensed or otherwise regulated to practice or operate in the health care field under the laws of the Commonwealth, including, but not limited to, the following individuals or organizations: (i) a physician; (ii) a dentist; (iii) a podiatrist; (iv) a chiropractor; (v) an optometrist; (vi) a psychologist; (vii) a pharmacist; (viii) a registered or practical nurse; (ix) a physical therapist; (x) an administrator of a hospital, nursing or convalescent home or other health care facility; or (xi) a corporation or other organization operating a hospital, nursing or convalescent home or other health care facility; or (2) individuals licensed to practice veterinary medicine under the laws of this Commonwealth.").

though the physician group is an organization made up of physicians (who, as individuals, are covered as professional health care providers under the PRPA)—the organization itself is "a business entity that provides hospitals . . . with staff involved with the provision of emergency medical services."[91] Moreover, the court held that the physician group, as an organization, is not an entity that is "approved, licensed or otherwise regulated to practice or operate in the health care field," stating that "[n]o principled reading of the definition of 'professional health care provider' permits any entity to qualify [for the privilege] if it is . . . . unregulated and unlicensed."[92] As such, the court affirmed the Pennsylvania Superior Court's ruling that the physician group was "not an entity enumerated in the [PRPA] as being protected by peer review privilege."[93]

The court next held that the hospital was not entitled to claim the evidentiary privilege under the PRPA through the actions of Dr. Walther.[94] Section 425.4 of the PRPA states that the "proceedings and records of a review committee . . . shall not be subject to discovery or introduction into evidence . . . ."[95] The hospital argued that this language allowed for the peer review proceedings and documents of an *individual*—Dr. Walther—to be privileged through the definition of "review organization" in Section 425.2,[96] arguing that the terms "review committee" and "review organization" are used interchangeably in the PRPA.[97] The court rejected this argument, determining that the two terms are not interchangeable "as they connote distinct types of entities under the PRPA."[98] The court found that the statute used the term "review committee" in the first sentence of its definition of "review organization" to apply specifically to committees "engaging in peer review[,]" while the second sentence of the definition includes a "'hospital board, committee or individual' involved in the review of the 'professional qualifications or activities of its medical staff'" which the court deemed to be separate from peer review activities.[99]

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91. *Id.* at 303.
92. *Id.*
93. *Id.* at 304 (quoting Reginelli v. Boggs, Nos. 1584 WDA 2014 & 1585 WDA 2014, 2015 WL 6456401, at *3 (Pa. Super. Ct. 2015)).
94. *Id.* at 304.
95. 63 Pa. Stat. and Cons. Stat. Ann. § 425.4.
96. *Id.* § 425.2 ("[Review organization] shall also mean any hospital board, committee or individual reviewing the professional qualifications or activities of its medical staff or applicants for admission thereto.").
97. *Reginelli*, 181 A.3d at 304-05.
98. *Id.* at 305.
99. *Id.* (citing 63 Pa. Stat. and Cons. Stat. Ann. § 425.2).

The court conceded that it was possible Dr. Walther "may qualify as a 'review organization' under the second sentence of the PRPA's definition of that term, [but that] the PRPA does not extend its grant of the evidentiary privilege to *that* category of 'review organization'"[100] In emphasizing this point, the court specifically rejected the notion that the evidentiary privilege of the PRPA extends to "credentials review" (i.e., the review of a physician's clinical history to determine whether the physician is qualified for appointment to the medical staff), though the case did not present a credentialing question.[101] Thus, the court concluded that the hospital could not qualify for the peer review privilege through the review activities of Dr. Walther because neither the hospital nor Dr. Walther constituted a "'review committee' engaging in peer review."[102]

Finally, the court rejected the argument brought by the hospital and the physician group that "the lower courts erred in refusing to apply [the] PRPA's evidentiary privilege because a hospital's peer review committee may conduct protected peer review activities through an outside entity pursuant to a contract."[103] The two organizations argued that the lower courts failed to recognize that the hospital and physician group operated under a contract by which the physician group's employees could review clinical activity within the hospital.[104] The effect of this error, according to the organizations, was that the lower courts reviewed their activities individually, rather than collectively, making application of the PRPA's terms needlessly attenuated.[105] The court, however, determined that the organizations had failed to preserve the issue for appeal.[106] It stated that—even if the issue had been preserved—the organizations had failed to demonstrate the existence of a contract allowing the physician group to conduct peer review of activities performed within the hospital.[107] The court therefore concluded that the PRPA's peer review privilege did not apply to the physician group or the hospital, either individually or collectively, because the physician group waived the privilege when it shared the review files with the hospital.[108]

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100.   *Id.* at 306 (emphasis added).
101.   *See id.*
102.   *Id.*
103.   *Id.* at 306.
104.   *Id.*
105.   *See id.*
106.   *Id.*
107.   *Id.* at 307-08.
108.   *Id.* at 308 n.16.

C.   Dissenting Opinion

The three-justice dissent, written by Justice Wecht, rejected the court's threshold conclusion that the PRPA is clear and unambiguous, stating instead that it is "not a model of clarity."[109] The dissent observed that the court's interpretation of the PRPA contradicts the past conclusions of several members of the court, specifically regarding the term "professional health care provider."[110] The dissent pointed out that prior opinions (including the two three-justice opinions in *McClellan v. Health Maintenance Organization of Pennsylvania*) concluded that unenumerated organizations constituted professional health care providers if they were "in the same general class as administrators of health care facilities or organizations operating health care facilities."[111] The dissent also noted the Pennsylvania Superior Court's prior conclusions that the PRPA's definition of "review organization"[112] and its confidentiality provision (which contains the evidentiary privilege) were both ambiguous.[113] The dissent concluded that, "[t]he meaning of these terms being less than clear, the Court should turn to consider '[t]he occasion and necessity for the [PRPA],' '[t]he mischief to be remedied,' '[t]he object to be attained,' and '[t]he consequences of a particular interpretation.'"[114]

The dissent also asserted that the court erred in concluding that Dr. Walther did not conduct peer review.[115] The dissent stated that, contrary to the court's reasoning, the "bright line that the Majority seeks to draw between a review organization and a review committee," which supported its holding that the hospital could not claim the privilege through the actions of Dr. Walther, "cannot be sustained by the statutory text read holistically."[116] Though admitting that the court's reading had "some appeal" based on the separate uses of the terms "review organization" and "review committee," the dissent pointed out that Section 425.4, "entitled 'confidentiality of

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109. *Id.* at 308 (Wecht, J., dissenting).
110. *Id.* at 311 (citing McClellan v. Health Maint. Org. of Pa., 686 A.2d 801, 805 (Pa. 1996) (opinion in support of affirmance)).
111. *Id.* (citing *McClellan*, 686 A.2d at 808) (Nigro, J., opinion in support of reversal)).
112. *Id.* (citing Atkins v. Pottstown Mem'l Med. Ctr., 634 A.2d 258, 260 (Pa. Super. Ct. 1993)).
113. *Id.* (citing Sanderson v. Frank S. Bryan, M.D., Ltd., 522 A.2d 1138, 1140 (Pa. Super. Ct. 1987)).
114. *Id.* at 314 (citing 1 PA. STAT. AND CONS. STAT. ANN. § 1921 (West 2008)).
115. *Id.* at 313-14.
116. *Id.* at 314.

review *organization's* records,' refers in its text *only* to 'review committees,'" demonstrating that the PRPA itself uses the terms inconsistently, despite the court's reading.[117]

The dissent asserted that the court's holdings—finding that the evidentiary privilege applies to committees, not to individuals, and that *credentialing* review is not protected based on the PRPA's employment of the terms "review organization" and "review committee"—"leaves the door open to precisely the same chilling effect upon free and frank discussions aimed to ensure and improve an appropriate quality of care that the PRPA strives to vitiate."[118] Additionally, the dissent pointed out that the effect of the court's holding is that "no one supervisor can assess a given physician's performance negatively without risking exposure as the source of criticism, but if he or she does so with a colleague, and calls the twosome a 'committee,' precisely the same assessment is privileged."[119] This, the dissent reasoned, cannot have been the intent of the General Assembly, as it creates "a result that is absurd . . . or unreasonable," defying the principles of statutory construction.[120]

The dissent then turned to the court's conclusion that the physician group is not a professional health care provider.[121] The dissent agreed with the physician group's argument that it should be considered a health care provider under the PRPA because it is comprised of physicians, who are licensed and regulated under the PRPA's terms.[122] Moreover, the dissent noted the physician group, through its physicians, "operates an entire hospital department, with all the hiring, oversight, and administration that this entails," calling into question the court's "apparent conclusion that [the physician group] is not a 'corporation . . . operating a . . . health care facility.'"[123] That department—the emergency department at the hospital—is "subject to myriad regulations, and [the hospital] operates only with the approval of the Commonwealth and its agencies."[124] According to the dissent, drawing a distinction between the hospital department, the physicians that operate the department, and the organization to which those physicians ultimately belong, again undermines the ultimate purpose of the PRPA.[125] The dissent

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117. *Id.*
118. *Id.* at 315.
119. *Id.*
120. *Id.* (citing 1 PA. STAT. AND CONS. STAT. ANN. § 1922(1) (West 2008)).
121. *Id.* at 315-16.
122. *Id.* at 318, 320.
123. *Id.* at 319-20.
124. *Id.* at 320.
125. *Id.*

also noted that arrangements like that between the physician group and the hospital are "commonplace,"[126] recognizing the parties' arguments that the court's holding ignored "the reality of modern health care, where outside physician practice groups *routinely* staff and are integral to the operation of hospitals."[127] Thus, the dissent would have concluded that the physician group "is an operator of a health care facility by virtue of having taken sole responsibility for operating the Department," stating that the court's "contrary interpretation guts the privilege" of the PRPA.[128]

The dissent further stated that it would have held that the sharing of the performance file between the physician group and the hospital did not waive the evidentiary privilege of the PRPA.[129] Rejecting the holding of the Pennsylvania Superior Court and the court's agreement with that holding, the dissent noted that the hospital "generally has maintained that Dr. Walther's peer review activities were conducted on behalf of both [the physician group] and [the hospital]," given the undeniable entwinement of the two organizations.[130] Thus, according to the dissent, the file remained exclusive to the two organizations for which it was created and maintained, pursuant to the PRPA's requirements.[131]

Finally, the dissent rejected the notion that "exclusivity" required that a *single, discrete* entity maintain control of a file at all times for it to be protected.[132] Instead, the dissent reasoned that the proper reading of "review organization" encompasses various enumerated entities and committees, stating that the language "clearly anticipates possession of such records by an array of individuals and groups concerned with evaluating and improving the quality of health care, reducing adverse events, and controlling costs."[133] Thus, the dissent concluded that the PRPA "was intended to capture an entire sector of conduct performed by a swath of individuals, committees, and government bodies on behalf of providers, both human and institutional."[134] The dissent stated that, because hospitals, physicians, and physician groups share a "collective responsi-

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126. *Id.*
127. *Id.* at 318 (emphasis added) (quoting Brief for Appellant at 26, *Reginelli*, 181 A.3d 293 (Nos. 20 WAP 2016, 22 WAP 2016, 21 WAP 2016, 23 WAP 2016)).
128. *Id.* at 320.
129. *Id.*
130. *Id.* at 321-22.
131. *Id.* at 321.
132. *Id.* at 322.
133. *Id.*
134. *Id.*

bil[ity] for ensuring that the care delivered in the [emergency department] . . . satisf[ies] the standard of care," the PRPA should not be read to waive the evidentiary privilege when those entities share information necessary to carry out that responsibility.[135]

V.   ANALYSIS AND IMPACT OF *REGINELLI*

The court in *Reginelli* made three key errors in examining whether the evidentiary privilege of the PRPA applied to the peer review file created by Dr. Walther in assessing Dr. Boggs. First, the court's conclusion that the PRPA is "unambiguous" immediately and mistakenly restricted its ability to apply the text of the PRPA to situations unforeseen by the General Assembly.[136] Second, the court demonstrated a fundamental misunderstanding of the operation of a modern hospital, leading it to make a sweeping decision out of step with the contemporary practice of medicine.[137] Finally, the court afforded little weight to the legislative intent of the General Assembly, instead conducting only a plain-text reading and application that produced unreasonable results.[138] Together, these errors shaped a decision that not only weakens the protection of the PRPA, but also weakens the security upon which physicians have been able to conduct thorough, candid reviews of their peers.[139] In the wake of *Reginelli*, physicians and other individuals who participate in the peer review process can no longer rely on the belief that their good-faith actions will remain confidential and privileged.[140] This countermands the important objectives of any peer review statute, and makes it less likely that physicians, going forward, will conduct the kind of effective peer review the PRPA was meant to encourage.

One of the overarching problems with the court's decision, as the dissent pointed out, is that it labeled the PRPA "unambiguous,"[141] per the Commonwealth's laws on statutory construction,[142] and used this purported lack of ambiguity to hold that the peer review protection is limited to a narrow set of circumstances.[143] Under the

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135. *Id.* at 323.
136. *Id.* at 300 (majority opinion).
137. *See id.* at 318-319 (Wecht, J., dissenting).
138. *Id.* at 300 (majority opinion).
139. *See* Elizabeth L. Melamed, *How Much Protection Does the Peer Review Protection Act Really Provide?*, BARLEY SNYDER (Apr. 9, 2018), https://www.barley.com/how-much-protection-does-the-peer-review-protection-act-really-provide.
140. *See id.*
141. *Reginelli*, 181 A.3d at 311.
142. *See* 1 PA. STAT. AND CONS. STAT. ANN. § 1921(b) (West 2008).
143. *Reginelli*, 181 A.3d at 308.

court's construction, it appears the PRPA will only apply to peer review that is conducted by a singular, pre-established peer review *committee*, organized under the hospital, rather than a physician group, investigating a specific instance of medical care.[144] This interpretation places the PRPA's now extremely limited protection well outside the norm of similar statutes across the nation,[145] and undermines the very purpose for which the PRPA was enacted by the General Assembly.[146]

While the majority opinion was correct in reviewing this case as presenting a matter of statutory construction, its threshold determination that the PRPA is "unambiguous" forced the court into a narrow reading that wholly disregards the purpose for which the statute was enacted.[147] Unlike the majority, which offered no explanation for its "unambiguous" determination, the dissent provided a compelling argument that the language of the PRPA is not, in fact, unambiguous.[148] The dissent pointed out that the PRPA has created confusion in the past, even within the Pennsylvania Supreme Court, noting that members of the court had previously deemed the terms of the PRPA to be broad and open to interpretation.[149] A recognition of the PRPA's ambiguity would have allowed the court to consider, among other principles of statutory construction, "[t]he occasion and necessity for the statute[,]" "[t]he circumstances under which it was enacted[,]" "[t]he object to be attained

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144. *Id.* at 304-06.

145. *See, e.g.,* Armstrong v. Dwyer, 155 F.3d 211, 220 (3d Cir. 1998) (noting that the peer review protection afforded by 42 U.S.C. §§ 1390c-9(d), 1320c-3 (2012), "run[] with the documents or information, not with the organization or individuals who happen to possess the documents or information"); Vranos v. Franklin Med. Ctr., 862 N.E.2d 11, 19 (Mass. 2007) (holding that credentialing records shared between multiple in-state and out-of-state entities were covered by the Massachusetts peer review privilege, given the legislature's intent to provide broad protection for thorough, candid review of physician performance); Day v. Finley Hosp., 769 N.W.2d 898, 902 (Iowa Ct. App. 2009) (holding that the Iowa peer review statute applied to all "investigation files," "reports," and "other investigative information" relating to a given case in the possession of the peer review committee, regardless of whether the information was generated by the committee).

146. *See Reginelli*, 181 A.3d at 320 (Wecht, J. dissenting) ("This Court should not adopt an unreasonable or impractical interpretation that so clearly frustrates legislative intent.").

147. *See id.*

148. *Id.* at 311.

149. *Id.* (quoting McClellan v. Health Maint. Org. of Pa., 686 A.2d 801, 805 (Pa. 1996) (opinion in support of affirmance) ("[The PRPA's] definition of 'professional health care provider' . . . [is] broad enough that we may or may not read the Act as explicitly excluding [organizations such as health maintenance organizations]. The words of the Act defining 'health care provider,' then, are ambiguous."); *see also McClellan*, 686 A.2d at 808 (Nigro, J., opinion in support of reversal)) ("[W]hether [health maintenance organizations] are in the same general class as administrators of health care facilities or organizations operating health care facilities is subject to interpretation.").

[by the statute,]" and "other statutes upon the same or similar sub-jects."[150] By failing to recognize the lack of clarity in the terms of the PRPA, the court erroneously bound itself to a narrow reading of those terms, which led to an interpretation inconsistent with the reality of the peer review process.[151]

The court's holding that the physician group is not a "professional health care provider" that can claim the protection of the peer re-view privilege stems directly from its determination that the PRPA's language is "unambiguous," and, as a result, does not hold up to practical scrutiny.[152] The court's primary reason for dismiss-ing the physician group's contention that it is a "professional health care provider" was that, as an entity, it is not licensed and regulated in the delivery of medical care.[153] But the physician group is an organization made up of physicians, who *are* licensed and regulated in the delivery of medical care.[154] Dr. Walther's employment within a physician group should not obviate her ability to claim the protec-tion afforded under the PRPA. Along with creating an arbitrary legal divide between physicians employed by physician groups and those employed by a hospital, this ruling undermines the purpose of the PRPA as it exists today, when most physicians *do* belong to a physician group.[155]

The court wrote off part of this argument in a footnote, stating that entities like the physician group existed when the PRPA was enacted, but the court failed to consider their increased prevalence now.[156] In fact, modern hospitals rely on these types of organiza-tions for a large percentage of their medical staff.[157] While hospitals are beginning to employ more physicians themselves, independent physicians still make up a significant portion of the average hospi-tal medical staff.[158] And many employed physicians (i.e., non-inde-pendent physicians) are employed by physician groups, which con-tract with hospitals.[159]

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150. 1 PA. STAT. AND CONS. STAT. ANN. § 1921(c) (West 2008).

151. *See Reginelli*, 181 A.3d at 300, 305 n.12 (majority opinion).

152. *Id.* at 303.

153. *Id.*

154. *See id.* at 296 (discussing the physician group as an entity that contracted with the hospital "to provide staffing and administrative services for its emergency room," including Dr. Walther and Dr. Boggs).

155. *See* Bita Kash & Debra Tan, *Physician Group Practice Trends: A Comprehensive Re-view*, J. HOSP. & MED. MGMT., Mar. 21, 2016, at 1, 1 ("Today, most physicians work in the group practice setting in the United States.").

156. *Reginelli*, 181 A.3d at 303 n.7.

157. *See* Travis Singleton & Phillip Miller, *The Physician Employment Trend: What You Need to Know*, FAM. PRAC. MGMT., July-Aug. 2015, at 11, 13.

158. *Id.*

159. Kash & Tan, *supra* note 155, at 1.

Apart from the practical impact of the court's determination that a physician group is not a health care provider, the dubiousness of the court's reasoning is made clear by its own summation of its ruling on this issue. The court stated that "while [the physician group] is an organization that is comprised of hundreds of 'professional health care providers' (namely, physicians), it is not itself a 'professional health care provider' because it is unregulated and unlicensed."[160] To support its reasoning, the court cited *Yocabet v. UPMC Presbyterian*, in which the Pennsylvania Superior Court held that the Pennsylvania Department of Health did not qualify as a "professional health care provider" under the PRPA.[161] Bafflingly, though, the court borrowed language from *Yocabet*, in which the Pennsylvania Superior Court stated that the Department of Health "is a fictitious entity that can only operate through its agents and employees."[162]

The court went no further in explaining its use of this quote, which appears to undercut its holding. After all, if a "fictitious entity" is made up of individuals who are licensed and regulated in accordance with the PRPA, and it is those individuals' actions that the PRPA is designed to protect against publicity, why should that protection not extend to the entity named in the suit on behalf of the individual? The court provided no answer to this question. However, as the dissent pointed out, the opinion in support of affirmance in *McClellan* addressed this argument, noting the court's "statutory construction doctrine[,] *ejusdem generis* ('of the same kind or class')."[163] The dissent stated that, according to the doctrine, the definitions in the PRPA should be read expansively, given the introductory language "including, but not limited to."[164]

The court's holding that the hospital could not claim the peer review privilege through the review actions of Dr. Walther is another direct result of its flawed conclusion that the language of the PRPA is unambiguous. Key to the court's reasoning is the PRPA's dual use of the terms "review organization" and "review committee."[165] The term "review organization" is defined within the text of the PRPA using broad language, which makes room for a wide spectrum of committees, including "committees" consisting of a single

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160. *Reginelli*, 181 A.3d at 303.
161. *Id.* at 303-04 (citing Yocabet v. UPMC Presbyterian, 119 A.3d 1012, 1024 (Pa. Super. Ct. 2015)).
162. *Id.* at 304 (quoting *Yocabet*, 119 A.3d at 1022).
163. *Id.* at 317 (Wecht, J., dissenting) (quoting McClellan v. Health Maint. Org. of Pa., 686 A.2d 801, 805 (Pa. 1996)).
164. *Id.* at 317 (citing 63 PA. STAT. AND CONS. STAT. ANN. § 425.2 (West 2017)).
165. *Id.* at 304-05 (majority opinion) (citing 63 PA. STAT. AND CONS. STAT. ANN. § 425.2).

individual.[166] The term "review committee" is not defined in the PRPA,[167] though the court stated that it is.[168] Specifically, the court wrote, "[t]he first sentence of the definition of 'review organization' defines the type of entity that constitutes a 'review committee,' namely, 'any committee engaging in peer review.'"[169] Despite the court's insistence that its interpretation is based on a plain-text reading of the PRPA,[170] a reading of the definition of "review organization" indicates otherwise.[171] The PRPA *defines* "review organization" as follows:

> "[r]eview organization" means any committee engaging in peer review, including a hospital utilization review committee, a hospital tissue committee, a health insurance review committee, a hospital plan corporation review committee, a professional health service plan review committee, a dental review committee, a physicians' advisory committee, a veterinary review committee, a nursing advisory committee, any committee established pursuant to the medical assistance program, and any committee established by one or more State or local professional societies, to gather and review information relating to the care and treatment of patients for the purposes of (i) evaluating and improving the quality of health care rendered; (ii) reducing morbidity or mortality; or (iii) establishing and enforcing guidelines designed to keep within reasonable bounds the cost of health care. It shall also mean any hospital board, committee or individual reviewing the professional qualifications or activities of its medical staff or applicants for admission thereto. It shall also mean a committee of an association of professional health care providers reviewing the operation of hospitals, nursing homes, convalescent homes or other health care facilities.[172]

The court failed to acknowledge that the first sentence of this definition contains a non-exhaustive list of "committee[s] engaging in peer review," many of which are not labeled as "review committees."[173] Instead of seeing the definition as broadly applicable to a

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166. 63 Pa. Stat. and Cons. Stat. Ann. § 425.2(2).
167. *Id.* § 425.2.
168. *See id.*; *see also Reginelli*, 181 A.3d at 305.
169. *Reginelli*, 181 A.3d at 305 (citing 63 Pa. Stat. and Cons. Stat. Ann. § 425.2).
170. *Id.* at 300.
171. *See* 63 Pa. Stat and Cons. Stat. Ann. § 425.2(2).
172. *Id.*
173. *Reginelli*, 181 A.3d at 305 (citing 63 Pa. Stat. and Cons. Stat. Ann. § 425.2(2)).

wide variety of review activities with the same protectable quali-
ties, the court appears to have contorted the language to fit its rea-
soning. Additionally, the court's conclusion that the first and sec-
ond sentences of this definition refer to entirely different review
processes appears to ignore the plain language of those sen-
tences.[174] While the first sentence, indeed, applies specifically to
various types of review committees, as the court noted, the second
sentence includes individuals in a hospital who "review[] the pro-
fessional qualifications *or activities of its medical staff.*"[175] Given
the interest of the PRPA in protecting the anonymity of reviewing
physicians, this broad "activities" language surely includes clinical
activities as would fall within the purview of a peer reviewer.[176]
This is especially true when considering that peer review, itself, oc-
curs both when "credentialing" an applicant for admission to a hos-
pital's medical staff (ensuring that the applicant meets the relevant
qualifications), and when reviewing the performance of a physician
already on the medical staff,[177] like the review Dr. Walther con-
ducted regarding Dr. Boggs' performance.[178]

As discussed above, there is scant evidence of the General Assem-
bly's intent in enacting the PRPA beyond the historical and statu-
tory note describing the PRPA before its passage and the legislative
history of similar laws in other states.[179] Because of these limita-
tions, it is understandable that the court may have been reluctant
to rely solely on the few examples of the General Assembly's intent.
But even in considering the limited evidence of legislative intent, as
the court did,[180] along with the text of the statute, it is difficult to
wrap one's head around the notion that a file such as the one Dr.
Walther maintained for Dr. Boggs would *not* be considered the prod-
uct of peer review. After all, Dr. Walther created and maintained
this file as part of her regular review of the performance of a physi-
cian she supervised, with the objective of improving the quality of
care.[181]

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174. *Id.* at 305-06.

175. *Id.* (emphasis added).

176. *See* Robinson v. Magovern, 83 F.R.D. 79, 86 (W.D. Pa. 1979) (discussing the legisla-
ture's intent to "foster the greatest candor and frank discussion at medical review committee
meetings" and "encourage peer evaluation of health care provided" through the PRPA's evi-
dentiary privilege).

177. Nijm, *supra* note 14, at 543.

178. *Reginelli*, 181 A.3d at 297.

179. PRPA, Pub. L. 564, No. 193 (1974) (current version 63 Pa. Stat. and Cons. Stat.
Ann. § 425.1 (West 2017) ("An Act providing for the increased use of peer review groups by
giving protection to individuals and data who report to any review group").

180. *Reginelli*, 181 A.3d at 300.

181. *Id.* at 298 (citing Defendant's Motion for Reconsideration at ¶ 21, *Reginelli*, No. 1584
WDA 2014 (Pa. C.P. Washington County Aug. 29, 2014)).

Generally speaking, this is the type of file that is designed to be kept confidential by the peer review privilege, given the goals of peer review protection statutes.[182] Thus, upholding the peer review protection in this case would not have required the court to ignore the language of the PRPA in pursuit of its spirit, as the court warned of, but instead would have required the court to read and interpret the PRPA in light of its *purpose*.[183] The dissent high-lighted this point numerous times, but it is worth underscoring.[184] In failing to properly account for the intent of the General Assembly, the court "negate[d] the presumption that all peer review is generally protected from discovery."[185]

As stated, the court's decision, which severely limits the application of the PRPA's evidentiary privilege, threatens the important aims of the PRPA. By disturbing physicians' ability to rely on the PRPA's evidentiary privilege, the court has created serious doubts as to whether physicians will be able to conduct effective peer review.[186] Without the guarantees of "confidentiality [that are] critical to such review," there is a real possibility that the PRPA's goals of ensuring patient safety and upholding high standards of care will be compromised.[187]

VI.   PROPOSED LEGISLATIVE RESPONSE

Given the PRPA's important objectives, the Pennsylvania General Assembly must now act quickly to amend it, clarifying that the evidentiary privilege is meant to apply to the broad range of peer review activities occurring in modern hospitals. As has been observed, prior to *Reginelli*, files and processes like those at issue in the case "were previously thought to be protected from discovery by

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182. Kohlberg, *supra* note 1, at 161 ("[T]he purpose of peer review statutes is to protect the confidentiality of an ongoing peer review process, not simply to protect records produced by formally defined peer review committees.") (citation omitted).

183. *Reginelli*, 181 A.3d at 300 (citing 1 PA. STAT. AND CONS. STAT. ANN. § 1921(b) (West 2008)).

184. *See id.* at 320 (Wecht, J., dissenting).

185. Kadzielski & Scott, *supra* note 58.

186. Shortly after *Reginelli* was rendered, the Hospital and Healthsystem Association of Pennsylvania (HAP), a hospital advocacy group, sent a memorandum to its member hospitals stating that, in its view, the case "casts substantial doubt about the availability of peer review privilege protection for a range of activities." Memorandum from Andy Carter, President and CEO of HAP, to CEOs of HAP Member Hosps. (May 4, 2018), https://www.haponline.org/Portals/0/docs/HAP-Memo-18-10-Reginelli-v-Boggs.pdf?ver=2018-05-10-123633-790. These activities include "[p]eer review conducted by contracted providers for hospital-based services . . . non-licensed entities that employ physicians . . . [and] health care facilities that do not require state licensure" along with "[c]redentialing review in any setting." *Id.*

187. *See* Kadzielski & Scott, *supra* note 58.

the [PRPA]."[188] In the wake of *Reginelli*, that valuable presumption has been replaced with another: that only a review conducted by a pre-established "peer review committee" of more than one person, on behalf of the hospital, will be protected by the PRPA's evidentiary privilege.[189] Therefore, for example, peers within a physician group reviewing their colleagues' activities to improve clinical performance may not be protected.[190] Nor—as the *Reginelli* dissent pointed out—may supervisors reviewing the cases of their supervisees.[191] Assuming the General Assembly did not mean to prescribe such a narrow process of protectable peer review, it should now work with physician groups and hospital associations to amend the PRPA to reflect the staffing and operations of modern hospitals.

At a minimum, the General Assembly should unify the use of the terms "review committee" and "review organization" within the PRPA. Because a great deal of the court's analysis in *Reginelli* rested on the inconsistent use of these terms, the General Assembly should consider replacing the nine references to a "review committee" in section 425.4[192] with the term "review organization," as defined in section 425.2.[193] If this language had been consistent throughout both sections when the court heard *Reginelli*, and Dr. Walther were considered a "review organization," as the court conceded she may have been, the review of Dr. Boggs would likely have been protected under section 425.4.[194] By unifying these terms in light of *Reginelli*, the General Assembly can confirm its intent to protect the type of review conducted by Dr. Walther.

But given the important goals of the peer review process and the need for greater clarity in an increasingly complex health care environment, the General Assembly might consider adopting a peer review statute like Oklahoma's, which grants broad, unambiguous protection for a wide range of "health care entities" for both credentialing and peer review.[195] Under the Oklahoma statute, "peer re-

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188. Melamed, *supra* note 139.
189. *Reginelli*, 181 A.3d at 304-06 (majority opinion) (holding that Dr. Walther's review of Dr. Boggs' performance could not be protected under the PRPA, either as fellow employees of the physician group or through their work at the hospital).
190. *See id.*
191. *Id.* at 315 (Wecht, J., dissenting).
192. 63 PA. STAT. AND CONS. STAT. ANN. § 425.4 (West 2017).
193. *Id.* § 425.2(2).
194. *Reginelli*, 181 A.3d at 306 (majority opinion) (emphasis added) (stating that while Dr. Walther "may qualify as a 'review organization'" under section 425.2(2), the PRPA "does not extend its grant of the evidentiary privilege to *that* category of 'review organization'" in section 425.4, which refers instead to a "review committee").
195. OKL. ST. ANN. tit. 63, § 1-1709.1 (West, Westlaw through Second Regular Sess. of the 56th Legis.); *see also* Michael E. Joseph, *Oklahoma Legislature Significantly Expands Peer*

view process" is defined as "any process, program or proceeding, including a credentialing or recredentialing process, utilized by a health care entity or county medical society to assess, review, study or evaluate the credentials, competence, professional conduct or health care services of a health care professional."[196] The Oklahoma statute also presents a reasonable balance between the objectives of a confidential peer review process and the interests of potential plaintiffs, specifically exempting medical records, incident reports, and other factual information regarding patient treatment.[197]

　　In amending the PRPA, the Pennsylvania General Assembly should consider the two major interests at stake in potential health care litigation: protecting the sanctity of the peer review process while preserving the legitimate interests of patient-plaintiffs. Specifically, the General Assembly should protect a wide range of good-faith peer review activities aimed at improving quality of care—including those activities conducted by individuals and non-hospital organizations—while exempting the categories of records patient-plaintiffs require to bring lawsuits, such as the incident reports exempted in Oklahoma's peer review statute.[198] Documents stemming from reviews like Dr. Walther's—a regular review of the clinical work of a colleague—should be protected because they are created with the goal of improving patient care.[199] On the other hand, reviews conducted for other purposes, like reviews by health insurers or other outside entities conducted purely for business purposes,[200] should not be protected from discovery because they do not require the guarantees of confidentiality that the peer review privilege affords. Ultimately, the General Assembly must consider the interests of hospital and physician associations and patient advocacy groups to strike the necessary balance. By doing so, the General Assembly can remedy the damage and confusion regarding the PRPA caused by the court in *Reginelli*, while creating a clearer, stronger peer review protection.

Review Privilege, MCAFEE & TAFT (Dec. 1, 2014), https://www.mcafeetaft.com/oklahoma-legislature-significantly-expandspeerreviewprivilege ("[A] health care entity may utilize a process, program, or proceeding established, maintained, provided, or operated by another body or entity, including those located outside the state.").

196.　tit. 63, § 1-1709.1(6).
197.　*See id.* § 1-1709.1(5).
198.　*Id.* § 1-1709.1(A)(5)(b).
199.　*See Reginelli*, 181 A.3d at 296-97.
200.　*See* Venosh v. Henzes, M.D., 121 A.3d 1016, 1019 (Pa. Super. Ct. 2015) (holding that the PRPA does not protect documents generated by a health insurer reviewing the work of health care providers to determine whether it "should continue to contract with the health care providers in question."). In *Venosh*, the Pennsylvania Superior Court specifically stated that protecting documents stemming from this type of review would not fulfill the "intent behind the [PRPA]." *Id.*

VII. CONCLUSION

Peer review is a vital tool for hospitals and physician groups to ensure that patients receive safe, competent care.[201] As such, it is imperative that the evidentiary privilege of the PRPA be clear and reliable, and for hospitals, physician groups, and others who participate in the peer review process to understand how and when its protections will apply. With its questionable holding in *Reginelli*, the Pennsylvania Supreme Court created confusion and instability around the PRPA, calling into question when, precisely, the evidentiary privilege will protect the records of physicians and committees engaging in peer review.[202] In light of this ruling, there is a significant risk that peer review conducted across the Commonwealth of Pennsylvania will be inadequate, based on a fear that the records generated will *not* be confidential and privileged. This has the serious potential to jeopardize patient safety. The Pennsylvania General Assembly must now act quickly to remedy the detrimental effects of this decision, making clear that the PRPA is meant to protect a broad scope of peer review processes performed by a range of individuals and entities engaged in patient care. Doing so has the potential to save lives.

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201. Kohlberg, *supra* note 1, at 157.
202. Melamed, *supra* note 139.

"Grandfamilies" Amid the Opioid Crisis: An Increasing Reason to Update Pennsylvania's Outdated Intestacy Laws

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I.   INTRODUCTION

In the midst of the current opioid crisis, the country, and Pennsylvania specifically, have a growing population of "grandfamilies."[1] Grandfamilies are family units where grandparents serve as the primary caretakers for their grandchildren, whose parents are unable to care for them primarily due to substance abuse or associated treatment or death.[2] These grandparent caregivers step in to care for their grandchildren out of both love and affection and a sense of duty, and they ultimately function in the role of a parent.

Recognizing the increasing number of grandfamilies, Pennsylvania's lawmakers have undertaken efforts to provide these families with the resources they need. In light of Pennsylvania's efforts to better serve grandfamilies, and keeping in mind that for a variety of reasons grandparent caregivers are likely to die without a will, i.e., intestate, this article suggests that Pennsylvania update its intestacy laws to better serve its grandfamilies.

Part II of this article explores how the increasing number of grandfamilies are coming together as a result of the opioid crisis. Part III of this article provides an overview of intestacy laws and discusses the unfortunate result of the application of current intestacy laws to the grandfamily situation, as well as scholars' prior recommendations to avoid this unjust result, including application of the *in loco parentis* doctrine. Part IV of this article discusses Pennsylvania's use of the *in loco parentis* doctrine, specifically in the context of child custody disputes. Part V of this article suggests that Pennsylvania should expand its application of the *in loco parentis* doctrine to its intestacy laws to provide that a decedent's grandchild, or other lineal descendant to whom the decedent stood *in loco parentis,* takes a share of the decedent's estate as though he or she is one of the decedent's children. This argument is grounded in the goals of intestacy laws, namely carrying out the decedent's intent and providing for the decedent's dependents. This article suggests that Pennsylvania's current intestacy laws provide a particularly unjust result for grandfamilies who have come together in the midst of the opioid crisis and are in need of revision to avoid further injustice.

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1.   GENERATIONS UNITED, RAISING THE CHILDREN OF THE OPIOID EPIDEMIC: SOLUTIONS AND SUPPORT FOR GRANDFAMILIES 1 (2018), https://www.gu.org/app/uploads/ 2018/09/Grand-families-Report-SOGF-Updated.pdf [hereinafter GRANDFAMILIES REPORT]; Memorandum from Representative Katharine M. Watson, Pa. State Representative, to All House Members (Feb. 14, 2018), https://www.legis.state.pa.us//cfdocs/Legis/CSM/showMemoPublic.cfm?chamber=H&SPick=20170&cosponId=25201.

2.   GRANDFAMILIES REPORT, *supra* note 1, at 1.

II.   GRANDFAMILIES AMID THE OPIOID CRISIS

A.   *The Opioid Crisis*

The United States is in the midst of an "unprecedented opioid epidemic."[3] In sum, the opioid crisis began in the 1990s with the over-prescription of opioid pain relievers which led to a surge in the use of heroin, a "cheaper street cousin" of prescription opioids, which caused the number of opioid related deaths to increase more than five-fold between 1999 and 2016.[4] In 2017, 11.1 million people misused prescription pain relievers, and 886,000 people used heroin.[5] The Centers for Disease Control and Prevention (CDC) estimates that in 2017, 47,872 people died from an opioid overdose, which is an average of more than 115 people per day.[6] The opioid crisis has particularly affected Pennsylvania, which had the third highest overdose death rate in the country in 2017.[7]

Throughout the country, individuals, families, and communities are struggling to cope with the devastating effects of the opioid crisis.[8] Children of addicted parents are a particular population affected by the opioid crisis.[9] Children of parents with a substance abuse problem are especially affected because substance abuse affects parents' ability to adequately care for their children.[10] Parents with a substance abuse problem are more likely to abuse or neglect

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3. *Opioid Crisis*, HEALTH RESOURCES. & SERVS. ADMIN., https://www.hrsa.gov/opioids (last updated June 2019); *see also* OFFICE OF THE SURGEON GEN., U.S. DEP'T HEALTH & HUMAN SERVS., FACING ADDICTION IN AMERICA: THE SURGEON GENERAL'S SPOTLIGHT ON OPIOIDS 5 (2018), https://addiction.surgeongeneral.gov/sites/default/files/Spotlight-on-Opioids_09192018.pdf, [hereinafter SPOTLIGHT REPORT] (defining an "opioid" as "[the] class of drugs that include the illegal drug heroin, synthetic opioids such as fentanyl, and pain medications available legally by prescription, such as oxycodone, hydrocodone, codeine, morphine, and many others").

4. SPOTLIGHT REPORT, *supra* note 3 at 7; *see also* OFFICE OF THE SURGEON GEN., U.S. DEP'T OF HEALTH & HUMAN SERVS., FACING ADDICTION IN AMERICA: THE SURGEON GENERAL'S REPORT ON ALCOHOL, DRUGS, AND HEALTH 1-14 (2016), https://addiction.surgeongeneral.gov/sites/default/files/surgeon-generals-report.pdf.

5. SPOTLIGHT REPORT, *supra* note 3, at 6. These figures include people over the age of twelve. *Id.*

6. *Id.* at 7.

7. *Drug Overdose Deaths*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/drugoverdose/data/statedeaths.html (last updated Dec. 19, 2018). Only West Virginia and Ohio had higher rates. *Id.*

8. SPOTLIGHT REPORT, *supra* note 3, at 4. The SPOTLIGHT REPORT lists various medical and social consequences of the opioid crisis including overdose deaths, neonatal abstinence syndrome, transmission of infectious diseases such as HIV and hepatitis, compromised physical and mental health, lost productivity, crime and violence, neglect of children, and expanded health care costs. *Id.*

9. Lorna Collier, *Young Victims of the Opioid Crisis*, 49 AM. PSYCHOL. ASS'N 18 (2018).

10. CHILDREN'S BUREAU, PARENTAL SUBSTANCE USE AND THE CHILD WELFARE SYSTEM 3 (2014), https://www.childwelfare.gov/pubs/factsheets/parentalsubabuse.cfm.

their children than other parents.[11] Drug addiction affects the ability to parent in a variety of ways, including "[s]pending limited funds on alcohol and drugs rather than food or other household needs[,] [s]pending time seeking out, manufacturing, or using alcohol or other drugs," and being incarcerated.[12] As a result, the children's basic needs—namely "nutrition, supervision, and nurturing"—go unmet.[13]

Children of parents with a substance abuse problem are more likely to be placed in out-of-home care than other children.[14] The number of children removed from their parents' care because of substance abuse has increased by thirteen percent in recent years, due in part to the opioid crisis.[15] Notably, in Pennsylvania, parental drug use is the most common reason children are removed from their homes.[16] Children may be placed in out-of-home care through the foster care system, or through a more informal arrangement.[17] A common arrangement is for these children to be placed with relatives, most often their grandparents.[18]

B.   Grandfamilies

More than 2.6 million children, which is approximately four percent of all children in the United States, are presently being raised by grandparents or relatives other than their parents.[19] Consistent with the national average, four percent of children in Pennsylvania live with a relative other than their parents.[20] In Pennsylvania,

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11.   *Id.* at 2-3 (noting that "[w]hile the link between substance abuse and child maltreatment is well documented, it is not clear how much is a direct causal connection and how much can be attributed to other co-occurring issues").

12.   *Id.* at 3.

13.   *Id.*

14.   *Id.* at 2.

15.   *Grandparents Raising Grandchildren as Opioid Epidemic Takes Toll*, CBS NEWS (Aug. 31, 2018, 4:19 PM), https://www.cbsnews.com/news/grandparents-raising-grandchildren-amid-opioid-epidemic.

16.   GRANDFAMILIES REPORT, *supra* note 1, at 3.

17.   *See id.* at 2; THE ANNIE E. CASEY FOUND., STEPPING UP FOR KIDS: WHAT GOVERNMENT AND COMMUNITIES SHOULD DO TO SUPPORT KINSHIP FAMILIES 1 (2012), https://www.aecf.org/m/resourcedoc/AECF-SteppingUpForKids-2012.pdf.

18.   GRANDFAMILIES REPORT, *supra* note 1, at 1; THE ANNIE E. CASEY FOUND., *supra* note 17, at 4.

19.   GRANDFAMILIES REPORT, *supra* note 1, at 2. Notably, only one out of every twenty children who are living in kinship care are placed in that arrangement through the foster care system, while the other nineteen children are placed into such an arrangement through an informal process. *Id.*

20.   GRANDFAMILIES.ORG, GRANDFACTS: STATE FACT SHEETS FOR GRANDFAMILIES 1 (2018), http://www.grandfamilies.org/Portals/0/State%20Fact%20Sheets/Grandfamilies-Fact-Sheet-Pennsylvania.pdf.

approximately eighty-two thousand grandparents are the sole care-givers for nearly eighty-nine thousand grandchildren.[21] Grandfamilies are becoming increasingly common amid the opioid crisis because many children's natural parents are unable to care for them because they have died, are incarcerated, are using drugs, are in a treatment program, or are otherwise unable to take care of their children.[22]

Sometimes the children's parents ask the grandparents to step in, while other times the grandparents step in without being asked.[23] Grandparent caregivers step in to care for the grandchildren for a variety of reasons, including: to keep the children with family and out of the foster care system, to ensure the children's safety and well-being, to provide the children with a sense of belonging, due to a sense of obligation, out of love, and due to spiritual influence.[24] "You do it because you love them, and you want them to have a good life," explained a great-grandmother who is caring for her ten- and thirteen-year-old great-granddaughters.[25]

The story of a Utah grandmother who stepped in to care for her nine-year-old and seven-year-old granddaughters is illustrative.[26] Through the court system the grandmother obtained custody of her granddaughters, who, along with their mother, were homeless.[27] The grandmother used data from a tracking device that she placed on her daughter's (the granddaughters' mother) vehicle to prove that her daughter was exposing her granddaughters to drug dens and drug dealers.[28]

Another Utah grandfamily came together with much less preparation.[29] One of the grandchildren, whose father previously abandoned them and whose mother was addicted to opioids, called the

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21. Press Release, Pa. Governor's Office, Governor Wolf Thanks House for Passage of 'Grandfamilies' Legislation, Urges Senate to Vote (Apr. 17, 2018), https://www.governor.pa.gov/governor-wolf-thanks-house-passage-grandfamilies-legislation-urges-senate-vote. Any reference to "grandchildren" in this article includes grandchildren, great-grandchildren, great-great-grandchildren, and so on.

22. GRANDFAMILIES REPORT, *supra* note 1, at 1.

23. James P. Gleeson et al., *Becoming Involved in Raising a Relative's Child: Reasons, Caregiver Motivations and Pathways to Informal Kinship Care*, 14 CHILD & FAM. SOC. WORK 300, 307 (2009).

24. *Id.* at 306.

25. Michael Hedges, *The New Caregivers*, AARP (May 24, 2017), https://www.aarp.org/health/drugs-supplements/info-2017/opiates-addiction-grandparents-raising-grandchildren.html.

26. *See* Bill Whitaker, *Opioid Epidemic Leaving Grandparents to Raise Grandchildren*, CBS NEWS (May 13, 2018), https://www.cbsnews.com/news/opioid-epidemic-leaving-grandparents-to-raise-grandchildren.

27. *Id.*

28. *Id.*

29. *See id.*

grandchildren's grandmother from the school bus stop one day because their mother never came to pick them up.[30] While the grandparents thought they would only have the grandchildren for a few days, a few days turned into weeks, which turned into months, which turned into years, and ultimately a permanent arrangement.[31] The grandfather indicated, "we can't not [care for the grandchildren]. They are our grandkids. They're our family."[32]

In these circumstances, grandparents may seek some form of legal relationship with the grandchildren in order to carry out the duties traditionally performed by parents including making decisions regarding the grandchildren's medical care, education, and religion.[33] Grandparents may obtain such a legal relationship through consent or a power of attorney from the child's natural parent, by obtaining legal and/or physical custody, by obtaining a guardianship, or by adopting the child.[34] However, the reality is that these grandfamily arrangements, for a variety of reasons, are mostly informally established within the family.[35]

Moreover, grandparents often do not seek formal adoption because of the perceived temporary nature of the arrangement or because they do not want to permanently deprive their own children of their legal parental rights.[36] Additionally, court proceedings associated with formal adoption can be expensive and stressful, and these grandparents may not have access to legal advice or necessary information.[37] Even if grandparents do obtain a formal guardianship or custody, this relationship is still not equivalent to an adoption.[38] Regardless of the level of formality of the arrangement, grandparent caregivers nevertheless intend to and do function as the grandchildren's parents.[39] As one grandparent caregiver explained, "[y]ou just love them just like they're your very own."[40]

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30. *Id.*
31. *Id.* At the time of the interview, the grandparents had been the primary caregivers for their grandchildren for nearly three years. *Id.*
32. *Id.*
33. *See* Carla Schiff Donnelly, *When Custody of the Grandkids Is at Issue: One of the Most Difficult Areas of Pennsylvania Family Law Offers Unique Challenges and Opportunities for Grandparents*, PA. LAW., Nov./Dec. 2014, at 22, 23-24. *See generally* Ana Beltran, *Care-Custody—Summary & Analysis*, GRANDFAMILIES.ORG, http://www.grandfamilies.org/Topics/Care-Custody/Care-Custody-Summary-Analysis#ft1%2010 (last visited Oct. 31, 2018).
34. Beltran, *supra* note 33, at 1-2.
35. THE ANNIE E. CASEY FOUND., *supra* note 17, at 1.
36. Neta Sazonov, Note, *Expanding the Statutory Definition of "Child" in Intestacy Law: A Just Solution for the Inheritance Difficulties Grandparent Caregivers' Grandchildren Currently Face*, 17 ELDER L.J. 401, 408 (2010).
37. *Id.* at 408, 410.
38. *Id.* at 405-06.
39. *Id.* at 405.
40. *Grandparents Raising Grandchildren as Opioid Epidemic Takes Toll*, *supra* note 15.

C. *Pennsylvania's Efforts to Assist Grandfamilies*

Recognizing the increasing number of grandfamilies, Pennsylvania's lawmakers have undertaken efforts to provide Pennsylvania's grandfamilies with the resources they need. These efforts include initiating a "Grandparents Raising Grandchildren Listening Tour" to "listen and capture where issues or gaps exist in the spaces where grandparents are attempting to navigate the health, human services, education, and legal systems as they find themselves parenting for the second time around" with the ultimate goal of "implement[ing] solutions that better serve, support, and protect Pennsylvania's grandparents and the children they are raising."[41]

Additionally, Pennsylvania amended its Standby Guardianship Act to provide for the appointment of a family member as a temporary guardian of a minor child "when the minor's custodial parent has entered a rehabilitation facility for treatment of drug or alcohol addiction or has been subject to emergency medical intervention due to abuse of drugs or alcohol."[42] This amendment provides a way for a grandparent to obtain a temporary guardianship of his or her grandchild to enable the grandparent to take certain necessary actions on the minor child's behalf, such as taking the child to the doctor or enrolling the child in school.[43] Pennsylvania also established a Kinship Caregiver Navigator Program within the Department of Human Services as an informational resource for grandparents who are raising their grandchildren but who are not involved with the formal child welfare system.[44] In light of these recent efforts by Pennsylvania to assist grandfamilies, updating Pennsylvania's intestacy laws to better serve its grandfamilies is seemingly ripe for consideration.

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41.   Press Release, Pa. Dep't of Educ., Wolf Administration & Pennsylvania Family Support Alliance Introduce Grandparents Raising Grandchildren Listening Tour (Sept. 28, 2018), https://www.media.pa.gov/Pages/Education-Details.aspx?newsid=520. Additionally, Pennsylvania's Joint State Government Commission, pursuant to House Resolution Number 390 of 2017, conducted a study of the trends of grandfamilies in Pennsylvania and reported its findings and recommendations. *See generally* JOINT STATE GOV'T COMM'N, GRANDFAMILIES IN PENNSYLVANIA: "THE SECOND TIME AROUND" (2019), http://jsg.legis.state.pa.us/resources/documents/ftp/publications/2019-04-30%20GRAND FAMILIES%20Updated%20Report%205.1.19.pdf.

42.   H.R. 1539, 2017 Reg. Sess. (Pa. 2018) (enacted as Act of Oct. 23, 2018, Pub. L. 583, No. 88 (2018)).

43.   Memorandum from Representative Eddie Day Pashinski, Pa. State Representative, to All House Members (May 19, 2017), https://www.legis.state.pa.us//cfdocs/Legis/CSM/showMemoPublic.cfm?chamber=H&SPick=20170&cosponId=23948.

44.   Watson, *supra* note 1.

III.   INTESTACY

A person who dies without a valid will dies intestate.[45] Intestacy laws provide an "estate plan" developed by the legislature that governs distribution of the assets of a person who dies without a will.[46] The overarching goal of intestacy laws is to give the decedent's property to the decedent's family.[47] Intestacy laws define "family" as persons related by blood, marriage or adoption.[48] The most commonly identified goal of intestacy laws is to distribute the property of a person who dies without a will in accordance with the probable intent of most testators.[49] Scholars have also identified other goals such as providing economic support for the decedent's family.[50]

Intestate statutes generally transfer the decedent's estate to the decedent's spouse and descendants or issue.[51] Descendants and issue are synonymous terms that refer to a multiple-generation class that includes all generational levels down the decedent's descending line, i.e., children, grandchildren, and great-grandchildren.[52] Generally, where a decedent leaves a surviving spouse and no issue, the decedent's spouse takes the decedent's entire estate.[53] If the decedent leaves a spouse and issue, the spouse typically takes a percentage of the estate as prescribed by statute plus one-half or one-third of the remaining estate.[54] The remainder of the decedent's estate passes to the decedent's issue.[55] If the decedent does not have a spouse but does have issue, the issue take the entire intestate estate in shares.[56]

The decedent's issue take shares of the decedent's estate by one of several systems of "representation."[57] The common, principal feature of each system of representation is that the decedent's estate is divided among the living issue who are nearest to the decedent

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45. RESTATEMENT (THIRD) OF PROP.: WILLS AND DONATIVE TRANSFERS § 2.1 (AM. LAW INST. 1999).

46. ROGER W. ANDERSEN & IRA MARK BLOOM, FUNDAMENTALS OF TRUSTS AND ESTATES 37 (4th ed. 2012).

47. Susan N. Gary, *Adapting Intestacy Laws to Changing Families*, 18 L. & INEQ. 1, 3 (2000).

48. *Id.* at 5.

49. *Id.* at 7.

50. *Id.* at 9.

51. *See* ROGER W. ANDERSEN & SUSAN N. GARY, UNDERSTANDING TRUSTS AND ESTATES 14 (6th ed. 2018).

52. RESTATEMENT (THIRD) OF PROP.: WILLS AND DONATIVE TRANSFERS § 2.3 cmt. b (AM. LAW INST. 1999).

53. *Id.* § 2.2.

54. *Id.*

55. *Id.* § 2.3.

56. *Id.*

57. *Id.*

in each descending line.[58] The three recognized systems of representation are strict per stirpes, per capita with representation, and per capita at each generation.[59]

Under the system of strict per stirpes, the decedent's estate is divided into equal shares at the generation nearest to the decedent (i.e., at the children's generation).[60] Each living child takes one equal share.[61] The share of any child who predeceased the decedent leaving behind issue passes to the predeceased child's children in equal shares.[62] For example, if an intestate decedent had two children, one of whom survived the decedent and one who predeceased the decedent leaving behind two children (i.e., the decedent's grandchildren), half of the decedent's assets would pass to the surviving child and the other half of the decedent's assets would pass to the predeceased child's children (i.e., the decedent's grandchildren) in equal shares (i.e., one quarter of the decedent's assets to each grandchild).[63]

The per capita with representation system is similar to the strict per stirpes system, except the decedent's estate is divided into equal shares beginning with the generation nearest to the decedent *that contains at least one living member*.[64] Under the per capita at each generation system, the decedent's estate is similarly divided into equal shares at the generation nearest to the decedent that contains at least one living member.[65] Each living member takes a share.[66] The predeceased members' shares are then combined and divided into equal shares among the first generation of their issue, and so on.[67] Notably, under all of the systems of representation, a

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58. *Id.* § 2.3 cmt. c.

59. *Id.*

60. *Id.* § 2.3 cmt. d. The degree of relationship to the decedent is called "consanguinity." Consanguinity is defined as "[t]he relationship of persons of the same blood or origin." *Consanguinity*, BLACK'S LAW DICTIONARY (10th ed. 2014); *see also Degree of Consanguinity*, BOUVIER LAW DICTIONARY (2012) ("A degree of consanguinity is a measure of the levels of family between one person and another. The particular family members in the same degree of consanguinity varies according to the law in that jurisdiction. At common law, a parent or child is in the same degree of consanguinity relative to one another. A third cousin is in the same degree of consanguinity to all third cousins of the same remove and to second cousins of one less remove."). Children that the decedent formally adopted are included in the nearest degree to the decedent (i.e., the decedent's children). RESTATEMENT (THIRD) OF PROP.: WILLS AND DONATIVE TRANSFERS § 2.5.

61. *Id.* § 2.3 cmt. d.

62. *Id.* A child that predeceases the decedent without leaving issue is not allocated a share. *Id.*

63. ANDERSEN & GARY, *supra* note 51, at 15.

64. RESTATEMENT (THIRD) OF PROP.: WILLS AND DONATIVE TRANSFERS § 2.3 cmt. e.

65. *Id.* § 2.3 cmt. g.

66. *Id.*

67. *Id.*

living survivor cuts off issue further down the line.[68] That is, if a decedent leaves behind children and grandchildren, where a decedent's child survives the decedent, that child's children (i.e., the decedent's grandchildren) do not inherit any portion of the decedent's estate.[69]

If the decedent dies without a spouse or issue, the decedent's estate passes to the second parentela, that is to the decedent's parents, or, if the decedent's parents have predeceased the decedent, to the decedent's parents' issue, i.e., the decedent's siblings and/or nieces and nephews.[70] If the decedent dies without a spouse, issue, parents, siblings, or nieces and nephews, then the decedent's estate passes to the third parentela, that is the decedent's grandparents or, if the decedent's grandparents have predeceased the decedent, to the grandparents' issue, i.e., the decedent's aunts and uncles or their issue.[71] Importantly, status as a decedent's heir not only provides the right to inherit a portion of the decedent's estate but also confers certain rights relating to the decedent's estate.[72]

A. *Pennsylvania's Intestacy Laws*

Pennsylvania's current intestacy laws use the strict per stirpes representation system.[73] Pennsylvania's statute provides, in relevant part, that if a person dies without a will, the decedent's estate:

> shall be divided into as many equal shares as there shall be persons in the nearest degree of consanguinity to the decedent living and taking shares therein and persons in that degree who have died before the decedent and have left issue to survive him who take shares therein. One equal share shall pass to each such living person in the nearest degree and one equal

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68. ANDERSEN & GARY, *supra* note 51, at 15; *see also* RESTATEMENT (THIRD) OF PROP.: WILLS AND DONATIVE TRANSFERS § 2.3 cmt. c ("A descendant who has a living ancestor who is also a descendant of the decedent is not an eligible taker.").

69. *See id.* § 2.3 cmt. c.

70. *Id.* § 2.4. A "parentela" is a line of descent from a common ancestor. *See Parentela*, BLACK'S LAW DICTIONARY (10th ed. 2014).

71. RESTATEMENT (THIRD) OF PROP.: WILLS AND DONATIVE TRANSFERS § 2.4.

72. *See* Susan N. Gary, *The Parent-Child Relationship Under Intestacy Statutes*, 32 U. MEM. L. REV. 643, 644 (2002). Notably, intestacy statutes also serve as a basis for determining whether a legatee named in a decedent's will is the "natural object[] of the decedent's bounty" in the context of a will contest, which could very likely arise if a grandparent caregiver does execute a will that benefits his or her grandchildren and excludes an addicted child. *Id.* Additionally, who is defined as an "heir" under intestacy laws determines whether a person has standing to initiate and/or participate in certain actions related to the decedent's estate. *Id.* at 645; *see, e.g.*, 20 PA. CONS. STAT. § 908 (2010) (right to appeal a decree of the register of wills); 20 PA. CONS. STAT. § 3155 (right to compel administration of the estate).

73. *See generally* 20 PA. CONS. STAT. § 2104.

share shall pass by representation to the issue of each such de-
ceased person . . . .[74]

The first degree of consanguinity to the decedent is the decedent's
children.[75] Thus, the decedent's estate is divided equally by the
number of children the decedent has, with each child being allo-
cated an equal share.[76] Each living child takes a share.[77] If one of
the decedent's children has predeceased the decedent, then the pre-
deceased child's share passes to the predeceased child's children,
i.e., the decedent's grandchildren, in equal shares.[78] While Penn-
sylvania's statute does not define "issue," the Pennsylvania Su-
preme Court adopted the Restatement (Second) of Property's defi-
nition of "issue" as "a multigenerational term meaning all succeed-
ing generations."[79] The court confirmed that "it is well settled that
. . . children do not take concurrently or per capita with their par-
ents, but take per stirpes."[80]

Presumably, when a person dies intestate, an estate will need to
be opened to wrap up the decedent's affairs, including distribution
of the decedent's assets.[81] Where a decedent dies intestate, the per-
son appointed to administer the decedent's estate is called an ad-
ministrator.[82] Notably, the persons eligible to serve as administra-
tor of an intestate decedent's estate include, in the following order:
the decedent's surviving spouse, the decedent's intestate heirs, the
decedent's creditors, or "[o]ther fit persons."[83]

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74.   *Id.*
75.   *See* ANDERSEN & BLOOM, *supra* note 46, at 71. This includes adopted children. *See
supra* text accompanying note 48.
76.   20 PA. CONS. STAT. § 2104.
77.   *Id.*
78.   *Id.*
79.   *In re* Estate of Harrison, 689 A.2d 939, 944 (Pa. Super. Ct. 1997).
80.   *Id.*
81.   The objectives of administering an estate are "to gather the assets of the decedent; to
pay the debts of the decedent, including the tax liabilities of the decedent and the estate; and
to distribute the net remaining estate to the heirs who are entitled to distribution either
under the intestate laws or to the beneficiaries pursuant to the provisions of the decedent's
will." 1 SUELLEN WOLFE, LexisNexis PRACTICE GUIDE: PENNSYLVANIA PROBATE AND
ESTATE ADMINISTRATION § 3.03 (2019), LEXIS [hereinafter PROBATE PRACTICE GUIDE]. How-
ever, an estate may not be required where a decedent has no creditors and the decedent's
assets "can be transferred by delivery, as in the case of cash in hand, furniture, jewelry,
negotiable unregistered securities and personal effects." 1 PAUL C. HEINZ ET AL., REMICK'S
PENNSYLVANIA ORPHANS' COURT PRACTICE § 1.03 (2018), LEXIS. In that case, the decedent's
property may be distributed pursuant to an agreement among the decedent's heirs. *Id.*
82.   HEINZ ET AL.*, supra* note 81, at § 1.01. Where a decedent dies having a will, the
person appointed to administer the estate is called an executor. *Id.*
83.   20 PA. CONS. STAT § 3155 (providing that there is no standing to petition for letters
of administration if the person has no financial interest in the estate or marital or consan-
guineous relationship to the decedent); Brokans v. Melnick, 569 A.2d 1373, 1376 (Pa. Super.
Ct. 1989) (holding that "appellant had no standing to petition for letters of administration

To obtain authority to administer an estate, a petition for grant of letters is filed with the Register of Wills of the county of the decedent's domicile.[84] In the case of intestacy, the application is for the grant of letters of administration.[85] The petition must contain certain information about the decedent including the name and address of the decedent's surviving spouse and "the names, relationships and residence addresses of [the decedent's] other heirs."[86] The administrator must advertise the fact that the estate has been opened, generally in one newspaper of general circulation and one legal periodical.[87] The administrator must also provide notice to the decedent's heirs.[88]

Generally, the administrator must file with the court an account of his or her administration of the estate, which includes a proposed decree of distribution.[89] Any party in interest may file objections to the account, proposed distribution, or both.[90] After the resolution of any objections, the Orphans' Court will expressly confirm the account and distribution and specify the names of the persons to whom the balance available for distribution is awarded and the amount or share awarded to each.[91] A party in interest may file a petition to review any decree of distribution.[92]

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for an estate in which he admittedly has no financial interest"). A person who is entitled to serve as administrator may renounce his or her right to do so and may nominate another person to serve. 20 PA. CONS. STAT. § 3155(b)(6).

84.   20 PA. CONS. STAT. § 901 (conferring on the Register of Wills jurisdiction of the probate of wills, the grant of letters to a personal representative, and any other matter as provided by law); 20 PA. CONS. STAT. § 3151 (providing that a decedent's estate must be opened in the county of the decedent's domicile); 20 PA. CONS. STAT. § 3153 (prescribing the contents of a petition for grant of letters). Letters are almost always necessary to administer a decedent's estate. HEINZ ET AL., *supra* note 81, at § 1.01 (noting that "[h]ardly any conceivable act of administration can be successfully, or conveniently, performed without letters").

85.   PROBATE PRACTICE GUIDE, *supra* note 81, at § 4.02. Letters of administration constitute the official certificate of authority to represent the decedent's estate. This includes gathering together the decedent's assets, discharging the decedent's obligations and making distribution to the heirs. *Id.* at § 3.02.

86.   20 PA. CONS. STAT. § 3153.

87.   20 PA. CONS. STAT. § 3162.

88.   PA. SUP. ORPHANS' CT. R. 10.5.

89.   20 PA. CONS. STAT. § 3513; PA. SUP. ORPHANS' CT. R. 2.4(a).

90.   PA. SUP. ORPHANS' CT. R. 2.7. Standing to file Objections to the Account is limited to parties in interest who can demonstrate some legal or beneficial interest in the estate. *See* Megargel Estate, 36 A.2d 319, 320 (Pa. 1944); Thompson Estate, 33 Pa. D. & C.2d 656, 659 (Pa. Orphans' Ct. 1964). The administrator can file preliminary objections to any objections for lack of jurisdiction over the subject matter and lack of standing. PA. SUP. ORPHANS' CT. R. 2.8(b).

91.   20 PA. CONS. STAT. § 3514.

92.   20 PA. CONS. STAT. § 3521. The Orphans' Court may grant relief as equity and justice require. *Id.*

B.   *Intestacy Laws as Applied to Grandfamilies*

Grandfamilies are particularly impacted by intestacy laws because grandparent caregivers disproportionately rely on the intestacy laws. This is because grandparent caregivers are likely to die intestate due to their age, education, and socioeconomic status. A January 2017 study indicated that sixty percent of American adults do not have an estate plan in place.[93] The top reasons surveyed adults provided for not having an estate plan were that they "hadn't gotten around to it" or they "don't have enough assets to leave to anyone."[94] Notably, many individuals who do not have a will believe that their family members would automatically get their assets.[95]

Factors that affect a person's likelihood of having a will are age, wealth, occupation, education, marital status, and gender.[96] The likelihood of having a will increases with age, wealth, occupation, and education.[97] Women, especially widows, are more likely to have wills.[98]

Grandparent caregivers are more likely to be poor, single, older, less educated, and unemployed than families in which at least one natural parent is present.[99] Grandparent caregivers are also likely to be busy and unlikely to take the time to write a will.[100] Additionally, due to many grandparent caregivers' socioeconomic class, they may have neither the knowledge nor the financial means to arrange to have a will prepared.[101] Due to a lack of proper education, grandparent caregivers may never contemplate estate planning and may simply assume that their grandchildren will automatically inherit because they raised the grandchildren as their own.[102] Accordingly, "[b]y not providing inheritance rights to the grandchildren of grandparent caregivers under intestacy law, the law 'creates a trap for

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93.   Barbranda Lumpkins Walls, *Haven't Done a Will Yet?: You've Got Company. Neither Have 6 in 10 U.S. Adults*, AARP (Feb. 24, 2017), https://www.aarp.org/money/investing/info-2017/half-of-adults-do-not-have-wills.html.

94.   *Id.*

95.   Gary, *supra* note 47, at 19.

96.   *Id.* at 16-17.

97.   *Id.* at 17.

98.   *Id.*

99.   THE ANNIE E. CASEY FOUND., *supra* note 17, at 5-6.

100.   Kristine S. Knaplund, *Grandparents Raising Grandchildren and the Implications for Inheritance*, 48 ARIZ. L. REV. 1, 5 (2006).

101.   *See* Sazonov, *supra* note 36, at 410*; see also* THE ANNIE E. CASEY FOUND., *supra* note 17, at 8 (noting that "[m]any caregivers earn too much to qualify for free or low-cost legal services, but too little to afford the high cost of a private attorney").

102.   Sazanov, *supra* note 36, at 410.

the ignorant or misinformed,' which may describe many grandparent caregivers."[103]

The result, under current intestacy laws, is that if a grandparent caregiver who has not formally adopted the grandchild to whom the grandparent is functioning as a parent dies intestate, the grandchild's living natural parent will inherit a share of the grandparent's estate, but the grandchild will inherit nothing.[104] The Pennsylvania Supreme Court specifically applied Pennsylvania's intestacy laws to a grandchild whose grandparents held him out as their child for his entire life but never formally adopted him in *Bahl v. Lambert Farms, Inc.*[105] The court held that the grandchild could not inherit from his grandmother's estate, despite having been held out as her child, reasoning that:

> it is apparent that the General Assembly intended, as a general rule, to limit 'issue' to those in the decedent's blood line and did not intend to include as first degree 'issue' individuals without the requisite consanguinity who had merely been treated like, or held out as, the decedent's children.[106]

Thus, the current state of Pennsylvania's intestacy laws is that where a grandparent functions as the parent of his or her grandchild during his or her lifetime and dies intestate, the grandchild is not entitled to inherit a child's share of the grandparent's estate.

C.   The Argument for Updating Intestacy Laws to Better Reflect Modern Families

Recognizing that current intestacy statutes nationwide presume a nuclear family, scholars have recommended updating current intestacy laws to better reflect the composition of modern families.[107] Scholars have suggested updating intestacy laws to reflect modern

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103.   *Id.* at 427-28 (quoting Mary Louise Fellows et al., *Public Attitudes About Property Distribution at Death and Intestate Succession Laws in the United States*, 1978 AM. B. FOUND. RES. J. 321, 324 (2006)).

104.   *See* Knaplund, *supra* note 100, at 2; Sazonov, *supra* note 36, at 405-06.

105.   819 A.2d 534, 535-37 (Pa. 2003). Bahl's biological mother conceived Bahl in 1921 when she was seventeen years old. *Id.* at 535. Bahl's biological mother's parents raised Bahl as their own child from Bahl's birth until the grandmother's death forty-eight years later in 1969. *Id.* at 535-36.

106.   *Id.* at 538.

107.   *See, e.g.*, Danaya C. Wright, *Inheritance Equity: Reforming the Inheritance Penalties Facing Children in Nontraditional Families*, 25 CORNELL J.L. & PUB. POL'Y 1, 3 (2015) (noting that nearly seventy percent of children in the United States are being raised in nontraditional homes). Danaya C. Wright is a professor at the University of Florida Levin College of Law and is an expert in estates and trusts and family law. *Danaya C. Wright*, U.F. LAW, https://www.law.ufl.edu/faculty/danaya-c-wright (last visited Apr. 17, 2020).

families including stepfamilies and grandfamilies.[108] Scholars note that in the case of grandfamilies, the permanent nature of the parent-child relationship between the grandparent caregiver and grandchild is so similar to that of legally adoptive parents, to extend inheritance rights "should not be a great leap, because intestacy law currently recognizes inheritance rights for legally adopted children."[109]

The argument advanced for updating intestacy laws is grounded in the objectives of intestacy laws, which are "to carry out the probable intent of the average intestate decedent" and "[to preserve] the economic health of the family after a death."[110] Current intestacy laws likely do not give effect to most grandparent caregivers' intent, which is presumably to transfer a portion of their estate to their grandchildren, whom they have ultimately treated as their own children.[111] Moreover, it is reasonable to assume that grandparents would not intend that their estates pass to parents who are unable or unwilling to care for, and have not been caring for, the grandchildren, with nothing passing to the grandchildren.[112] Further, if no portion of the grandparent caregiver's estate passes to his or her grandchildren, and the natural parent of those children, to whom the estate did pass, either cannot or will not care for the grandchildren, it is likely that the state will assume responsibility of providing for the grandchildren, which frustrates the second objective of intestacy laws, which is providing for the decedent's family.[113] Accordingly, the state, itself, has an interest in assuring some inheritance for these grandchildren.[114]

Scholars have proposed numerous statutory schemes that employ a functional definition of a "family" or a "parent-child" relationship.[115] For example, Professor Kristine Knaplund proposed a

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108.   *See, e.g.*, Margaret M. Mahoney, *Stepfamilies in the Law of Intestate Succession and Wills*, 22 U.C. DAVIS L. REV. 917, 919 (1989); Sazonov, *supra* note 36, at 401. Margaret M. Mahoney is a professor emeritus at University of Pittsburgh School of Law and is an expert on the legal issues surrounding nontraditional families. *Margaret M. Mahoney*, U. PITT. SCH. LAW, https://www.law.pitt.edu/people/margaret-m-mahoney (last visited Apr. 22, 2019). Neta Sazonov is an associate editor and a published author of the Elder Law Journal. *Neta [Sazonov] Nodelman*, SHAW L. LTD., http://shawlawltd.com/neta-s-nodelman (last visited Apr. 17, 2019).

109.   Sazonov, *supra* note 36, at 409-10.

110.   Michelle Harris, Note, *Why a Limited Family Maintenance System Could Help American "Grandfamilies": A Response to Kristine Knaplund's Article on Intestacy Laws and Their Implications for Grandparents Raising Grandchildren*, 3 NAELA J. 239, 248 (2007).

111.   *Id.*; *see also* Sazonov, *supra* note 36, at 412-13.

112.   Harris, *supra* note 110, at 248.

113.   *Id.*

114.   *Id.*

115.   *See, e.g.*, Knaplund, *supra* note 100, at 17.

brightline rule that "all minor children dependent on the decedent" take an intestate share.[116] Professor Knapland further suggested that "dependent" requires that the child depended on the decedent for at least three years prior to the date of death to avoid granting an intestate share based on a temporary relationship.[117] Another suggestion is to redefine the terms "parent" and "child" in intestate statutes.[118] For example, Professor Dayana C. Wright proposed defining "child" as "[a]ny child who functions as a child to any parent who functions as a parent . . . unless the parent explicitly provides otherwise, in writing, that the child is not to be recognized as a child for purposes of inheritance."[119]

To make the determination of whether a functional parent-child relationship exists, scholars have proposed a variety of factors to be considered.[120] These scholars propose that the existence of these factors should give rise to a presumption that the relationship was a parent-child relationship, which can then be rebutted only by clear and convincing evidence that the relationship was not functionally that of a parent and a child.[121] These proposed factors include the relationship between the parent and child beginning during the child's minority,[122] the duration of the relationship for the formation of a parent-child bond,[123] whether the parent held the child out as his or her child (and vice versa),[124] whether the parent treated the child the same as the parent treated his or her own children,[125] the economic and emotional support provided for the child (and vice versa),[126] whether the parent named the child as a beneficiary on non-probate instruments including (but not limited to)

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116. *Id.* at 16-17. Kristine Knaplund is an associate professor at Pepperdine University School of Law who has published extensive research and scholarship regarding estates, specifically issues in intestacy. *See Kristine S. Knaplund*, PEPP. U. SCH. LAW, https://law.pepperdine.edu/faculty-research/kristine-knaplund (last visited Apr. 17, 2019).

117. Knaplund, *supra* note 100, at 17.

118. *See, e.g.*, *id.*

119. Wright, *supra* note 107, at 79.

120. *See, e.g.*, *id.* at 79-80; Gary, *supra* note 47, at 81-82; Sazonov, *supra* note 36, at 429-30. Susan N. Gary is a professor at the University of Oregon School of Law. *Susan N. Gary*, U. OR. SCH. LAW, https://law.uoregon.edu/explore/susan-gary (last visited Apr. 17, 2019).

121. Gary, *supra* note 47, at 77-78.

122. *Id.* at 81; Wright, *supra* note 107, at 80; Sazonov, *supra* note 36, at 430.

123. Gary, *supra* note 47, at 81; Wright, *supra* note 107, at 80; Sazonov, *supra* note 36, at 430.

124. Gary, *supra* note 47, at 81; Wright, *supra* note 107, at 80; Sazonov, *supra* note 36, at 430.

125. Gary, *supra* note 47, at 81; Sazonov, *supra* note 36, at 430.

126. Gary, *supra* note 47, at 81; Wright, *supra* note 107, at 80; Sazonov, *supra* note 36, at 430.

life insurance, joint bank accounts, or employee benefit plans,[127] and whether the parent and child maintained a parent-child relationship after the child reached the age of majority.[128] These factors have been discussed under, inter alia, the conceptual headings of "functional parent," "de facto parent," and "in loco parentis."[129] Pennsylvania courts recognize, and have applied, the doctrine of *in loco parentis* in several contexts, but have not yet used the doctrine to determine whether an individual is an intestate heir.

IV.   PENNSYLVANIA'S *IN LOCO PARENTIS* DOCTRINE

Pennsylvania courts apply the doctrine of *in loco parentis* in determining whether a third party, i.e., a person other than a child's natural parent, has standing to petition the court for custody of the child.[130] "The phrase '*in loco parentis*' refers to a person who puts oneself in the situation of a lawful parent by assuming the obligations incident to the parental relationship without going through the formality of a legal adoption."[131] "The status of *in loco parentis* embodies two ideas; first, the assumption of a parental status, and, second, the discharge of parental duties."[132] The Pennsylvania Supreme Court indicated that an *in loco parentis* relationship exists "where the child has established strong psychological bonds with a person who, although not a biological parent, has lived with the child and provided care, nurture, and affection, assuming in the child's eye a stature like that of a parent."[133]

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127. Gary, *supra* note 47, at 81; Wright, *supra* note 107, at 80; Sazonov, *supra* note 36, at 430.

128. Wright, *supra* note 107, at 80.

129. *See* Lee-ford Tritt, *Sperms and Estates: An Unadulterated Functionally Based Approach to Parent-Child Property Succession*, 62 SMU L. REV. 367, 402 (2009).

130. *See, e.g.*, T.B. v. L.R.M., 786 A.2d 913, 914 (Pa. 2001); *see also* 23 PA. CONS. STAT. § 5324 (2014) (conferring standing to petition the court for custody of a child on "[a] person who stands in loco parentis to the child" or "[a] grandparent of the child who is not in loco parentis to the child" if certain conditions are present). The doctrine is now used "almost exclusively" in child custody matters. *T.B.*, 786 A.2d at 916. However, in the past, Pennsylvania courts have applied the doctrine in the context of life insurance, *see, e.g.*, Young v. Hipple, 117 A. 185, 188 (Pa. 1922), and workers' compensation benefits, *see, e.g.*, Kransky v. Glen Alden Coal Co., 47 A.2d 645, 646 (Pa. 1946). Importantly, a finding of an *in loco parentis* relationship establishes a "prima facie right to custody," which only confers standing to petition for custody and is not conclusive of a right to custody (i.e., the party petitioning for custody must still sustain his or her evidentiary burden that its action would be in the child's best interest). McDonel v. Sohn, 762 A.2d 1101, 1107 (Pa. Super. Ct. 2000); *see also* J.A.L. v. E.P.H., 682 A.2d 1314, 1319 (Pa. Super. Ct. 1996).

131. *T.B.*, 786 A.2d at 916.

132. *Id.* at 916-17 (citing Commonwealth v. Gerstner, 656 A.2d 108, 112 (Pa. 1995); Commonwealth *ex rel.* Morgan v. Smith, 241 A.2d 531, 533 (Pa. 1968)).

133. *Id.* at 917 (quoting *J.A.L.*, 682 A.2d at 1320).

Application of the doctrine often arises in the context of the separation of non-traditional families involving children.[134] "Close relatives who assume parenting responsibilities in a time of need can also stand *in loco parentis* to a child."[135] For example, the Pennsylvania Superior Court found that a child's aunt and uncle stood *in loco parentis* to a child where the aunt and uncle assumed essentially all parenting responsibility when the child's mother died and the father was largely absent from the child's life.[136] Specifically, the superior court considered that the child stayed with her aunt and uncle for long periods of time, during which they performed parental duties such as enrolling the child in school and taking her to the doctor when necessary.[137] However, where the relative functions more as a babysitter, a court is less likely to find that the relative stands *in loco parentis* to the child.[138]

Pennsylvania courts have indicated that the rights and liabilities arising out of an *in loco parentis* relationship are exactly the same as between parent and child.[139] However, the rights and responsibilities of those acting *in loco parentis* are actually limited in some respects, notably that a child to whom a person stood *in loco parentis* and treated as his or her own child during his or her lifetime is not treated as that person's child for inheritance purposes.[140]

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134. *See, e.g.*, C.G. v. J. H., 193 A.3d 891, 893 (Pa. 2018) (same-sex, unmarried partners); *T.B.*, 786 A.2d at 914-15 (same-sex, unmarried partners); Bupp v. Bupp, 718 A.2d 1278, 1279-80 (Pa. Super. Ct. 1998) (unmarried couple involving mother of two children and father who was biological parent of only one of the children).

135. D.G. v. D.B., 91 A.3d 706, 710 (Pa. Super. Ct. 2014).

136. McDonel v. Sohn, 762 A.2d 1101, 1103 (Pa. Super. Ct. 2000).

137. *Id.* at 1106.

138. *See D.G.*, 91 A.3d at 711 (holding that a grandmother did not stand *in loco parentis* to her grandchild, reasoning that the grandmother's actions of providing occasional shelter, meals, laundry, and transportation to and from medical appointments to her grandchild were more consistent with helping her daughter through a period of need than with assuming the responsibilities of a parent). *See also* Argenio v. Fenton, 703 A.2d 1042, 1044 (Pa. Super. Ct. 1997) (declining to find that a grandmother stood *in loco parentis* to her grandchild, reasoning that the record did not indicate that the grandmother informally adopted the child such that she assumed the rights and obligations of parenthood or that she "intended to be bound to the legal duties and obligations of a parent").

139. *See, e.g.*, *T.B.*, 786 A.2d at 917 (citing Spells v. Spells, 378 A.2d 879, 882 (Pa. Super. Ct. 1977)).

140. *See* Peters v. Costello, 891 A.2d 705, 720 (Pa. 2005) (Eakin, J., dissenting) (noting that pursuant to 20 PA. CONS. STAT. § 2103(1) (2010), a child to whom the decedent stood *in loco parentis* will not be recognized as an heir entitled to a share of the decedent's estate as shares of an intestate estate pass to, among others, issue of the decedent, and there is no provision for a share of the decedent's estate to pass to someone with whom the decedent had an informal relationship).

V.   PENNSYLVANIA'S INTESTACY LAWS SHOULD BE UPDATED TO
PROVIDE AN INTESTATE SHARE OF A DECEDENT'S ESTATE TO THOSE
OF THE DECEDENT'S ISSUE TO WHOM THE DECEDENT STOOD *IN
LOCO PARENTIS*

The increasing number of grandfamilies and the current efforts
to assess their needs warrants consideration of updating Pennsyl-
vania's intestacy law to better meet its grandfamilies' needs. Penn-
sylvania's current law, as applied to grandfamilies, does not meet
the overarching objectives of intestacy laws, those being to effectu-
ate decedents' intent and to provide for decedents' surviving family
members. Pennsylvania's grandfamilies would be better served if
Pennsylvania's intestacy law was updated to provide that those of
the decedent's issue to whom the decedent stood *in loco parentis*
during the decedent's lifetime take a child's share of the decedent's
estate, with the determination of whether an *in loco parentis* rela-
tionship existed being based on the totality of a variety of factors.

A.   *Pennsylvania's Current Intestacy Laws as Applied to Grand-
families Do Not Meet the Objectives of Intestacy Laws*

The reality is that grandparent caregivers are likely to die intes-
tate.[141] Therefore, it is likely that most grandparent caregivers' es-
tates will be distributed according to Pennsylvania's intestacy laws.
Under Pennsylvania's intestacy laws, if a grandparent caregiver
dies, the grandchild's natural parent is still living, and if the grand-
family arrangement is anything less formal than an adoption, the
grandchild, to whom the grandparent is functioning as a parent,
does not inherit a share of the grandparent's estate.[142] Yet, a por-
tion of the grandparent's estate does go to the grandparent's child,
i.e., the grandchild's natural parent who is not in the picture.[143]
This result can lead to dire financial circumstances for the grand-
child.[144] Moreover, this result is not in accord with the goals of in-
testacy laws, which are carrying out the average decedent's intent
and providing for a decedent's dependents.[145]

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141.   *See supra* Part III.B.
142.   *See* Knaplund, *supra* note 100, at 2; Sazonov, *supra* note 36, at 405-06.
143.   *See* Knaplund, *supra* note 100, at 2.
144.   *See* Wright, *supra* note 107, at 5.
145.   *See* Gary, *supra* note 47, at 7-9.

1. *Decedent's Intent*

The average grandparent caregiver probably would not intend that his or her grandchild, to whom the grandparent functions as a parent, not receive any portion of his or her estate. Moreover, the grandparent caregiver likely would not intend that a portion of his or her estate passes to the grandchild's natural parent, who is not in the picture, while the grandchild receives nothing. Keeping in mind that grandparent caregivers step in to care for their grandchildren out of love and to ensure the grandchildren's wellbeing, the deceased grandparent caregiver probably would have wished for his or her grandchildren to inherit at least a portion of the estate for symbolic and practical reasons.[146] Moreover, it is highly unlikely that a grandparent caregiver would intend that his or her addicted child receive free and clear title to possibly the grandparent caregiver's entire estate without any protective measures to keep the assets from being used to fund the child's addiction as opposed to the grandchild's needs.[147]

2. *Providing for Family*

Even if grandparent caregivers do not have a will, they may still have valuable assets, such as a house, a car, a bank account, or furniture.[148] Even if these assets are modest, the assets are still valuable to the family members the grandparent caregivers leave behind, especially to children who rely on the grandparent caregivers for support.[149] If these assets are left to the addicted natural parent, it is unlikely the assets will be used to provide for the grandchild for whom the grandparent had been caring, as the reason the grandchild ended up in the grandparent's care in the first place was because his or her needs were not being met by his or her natural parent. Even if a natural parent predeceased the grandparent caregiver, if the natural parent left more than one minor child who relied on the grandparent for support, each grandchild would only receive a fractional share of what the grandparent's other children

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146. *See* Sazonov, *supra* note 36, at 412-13.
147. Chris Taylor, *The Financial Toll of Living with a Drug Addict*, NBC News (Dec. 11, 2013, 7:38 AM), https://www.nbcnews.com/businessmain/financial-toll-living-drug-addict-2D11724265. Taylor commented that "sending money to a drug addict is like giving a loaded gun to someone who is suicidal." *Id.*
148. Knapland, *supra* note 100, at 5.
149. *More Than Half of American Adults Don't Have a Will, 2017 Survey Shows*, Caring.com, https://www.caring.com/articles/wills-survey-2017 (last visited Nov. 24, 2019).

receive as the grandchildren would be further subdividing the share of one child.[150]

B.   Applying the Doctrine of In Loco Parentis to Pennsylvania's Intestacy Laws

Pennsylvania's doctrine of *in loco parentis*, which presently confers standing on a grandparent to seek custody of his or her grandchildren, should be translated to the context of Pennsylvania's intestacy laws. Specifically, Pennsylvania's intestacy laws should be modified to provide an intestate share of a grandparent caregiver's estate to a grandchild (or great-grandchild) to whom the decedent stood *in loco parentis*.[151] To that end, the language of Pennsylvania's intestacy statute should be revised to provide for the nearest degree of consanguinity to the decedent to include those of the decedent's issue to whom the decedent stood *in loco parentis* during the decedent's lifetime. This would allow a grandchild to whom the decedent functioned as a parent to inherit a child's share of the decedent's estate.

This proposal would not unduly disrupt the present intestacy scheme because it limits the provision to the decedent's issue (i.e., descendants) who would inherit from the decedent in the first parentela.[152] This does not cause an overreaching result of the child inheriting an intestate share from a relative from a different parentela, such as an aunt or uncle, that the child would not otherwise inherit from except in the unlikely event that there were several empty degrees of consanguinity.

Application of the *in loco parentis* doctrine to Pennsylvania's intestacy laws should employ the same factors that the Pennsylvania courts already consider in the context of custody cases and that have been proposed by the scholars who have made similar proposals. The determination of whether an *in loco parentis* relationship exists should be based on the totality of the circumstances and weight of each of the proposed factors.

The two factors that should be given the greatest weight should be (1) that the grandparent assumed the role of the child's parent during the child's minority and (2) that the grandparent and grandchild lived together.[153] Assuming the role of a parent includes, at a

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150.   *See supra* Part III.

151.   As previously noted, any reference to "grandchildren" in this article includes grandchildren, great-grandchildren, great-great-grandchildren, and so on.

152.   *See* sources cited *supra* note 70 and accompanying text.

153.   *See* Megan L. Dolbin-MacNab & Margaret K. Keiley, *Navigating Interdependence: How Adolescents Raised Solely by Grandparents Experience Their Family Relationships*, 58

minimum, providing economic and emotional support for the child.[154] The factors Pennsylvania courts already consider, such as making medical and educational decisions and providing for the child's basic needs, tend to suggest a parent-child relationship, especially when the grandparent is making those determinations and provisions without any input or assistance from the grandchild's natural parent(s).[155] Indeed, a parent-child relationship between a grandparent caregiver and a grandchild is particularly apparent when the grandchild's natural parents are not in the picture at all, whether due to death, abandonment, or other reasons.[156]

The living arrangement should track the family law concept of primary physical custody, which involves having physical possession of a child for the majority of the time.[157] This would suggest that the grandparent was the child's primary caregiver, but would not preclude the finding of an *in loco parentis* relationship if the grandchild still maintained occasional contact and visits with his or her natural parent(s).

Another factor to be given substantial weight is whether the grandparent treated the grandchild as the grandparent treated his or her own children, evidence of which may include, inter alia, imposing moral or religious beliefs, discipline, or assigning responsibilities, such as household chores. Taking responsibility for the

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FAM. REL. 162, 170 (2009) (reporting that results of a study of grandchildren being raised by their grandparents indicated that grandchildren who were raised by their grandparents since infancy equated the bond to a parent-child relationship). This is not to suggest that the grandparent caregiver and grandchild must live together at the time of the grandparent's death, but rather for the time that children typically reside with their parents before moving to live on their own. Notably, by age twenty-seven, ninety percent of children leave their parents' home. *See* Judith G. Dey & Charles R. Pierret, *Independence for Young Millennials: Moving Out and Boomeranging Back*, U.S. BUREAU LAB. STAT. (Dec. 2014), https://www.bls.gov/opub/mlr/2014/article/independence-for-young-millennials-moving-out-and-boomeranging-back.htm.

154.   Providing economic and emotional support for the child is in accord with the Pennsylvania Supreme Court's idea that a person who "assum[es] in the child's eye a stature like that of a parent" stands *in loco parentis* to the child. T.B. v. L.R.M., 786 A.2d 913, 917 (Pa. 2001) (quoting J.A.L. v. E.P.H., 682 A.2d 1314, 1320 (Pa. Super. Ct. 1996)). Moreover, economic and emotional support can be considered "vital caregiving functions" which form the basis of a "powerful attachment" between a child and adult caregiver. *See* Robert A. Simon, *The Psychological Impact of Having Multiple "Parents" in a Child's Lif*e, FAM. ADVOC., Summer 2013, at 35, 36.

155.   *See, e.g.*, McDonel v. Sohn, 762 A.2d 1101, 1106 (Pa. Super. Ct. 2000) (finding that a child's aunt and uncle stood *in loco parentis* to the child where the child's natural parents were largely absent from her life, the child lived with the aunt and uncle, and the aunt and uncle provided for the child's needs by, for example, enrolling her in school and taking her to the doctor).

156.   Where the grandchild's natural parents are not in the picture, the grandchild would be more likely to view the grandparent in the "stature like that of a parent." *T.B.*, 786 A.2d at 917 (quoting *J.A.L.*, 682 A.2d at 1320).

157.   *See* 23 PA. CONS. STAT. § 5322 (2014).

grandchild's development and long-term well-being, as opposed to deferring to the grandchild's natural parent(s) on such matters, would indicate an intent to function as a parent rather than in a more removed role as a grandparent.

As to the factor of holding the child out as the parent's own, it does seem unlikely in the context of a grandfamily that a grandparent would hold the grandchild out as being his or her own child.[158] However, an equivalent may be communicating the grandparent's situation to others by, for example, taking time off work for the child's doctor's appointment or declining a social engagement with friends to attend a function at the child's school.[159] One grandparent caregiver tells her retired peers "who are always telling [her] about their next cruise to Hawaii," that "I go on cruises every day. I cruise to school, I cruise to the doctor's office, I cruise to the skateboarding park."[160]

The duration of the parent-child relationship should be considered because if the relationship spans only days, weeks, or months, the relationship would seem more akin to a grandparent helping his or her own child in a time of need as opposed to functioning as the grandchild's parent. While requiring a fixed, minimum amount of time is simply not feasible, a strong indicator may be whether the duration of the relationship was actually or perceived to be indefinite. The standard should be whether the grandparent expected and/or was prepared to assume the role of the grandchild's parent indefinitely.[161]

A particularly relevant factor would be the extent to which the grandparent provided for the grandchild and to which the grandchild was dependent on the grandparent. Factors relevant to this determination would include whether the grandparent was the primary source of, and thus that the grandchild depended on the grandparent to provide, the grandchild's basic necessities such as

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158. It is unlikely because the grandparent and grandchild likely either had a typical grandparent-grandchild relationship prior to the grandfamily arrangement or, even if the grandparent cared for the grandchild since birth, the grandparent likely tried to maintain at least some contact between the grandchild and his or her natural parent(s).

159. Other examples could include buying holiday gifts for the child or hosting birthday parties. On the other hand, some grandparent caregivers may prefer to keep their situation a secret because they do not want their peers to know about their situation which may result in social isolation and depression. GRANDFAMILIES REPORT, *supra* note 1, at 7.

160. *Id.* The grandmother affectionately noted that "Joey is my 'cruise to Hawaii' and you know what, I wouldn't trade my cruise for theirs." *Id.*

161. Evidence that the grandparent intended to assume the role indefinitely could come from the grandparent's own expressions or could include, for example, relocating his or her residence to better accommodate the grandchild.

food, clothing, and shelter. Additionally, a particularly strong indicator that the grandparent intended to provide for the grandchild would be naming the child as a beneficiary on his or her life insurance, joint bank account, or employee benefit plan.[162] Even if the grandparent did not have the knowledge or resources to prepare a will, naming the grandchild on these will-substitutes would be a strong indicator of the grandparent's intent to provide for the grandchild upon the grandparent's death.

Finally, if the grandchild in question is an adult, the fact that the grandparent and grandchild maintained a parent-child relationship after the child reached the age of majority would serve to bolster the conclusion that the grandparent stood *in loco parentis* to the grandchild.[163]

In sum, an *in loco parentis* relationship should be found where the grandparent and grandchild, beginning during the child's minority, lived together as a family unit wherein the grandparent undertook the primary responsibility for providing for the child both during the grandparent's lifetime and in anticipation of death.

C.   *Procedural Considerations*

Substantive application of the *in loco parentis* doctrine to the law of intestacy does not appear to differ greatly from applying the doctrine to the relationship between an adult and a child in child custody disputes, which Pennsylvania courts already have experience doing and a body of case law with which to work. However, by their very nature, custody disputes require the court's involvement and resolution, whereas intestacy laws are usually applied in a much different context.

As discussed in Section III.A, when a grandparent caregiver dies intestate, an estate presumably will need to be opened to transfer his or her property.[164] Opening and administering the estate will presumably involve the assistance of an attorney. It is in this context that the doctrine will generally need to be applied, which begs the question of "how"?

Presumably, a person close to the grandparent will consult with the attorney. When the attorney interviews the person who came

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162.   Gary, *supra* note 47, at 81; Wright, *supra* note 107, at 80; Sazonov, *supra* note 36, at 430.

163.   This could include the grandchild maintaining regular contact with and even caring for the grandparent in his or her old age.

164.   This discussion is limited to the application of the doctrine of *in loco parentis* in the context of an intestate estate. Application of the doctrine in the context of transfers outside of an intestate estate is beyond the scope of this article.

to the attorney for assistance, the attorney may be able to learn of the grandchild in the same way that the attorney would learn of the grandparent's children.[165] For example, the attorney may inquire how many children the grandparent has and whether any of the grandparent's children had predeceased the grandparent. The attorney may also inquire into the grandparent's living arrangements, which may reveal the parent-child relationship with the grandchild.

If there is an indication that a parent-child relationship exists between the decedent and his or her grandchild (or great-grandchild), the determination of whether the grandchild will inherit a child's share of the decedent's estate will begin with the attorney. In this case, the attorney could either (1) treat the grandchild as one of the decedent's children for purposes of estate administration and distribution, (2) seek a declaratory judgment as to the grandchild's status and right to inherit, or (3) treat the grandchild as a grandchild for inheritance purposes.

If the attorney is confident in the existence of a parent-child relationship and chooses the first option, he or she could include the grandchild as an heir entitled to a child's share of the decedent's estate on all filings with the court, including the petition and proposed distribution.[166] This would put the rest of the heirs on notice of the proposed share to be distributed to the grandchild. If the other heirs disagree with a child's share of the estate being distributed to the grandchild, those heirs can object to the proposed distribution, which would bring the issue of the grandchild's status before the court for resolution.[167] Of course, if the other heirs acknowledge the relationship and agree that the grandchild should be treated as the decedent's child for inheritance purposes, the other heirs would simply not object and the grandchild would proceed to inherit a share of the estate as set forth in the proposed distribution.

If the attorney was unsure about the grandchild's status and anticipated a dispute by other heirs, the attorney could preemptively seek a declaratory judgment as to the grandchild's status and right

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165.   Indeed, depending upon age and various other factors, it may be the grandchild who consults the attorney.

166.   The "relationship" on the petition for grant of letters of administration could be listed as "*in loco parentis*" to indicate that the grandchild takes a child's share and to provide the requisite legal support for that determination.

167.   PA. SUP. ORPHANS' CT. R. 2.7 (providing that objections may be filed to a proposed distribution).

to inherit under the intestate statute.[168] Filing a declaratory judgment action would bring the matter before the court for resolution.

If the attorney either determined that a parent-child relationship did not exist or was unaware of the relationship, the attorney may treat the grandchild as a grandchild for inheritance purposes. In this case, a grandchild who did have a parent-child relationship with the decedent could seek appropriate relief from the court by objecting to the proposed distribution that the administrator files with the court.[169] This too would bring the matter before the court for resolution.

Notably, the grandchild's status as an intestate heir entitled to a share of the decedent's estate would enable the grandchild to serve as administrator of the decedent's estate and also give the grandchild standing to seek the above relief. If there is any challenge to the grandchild's standing, the court would then have to determine, as a preliminary matter, whether an *in loco parentis* relationship existed, much the same way as the court has done in deciding whether a grandparent has standing to seek custody.[170]

In sum, if all of the decedent's heirs agreed that the grandchild should take a child's share, to effectuate that distribution, the administrator of the estate, presumably through an attorney, would need only to provide that the grandchild take a child's share of the estate in the documents filed in administering the estate. On the other hand, if any of the heirs disagreed with the proposed distribution to the grandchild, whether it be the decedent's other heirs or the grandchild, the matter would find its way to the court for resolution through one of several avenues.

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168. *See* 42 PA. CONS. STAT. § 7533 (2015) (providing that "[a]ny person interested under a deed, will, written contract, or other writings constituting a contract, or whose rights, status, or other legal relations are affected by a statute, municipal ordinance, contract, or franchise, may have determined any question of construction or validity arising under the instrument, statute, ordinance, contract, or franchise, and obtain a declaration of rights, status, or other legal relations thereunder").

169. The proposed statutory provision including the grandchild as an heir entitled to take in the first degree of consanguinity would also confer standing on the grandchild to object as a party in interest. The inherent problem with this is that if the grandchild is still a minor and relying on the grandparent for support, the grandchild is likely not familiar with his or her rights under the law so as to be able to recognize the issue and seek enforcement of his or her rights. However, presumably, upon the grandparent's death, an adult other than the minor child's absentee natural parent(s) will take over caring for the child. Presumably this adult, even if for no other reason than need of resources to care for the child he or she is now responsible for, will already be aware of or discover the child's right to inherit from the grandparent based on the child's relationship with the grandparent. A discussion of the procedure by which the adult would enforce the child's right to inherit on the child's behalf and the rules surrounding the distribution of money to minors are beyond the scope of this article.

170. *See supra* note 130 and accompanying text.

VI.   CONCLUSION

Pennsylvania has a growing population of grandfamilies as a re-
sult of the ongoing opioid epidemic. Pennsylvania's lawmakers
have recently undertaken efforts to assist Pennsylvania's grand-
families, but one issue that still requires lawmakers' attention is
the ill fit of Pennsylvania's outdated intestacy laws to this growing
number of non-traditional families. Under Pennsylvania's current
intestacy laws, when a grandparent caregiver who functioned as a
parent to his or her grandchild during his or her lifetime passes
away, the grandchild will likely be left with nothing. That is be-
cause Pennsylvania's current rigid intestacy laws provide that
where the grandparent caregiver's child (i.e., the grandchild's nat-
ural parent) is still living, the grandchild, who is further down the
line of descent, is cut off from inheriting from the grandparent's es-
tate, despite having a parent-child relationship with the grandpar-
ent, while the grandchild's natural parent, who is not willing or able
to care for the child, does receive an inheritance, which will likely
not be used to care for the grandchild. This result is not only unjust,
but frustrates the goals of intestacy laws, namely effectuating de-
cedents' intent and providing for decedents' surviving family mem-
bers.

This unjust result can be avoided by updating Pennsylvania's in-
testacy laws to provide a child's share of a decedent's estate to those
of the decedent's issue to whom the decedent stood *in loco parentis*.
This revision would come closer to achieving most decedents' intent
to provide for their families. Additionally, this revision likely would
not be overly burdensome to Pennsylvania's courts as they have al-
ready considered and applied the *in loco parentis* doctrine in other
family-related contexts. In light of Pennsylvania's increasing num-
ber of grandfamilies, and lawmakers' apparent desire and efforts to
help these families, the time to update Pennsylvania's outdated in-
testacy laws is now.

Illegitimate Medical Purpose: Resolving the Fundamental Flaw in Criminal Prosecutions Involving Physicians Charged with Overprescribing Prescription Opioids

*Jacob C. Hanley**

INTRODUCTION

On March 19, 2018, President Trump announced a new initiative to Stop Opioid Abuse and Reduce Drug Supply and Demand.[1] During his announcement, he explained that accomplishing this initiative would require cutting off the country's supply of illicit drugs by "prosecut[ing] corrupt or criminally negligent doctors."[2] Later, in a press conference on August 22, 2018, former United States Attorney General Jeff Sessions explained that the Department of Justice (DOJ) would enforce the Trump Administration's aggressive approach by prosecuting physicians who overprescribe prescription opioids.[3] In doing so, he likened overprescribing physicians to drug dealers and declared that the "Justice Department will use civil and criminal penalties alike, and . . . will find you, put you in jail, or make you pay."[4]

Due to this aggressive approach, over the past year, physicians who have exploited their position by purposely overprescribing prescription opioids to their patients for monetary gain have increasingly come within the DOJ's purview.[5] As a result, the DOJ's active role on the forefront of the epidemic has entailed, and will continue to entail, seeking out and prosecuting corrupt physicians. Still, the DOJ's role represents only one part of the Trump Administration's aggressive approach, which will undoubtedly result in positive and negative effects and which must be improved to ensure it achieves the Administration's desired outcome.

As such, the first section of this article examines both the background of the opioid epidemic and the Trump Administration's new

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1.   Press Release, U.S. Dep't of Justice, Justice Dep't Takes First-of-Its-Kind-Legal Action to Reduce Opioid Over-Prescription (Aug. 22, 2018), https://www.justice.gov/opa/pr/justice-department-takes-first-its-kind-legal-action-reduce-opioid-over-prescription (explaining that the Trump Administration's new approach entails both prosecuting corrupt physicians and barring corrupt physicians' ability to write prescriptions through temporary restraining orders).

2.   *President Donald J. Trump's Initiative to Stop Opioid Abuse and Reduce Drug Supply and Demand*, WHITE HOUSE (Mar. 19, 2018), https://www.whitehouse.gov/briefings-statements/president-donald-j-trumps-initiative-stop-opioid-abuse-reduce-drug-supply-demand/ [hereinafter *Trump's Initiative*].

3.   Katie Zezima, *Justice Department Fights Opioid Abuse on Dark Web and in Doctors' Offices*, WASH. POST (Aug. 22, 2018, 6:15 PM), https://www.washingtonpost.com/national/justice-department-fights-opioid-abuse-on-dark-web-and-in-doctors-offices/2018/08/22/9c46d374-a630-11e8-a656-943eefab5daf_story.html?utm_term=.64c046d5eeb6.

4.   *Id.*

5.   *See* Em Steck, *Attorney General Sessions Blames Corrupt Doctors for Opioid Crisis, Calls for Tighter Borders*, USA TODAY (May 3, 2018, 7:03 PM), https://www.usatoday.com/story/news/politics/2018/05/03/sessions-blames-corrupt-doctors-opioid-crisis/579232002/.

aggressive approach. Then, the second section of this article examines a few of the positive and negative effects associated with the Trump Administration's aggressive approach.

The third section of this article examines the Controlled Substances Act (CSA) and pays special attention to section 841 of the Act, which is used by prosecutors to criminally charge overprescribing physicians.[6] This section also examines the aggressive approach's fundamental flaw; namely, prosecutors are required to show the targeted physician distributed prescription drugs: (1) knowingly and intentionally; (2) *without a legitimate medical purpose*; and (3) outside the course of professional practice,[7] despite the fact that "without a legitimate medical purpose" is not defined by statute or by caselaw and is currently subject to varying meanings.[8] This section continues by discussing the discrepancy regarding the meaning of "legitimate medical purpose," and it explains that this discrepancy guarantees inconsistent application of section 841. The third section of this article concludes with the argument that an aggressive approach, which seeks to prosecute violators of section 841 more frequently, will result in the approach's negative effects outweighing its positive effects unless a guiding standard is adopted.

The fourth section of this article proposes a solution to this problem in the form of a Drug Enforcement Administration (DEA) enforced factor-based regulation specifically designed to supplement "legitimate medical purpose," which is frequently at the heart of the nuanced prosecution of overprescribing physicians. This proposed regulation's factors consist of an author-compiled list of indicators that a prescription was illegitimately prescribed, which are derived from cases involving prosecutions of physicians under section 841, for the purpose of defining when a controlled substance was prescribed for an "*illegitimate* medical purpose." This section concludes with the following assertion: enactment of the proposed regulation would assist: (1) medical professionals when determining

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6. *See generally* Controlled Substances Act, 21 U.S.C. §§ 801-904 (2012).

7. *See* 21 C.F.R. § 1306.04(a) (2019) ("A prescription for a controlled substance . . . must be issued for a legitimate medical purpose by an individual practitioner acting in the usual course of his professional practice."); *see also* United States v. Singh, 54 F.3d 1182, 1187 (4th Cir. 1995).

8. *See, e.g.*, Alyssa M. McClure, Note, *Illegitimate Overprescription: How* Burrage v. United States *Is Hindering Punishment of Physicians and Bolstering the Opioid Epidemic*, 93 Notre Dame L. Rev. 1747, 1756 (2018) (citing Jeffrey C. Grass, The Medicine Shoppe v. Loretta Lynch, et al.*: Pharmacists and Prescribing Physicians Are Equally Liable*, 28 Health Law. 28, 28-29 (2016)); Diane E. Hoffmann, *Treating Pain v. Reducing Drug Diversion and Abuse: Recalibrating the Balance in Our Drug Control Laws and Policies*, 1 St. Louis U. J. Health L. & Pol'y. 231, 274 (2008).

which prescribing practices to avoid; (2) prosecutors when deciding which physicians to prosecute; (3) courts when analyzing the standard with uniformity; and (4) jurors when applying the standard without medical expertise.

I. BACKGROUND

A. *The Opioid Epidemic*

An opioid is a prescription painkilling drug that reduces the intensity of pain signals that reach the brain.[9] Opioids were traditionally used to treat acute pain,[10] which is defined as sudden pain lasting less than six months usually due to serious injury.[11] However, beginning in the 1990s, opioids became increasingly popular for treating chronic pain,[12] which is defined as pain that lasts over six months.[13] Thus, the opportunity arose for pharmaceutical companies and pain care specialists to market opioids for those dual-purposes—and they took full advantage of it—through campaigns against undertreated pain and through reassurances to the medical community that pain relievers were not addictive.[14] As a result, healthcare practitioners began to prescribe opioids at higher rates and for longer periods, which led to widespread diversion and inevitable misuse.[15] Over time, opioids' addictive qualities began to demonstrate themselves, leading to our current understanding of their highly addictive qualities—unfortunately, too late.[16]

The consequences of opioid misuse have been devastating. From 1999 to 2017, more than 700,000 people have died as a result of opioid overdose, which includes more than 70,000 overdose deaths

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9. *Misuse of Prescription Drugs*, NAT'L INST. ON DRUG ABUSE, https://www.drugabuse.gov/publications/research-reports/misuse-prescription-drugs/which-classes-prescription-drugs-are-commonly-misused (last updated Dec. 2018).

10. *Id.*

11. *Acute vs. Chronic Pain*, CLEV. CLINIC, https://my.clevelandclinic.org/health/articles/12051-acute-vs-chronic-pain (last visited Aug. 16, 2019). Examples of acute pain include pain resulting from surgery or broken bones. *Id.*

12. *Misuse of Prescription Drugs*, *supra* note 9.

13. *Acute vs. Chronic Pain*, *supra* note 11. Examples of chronic pain include pain resulting from arthritis, cancer, and nerve pain. *Id.*

14. *Opioid Overdose Crisis*, NAT'L INST. ON DRUG ABUSE, https://www.drugabuse.gov/drugs-abuse/opioids/opioid-crisis#one (last updated Jan. 2019); *see also* Ronald T. Libby, *Treating Doctors as Drug Dealers: The DEA's War on Prescription Painkillers,* 545 POL'Y ANALYSIS 1, 1 (2005).

15. *See Opioid Overdose Crisis*, *supra* note 14.

16. *Id.* (explaining that between 8 to 12% of opioid users develop a dependency and roughly 21 to 29% of patients prescribed opioids for chronic pain misuse them).

in 2017 alone.[17] These numbers continue to rise; the total number of opioid overdoses in 2017 was six times higher than the total in 1999.[18] At today's current rate of more than 130 opioid-related deaths daily, overdose deaths are on track to total nearly 800,000 by 2020.[19]

As a result, legally prescribed drugs, rather than illegal drugs, are now being considered the predominate "gateway drug," as statistics demonstrate that nearly 80% of heroin users misused legal prescription opioids prior to using heroin.[20] Thus, the toughest pill to swallow is that the opioid epidemic "is often not beginning on street corners; it is starting in doctor's offices and hospitals in every state in our nation."[21] This has meant that the current drug dealer has a low incentive to involve himself in the trade of street-level drugs such as heroin or fentanyl, which yield low returns, because an alternative is distributing legally-prescribed opioids from corrupt physicians, which yield absurdly high returns.[22]

B.   *The Trump Administration's Aggressive Approach as a Solution to the Opioid Epidemic*

Lack of effort does not explain the absence of a solution to this epidemic. Response efforts were in place long before President Trump implemented his new approach to curb opioid abuse. These prior efforts included "patient and prescriber surveillance, reduced

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17. *Understanding the Epidemic*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/drugoverdose/epidemic/index.html (last updated Dec. 19, 2018).

18. *Id.*

19. Lawrence O. Gostin et al., *Reframing the Opioid Epidemic as a National Emergency*, 318 [J]AMA 1539, 1539 (2017); *Understanding the Epidemic*, *supra* note 17. This number is consistently increasing. At the beginning of this research, in September of 2018, this number totaled 118 opioid-related deaths daily.

20. *National Opioids Crisis*, U.S. DEP'T HEALTH & HUM. SERVS., https://www.hhs.gov/opioids/ (last visited Aug. 17, 2019).

21. PRESIDENT'S COMMISSION ON COMBATTING DRUG ADDICTION AND THE OPIOID CRISIS app. 3 at 115 (2017), https://www.whitehouse.gov/sites/whitehouse.gov/files/images/Final_Report_Draft_11-15-2017.pdf (explaining that there has not been an overall increase in pain complained of by Americans, yet, the amount of opioids prescribed by physicians has quadrupled).

22. For example, when prescribed legally by a physician, an 80-milligram tablet of the well-known prescription opioid OxyContin costs $6. *Oxycontin/Oxycodone*, CONN. CLEARINGHOUSE, https://www.ctclearinghouse.org/topics/oxycontin-oxycodone/ (last visited Jan. 26, 2019). At the same dosage, OxyContin's street (illegal) value is $80 per tablet. *Id.* However, the financial returns are not drug dealers' only incentive. Prescription opioids are as addictive as their street-level counterparts, which means that drug dealers can develop repeat business with either drug. *Chicken vs. Egg: Which Came First, Heroin or OxyContin Addiction?*, DRUGABUSE.COM, https://drugabuse.com/chicken-vs-egg-what-came-first-the-heroin-or-oxycontin-addiction/ (last visited Aug. 16, 2019).

medical prescribing, and counseling and treatment for persons at risk or already addicted."[23] The Trump Administration amplified and expanded upon prior efforts to combat the epidemic, which is demonstrated by President Trump's declaration of a state of public health emergency.[24] The gravitas of this new approach is best demonstrated when considering that prior public health emergencies were declared in response to widespread infectious diseases such as West Nile virus, H1N1 influenza, Ebola virus, and Zika virus.[25]

In declaring a national emergency, President Trump authorized public health powers, mobilized resources, and facilitated innovative strategies to curb a rapidly escalating public health crisis.[26] Then, on March 19, 2018, the White House Press Secretary released *President Donald J. Trump's Initiative to Stop Opioid Abuse and Reduce Drug Supply and Demand* to the public, which highlighted three steps necessary to end the opioid epidemic.[27] At the center of this initiative was President Trump's plan to use his newfound public health emergency powers to achieve each of the three steps. These three steps include: (1) reducing drug demand through education and preventing over prescription; (2) cutting off the flow of illicit drugs across United States' borders and within communities; and (3) saving lives by expanding opportunities for proven treatments for opioid and other drug addictions.[28] Below, each of these three steps will be examined further.

1.   Step One

The first step in the Trump Administration's approach to curb the opioid epidemic entails educating both patients and medical professionals on the addictive qualities of opioids and the likely effects which result from addiction. To accomplish this step, first, the Administration intends to launch national campaigns to build awareness in patients and to support research and development in

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23.   Gostin et al., *supra* note 19, at 1359.

24.   Maya Salam, *The Opioid Epidemic: A Crisis Years in the Making*, N.Y. TIMES (Oct. 26, 2017), https://www.nytimes.com/2017/10/26/us/opioid-crisis-public-health-emergency.html.

25.   Gostin et al., *supra* note 19, 1359 (explaining that public health emergencies are typically the starting point for more large-scale action, such as declaring a national emergency).

26.   *Id.*

27.   *Trump's Initiative*, *supra* note 2.

28.   *Id.* The premise behind Trump's aggressive approach, i.e., curbing the opioid problem, has generally been met with approval; *see, e.g.*, Alex Azar, *Trump Administration Making Progress in Fight Against Opioid Epidemic: HHS Secretary*, USA TODAY (Sept. 19, 2018, 6:00 AM), https://www.usatoday.com/story/opinion/2018/09/19/donald-trump-opioid-crisis-epidemic-addiction-nalaxone-heroine-column/1347574002/.

opioid-alternative treatment methods, which includes a vaccine to prevent opioid addiction.[29] Second, the Administration seeks to prevent over prescription by educating medical professionals through a "safer prescribing plan" with the aim of cutting nationwide opioid prescription fills by one-third by 2021.[30]

2.   Step Two

The second step in the Trump Administration's approach has four different parts, all of which are designed to curb the opioid epidemic by cutting off the flow of illicit drugs. Part one aims to keep illegal drugs, including opioids, heroin, and the like, out of the country by strengthening the country's borders and by inspecting and identifying suspicious, international packages containing illicit drugs.[31] Part two expands the DOJ's reach by creating the Prescription Interdiction and Litigation Task Force.[32] Creation of this taskforce instills the DOJ with funds to assign twelve Assistant United States Attorneys, for a three-year term, to focus solely on investigating and prosecuting health care fraud related to prescription opioids, including "pill mill schemes" and unlawful diversion of prescription opioids by physicians, pharmacies, and opioid manufacturers.[33] Part three further expands the DOJ's reach by creating the Joint Criminal Opioid Darknet Enforcement Team.[34] Creation

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29.   *Trump's Initiative*, *supra* note 2. The Trump Administration has requested 13 billion dollars in funding to develop this vaccine. Rick Morgan, *Trump's New Opioid Battle Plan Supports Search for an Addiction Vaccine*, CNBC (Mar. 19, 2018, 2:39 PM), https://www.cnbc.com/2018/03/19/trumps-new-opioid-plan-supports-addiction-vaccine.html. While still in the early stage of its research and development, clinical trials demonstrate that the vaccine works by curbing the addictive qualities of opioids. *Id.* Though these trials suggest it is only effective as a short-term remedy, when coupled with currently existing opioid treatment methods it could play a promising role in the fight to curb opioid addiction. *Id.*

30.   *Trump's Initiative*, *supra* note 2.

31.   *Id.*

32.   *Id.*

33.   Press Release, U.S. Dep't of Justice, Attorney General Sessions Announces Opioid Fraud and Abuse Detection Unit (Aug. 2, 2017), https://www.justice.gov/opa/pr/attorney-general-sessions-announces-opioid-fraud-and-abuse-detection-unit.   The Opioid Fraud and Abuse Detection Unit existed prior to the implementation of the Trump Administration's new approach; this new approach formalized the unit and expanded its funding. *See id.* The term "pill mill" is commonly used to describe an opioid pain treatment center that churns out inordinately high amounts of pain medication for illegitimate purposes. Jeffrey A. Singer, *Drug Prohibition and Third-Party Payers Created the "Pill Mills"*, CATO INST. (Aug. 20, 2018), https://www.cato.org/publications/commentary/drug-prohibition-third-party-payers-created-pill-mills.

34.   *Trump's Initiative*, *supra* note 2. The darknet "is a hidden portion of the internet that can only be accessed using special software." Saheli Roy Choudhury & Arjun Kharpal, *The 'Deep Web' May Be 500 Times Bigger Than the Normal Web. Its Uses Go Well Beyond Buying Drugs*, CNBC (Sept. 6, 2018, 1:53 AM), https://www.cnbc.com/2018/09/06/beyond-the-valley-understanding-the-mysteries-of-the-dark-web.html.   Darknet users are anonymous

of this Team merges the Federal Bureau of Investigation's and DOJ's efforts in investigating and prosecuting illegal and anonymous online opioid sales.[35] Part four calls for the DOJ to impose higher opioid trafficking penalties and to seek the death penalty for drug traffickers.[36]

3.   Step Three

The third step in the Trump Administration's approach to curb the opioid epidemic entails immediately aiding those struggling with addiction and stopping reoccurring addiction. To accomplish this step, first, the Administration has called for increased access to naloxone, a lifesaving medication used to reverse overdoses, to first responders so that opioid overdose deaths are reduced.[37] Second, the Administration has called for legislative changes to laws which prohibit Medicaid reimbursement to addiction treatment centers that service more than sixteen patients, increased access to addiction treatment in hard-hit areas for addicts and veterans, and scaled up support for State, Tribal, and local drug courts.[38]

II.   EFFECTS OF THE TRUMP ADMINISTRATION'S AGGRESSIVE APPROACH

This section analyzes the positive and negative effects of the Trump Administration's aggressive approach. Specifically, it analyzes the effects that stem from step two, part two of the aggressive approach—increased prosecution of overprescribing physicians.

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and are therefore able to bypass typical internet censorship, making the darknet the perfect avenue for sales of illegal drugs and contraband. *Id.*

35.   *See* Press Release, U.S. Dep't of Justice, Attorney General Sessions Announces New Tool to Fight Online Drug Trafficking (Jan. 29, 2018), https://www.justice.gov/opa/pr/attorney-general-sessions-announces-new-tool-fight-online-drug-trafficking.

36.   *Trump's Initiative*, *supra* note 2.

37.   *Id.*

38.   *Id.* "Drug courts are specialized court docket programs that target criminal defendants and offenders, juvenile offenders, and parents with pending child welfare cases who have alcohol and other drug dependency problems." *Overview of Drug Courts*, NAT'L INST. JUSTICE (May 14, 2012), https://www.nij.gov/topics/courts/drug-courts/pages/welcome.aspx.

A. *Positive Effects*

> "The majority of people who abuse, misuse, or overdose on pre-
> scription opioids are not the patients for whom they are pre-
> scribed."[39]

The Trump Administration seeks to cut off the illicit supply of opioids being diverted to the streets by prosecuting corrupt physicians. The goal is obvious: fewer drugs prescribed illegitimately means fewer drugs on the streets, thereby presenting fewer opportunities for abuse and overdose. Two examples of DOJ prosecutions, the first a criminal action and the second a civil action, demonstrate how this approach stops drug diversion permanently and swiftly.

On June 28, 2018, the DOJ charged 601 individuals in the largest ever health-care fraud action.[40] The action included seventy-six physicians charged with illegally prescribing and distributing opioids, resulted in eighty-four opioid-related cases, and involved thirteen million illegal doses of opioids.[41] Thus, the DOJ stopped physicians from prescribing massive quantities of opioids that could have proven deadly by prosecuting these *bona fide* drug dealers through criminal action.

On August 22, 2018, former Attorney General Jeff Sessions announced a new strategy to stop overprescribing physicians in the form of civil injunctions, which are designed to immediately block physicians' rights to prescribe medicine.[42] This strategy was implemented against two Ohio physicians, described in court by the prosecuting United States Attorneys as "automatic prescription machines to anyone who solicited."[43] One of the physicians was found to be corrupt after he wrote a confidential informant, whom he had just met for the first time, a prescription for twenty pain pills.[44] The

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39. Kelly K. Dineen, *Addressing Prescription Opioid Abuse Concerns in Context: Synchronizing Policy Solutions to Multiple Complex Public Health Problems*, 40 L. & PSYCHOL. REV. 1, 10 (2016) (emphasis added).

40. Press Release, U.S. Dep't of Justice, Nat'l Health Care Fraud Takedown Results in Charges Against 601 Individuals Responsible for over $2 Billion in Fraud Losses (June 28, 2018), https://www.justice.gov/opa/pr/national-health-care-fraud-takedown-results-charges-against-601-individuals-responsible-over.

41. *Id.* This example serves to demonstrate the influence just a few physicians can have on the illicit drug supply. Here, only 76 physicians were able to divert 13 million doses of illegally prescribed opioids.

42. *See* Mark Gillispie, *AG Jeff Sessions Addresses US Opioid Epidemic in Cleveland*, U.S. NEWS & WORLD REP. (Aug. 22, 2018, 3:47 PM), https://www.usnews.com/news/best-states/ohio/articles/2018-08-22/ag-jeff-sessions-addresses-us-opioid-epidemic-in-cleveland.

43. Zezima, *supra* note 3.

44. *Id.*

physician described that amount as one that would not raise red flags.[45] The second physician was found to be corrupt after he prescribed an undercover agent powerful drugs following a cursory medical examination, a trademark sign a physician is corrupt.[46] These civil injunctions served as temporary restraining orders against these physicians and are becoming the new norm under the Trump Administration.[47] In cases such as these, civil injunctions immediately stop illicit opioid diversion by revoking the physician's license and by blocking the physician's ability to write prescriptions until criminal charges are brought.[48]

B.   Negative Effects

"[P]rescription drugs and/or controlled substances, when prescribed for a legitimate medical purpose and in the course of ordinary patient care, do effectively manage and treat severe pain, which improves the quality of life for many patients."[49]

Negative effects are likely to follow in a hostile environment where physicians are being carefully watched and where prosecutions for improper prescription practices are rising.[50] In fact, physician prosecutions have already resulted in three negative trends: the first pertaining to reduced legitimate prescriptions by physicians, the second pertaining to reduced treatment of patient pain, and the third pertaining to reduced trust in the physician-patient relationship. For reasons explained below, these trends will inevitably surge under the Trump Administration's more aggressive approach.

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45. *Id.*

46. *Id.*; *see, e.g.*, United States v. Merrill, 513 F.3d 1293, 1297-98 (11th Cir. 2008) (finding a physician to be corrupt after he routinely prescribed opioids based on cursory examinations because he: (1) performed no or very minimal physical examinations, (2) failed to obtain old or prior medical records from his patients, and (3) failed to run diagnostic tests).

47. Press Release, U.S. Dep't of Justice, Att'y Gen. Sessions Makes Multiple Major Announcements as the Justice Dep't Continues to Combat the Opioid Crisis (Aug. 22, 2018), https://www.justice.gov/opa/speech/attorney-general-sessions-makes-multiple-major-announcements-justice-department-continues.

48. *Id.* (explaining that once such a civil injunction is enforced, the targeted physician immediately loses the ability to prescribe opioids even before formal criminal prosecution commences).

49. Danielle M. Nunziato, Note, *Preventing Prescription Drug Overdose in the Twenty-First Century: Is the Controlled Substances Act Enough?*, 38 HOFSTRA L. REV. 1261, 1270 (2010) (emphasis added).

50. The Trump Administration would likely argue that such aggressive prosecutions are justified and typically successful because, as history has shown, they "generally involve facts where the physician's conduct is not merely of questionable legality, but instead is a glaring example of illegal activity." Dispensing Controlled Substances for the Treatment of Pain, 71 Fed. Reg. 52716, 52717 (Sept. 6, 2006).

Within the last few years, guidelines for prescribing opioids for chronic pain have been published and "physicians have been advised to severely restrict the use of opioids for pain control."[51] Physicians who disregard this advice and overprescribe are subject to an increased risk of "investigation, license revocation, sanctions, jail time, and a shattered reputation in the medical community."[52] It is not hard to imagine that this potential liability could correlate to risk-adverse prescription practices.[53] For example, physicians are currently refusing to prescribe opioids to patients with acute pain and refusing to even see patients with chronic pain altogether.[54] Such risk-adverse practices are a problem, as the harm caused by untreated pain can outweigh the risks associated with potential abuse.[55]

Patients increasingly complain of untreated pain, which generally correlates to a lower quality of life, and specifically correlates to higher levels of depression and suicide.[56] Greater scrutiny on

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51. Mark A. Rothstein, *Ethical Responsibilities of Physicians in the Opioid Crisis*, 45 J.L. MED. & ETHICS 682, 684 (2017). Advisement came from the Centers for Disease Control and Prevention (CDC), which is one of the key operating components of the Department of Health and Human Services. *CDC Organization*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/about/organization/cio.htm (last updated Aug. 2, 2019). The CDC's main purpose is decreasing health, safety, and security threats in the United States, which it accomplishes by conducting research and providing health-related information to medical professionals. *Id.*

52. Ashley Bruce Trehan, Note, *Fear of Prescribing: How the DEA Is Infringing on Patients' Right to Palliative Care*, 61 U. MIAMI L. REV. 961, 981 (2007).

53. *See* McClure, *supra* note 8, at 1752. "[L]egal and academic professions have been reluctant to advocate criminal liability for physicians for improper prescribing, 'fearing that such liability would create a chilling effect: physicians would refrain from properly treating patients who legitimately needed certain prescription medications out of fear of criminal sanctions.'" *Id.* (quoting Michael C. Barnes & Stacy L. Sklaver, *Active Verification and Vigilance: A Method to Avoid Civil and Criminal Liability When Prescribing Controlled Substances*, 15 DEPAUL J. HEALTH CARE L. 93, 95 (2013)).

54. Anita Harper Poe, *Prescription Drug Abuse: What Does America's Painkiller Abuse Epidemic Mean for Attorneys—And What Can Be Done?*, MONT. LAW., Oct. 2016, at 26, 28. This failure by physicians to prescribe opioids for acute pain is contrary to the original motive behind opioid-based pain relief therapy.

55. *FDA Drug Safety Communication: FDA Urges Caution About Withholding Opioid Addiction Medications from Patients Taking Benzodiazepines or CNS Depressants: Careful Medication Management Can Reduce Risks*, U.S. FOOD & DRUG ADMIN., https://www.fda.gov/Drugs/DrugSafety/ucm575307.htm (last updated Sept. 26, 2017) (explaining situations in which failing to treat patients and leaving them to fend for themselves will lead to severe outcomes). In fact, a nationwide survey by Fox News found that 34% of physicians believe prescription painkiller reduction hurts patients. *Happening Now: Are Doctors Harming Patients by Cutting Back on Prescription Painkillers?*, FOX NEWS (Jan. 6, 2017), https://www.foxnews.com/health/happening-now-are-doctors-harming-patients-by-cutting-back-on-prescription-painkillers.

56. *Addiction and Suicide*, ADDICTION CTR., https://www.addictioncenter.com/addiction/addiction-and-suicide/ (last updated July 10, 2019) (explaining the "very close and interconnected relationship" between addiction, depression, and suicide, including the fact that "[m]ore than 90% of people who fall victim to suicide suffer from depression, have a substance abuse disorder, or both").

opioid prescription practices has meant chronic pain sufferers, such as cancer patients,[57] have been either tapered off or cut off entirely from their typical pain pill dosage.[58]

The issuance of fewer prescriptions and higher rates of untreated pain have resulted in a layer of distrust befalling the physician-patient relationship and have caused the "relationship" to become adversarial.[59] Some patients now perceive that their physicians believe they are "drug seeking."[60] For example, a patient who began receiving pain treatment to control chronic arthritis explained her experience: "[y]ou go in to fill your prescription and you're treated like a second-class citizen . . . like you're a drug addict."[61] The problem with this trend is that trust is essential to the clinical relationship and therefore essential to successful patient rehabilitation.[62] Absent this trust, patients will begin to feel "pushed to the side" and will be more likely to turn to alternative street drugs such as heroin to cure the unrelenting pain.[63] Yet, one mistake by a physician is enough to trigger an investigation into the physician's prescribing

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57. *See* Sarah Vander Schaaf, *Amid the Opioid Crisis, Some Seriously Ill People Risk Losing Drugs They Depend on*, WASH. POST (July 14, 2018, 8:00 AM), https://www.washingtonpost.com/national/health-science/amid-the-opioid-crisis-some-seriously-ill-people-risk-losing-drugs-they-depend-on/2018/07/13/65850640-730d-11e8-805c-4b67019fcfe4_story .html?noredirect=on&utm_term=.7f62967d8048. For example, prior to the implementation of this aggressive approach, Julie Anne Feinstein (Feinstein), a seventy-five-year-old cancer survivor patient, had been prescribed opioids for seven years to treat the chronic pain that plagued her. *Id.* However, this all changed after the approach's implementation, as her primary-care physician notified her that, because of the risk involved, he could no longer prescribe her opioids for her chronic pain. *Id.* According to Feinstein, what followed were "six months 'of hell' — pain, worry and several rejections"—before she found a pain specialist who would accept her as a patient. *Id.*

58. *See* Brianna Ehley, *How the Opioid Crackdown Is Backfiring*, POLITICO (Aug. 28, 2018, 5:06 AM), https://www.politico.com/story/2018/08/28/how-the-opioid-crackdown-is-backfiring-752183. Take, for example, the following experience of former law enforcement officer, Jon Fowlkes (Fowlkes). Fowlkes endured excruciating back pain following a motorcycle crash nearly twenty years ago. *Id.* He was consistently prescribed opioids twice-a-day to tolerate the pain. *Id.* However, years of twice-a-day pain medication were abruptly halted by Fowlkes's physician due to increased prescription regulation and scrutiny by the DOJ. *Id.* Without his pain medicine, relentless pain led Fowlkes to begin having suicidal thoughts, which went as far as a conversation with his wife about the gun he would use to end his life. *Id.*

59. *See* Daniel Z. Buchman et al., *You Present Like a Drug Addict: Patient and Clinician Perspectives on Trust and Trustworthiness in Chronic Pain Management*, 17 PAIN MED. 1394, 1403 (2016).

60. Ehley, *supra* note 58.

61. *Id.*

62. Buchman et al., *supra* note 59, at 1403.

63. Ehley, *supra* note 58; Sarah Karlin-Smith & Brianna Ehley, *5 Unintended Consequences of Addressing the Opioid Crisis*, POLITICO (May 8, 2018, 5:07 AM), https://www.politico.com/story/2018/05/08/opioid-epidemic-consequences-502619 (cautioning that as many as ten million individuals suffering from chronic pain are likely to be affected and potentially dropped by their physicians because of the added scrutiny on opioid prescription).

practices, which "alone can be devastating. [And,] a finding of liability can trigger a cascade of consequences that make it impossible to practice medicine."[64] Consequently, physicians have found themselves in as close to a "lose-lose" scenario as one can find.[65]

III.   THE CONTROLLED SUBSTANCES ACT

The CSA was crafted in response to a growing drug problem, which originated in the 1970s, and was designed to place restrictions on the use and distribution of prescription opioids and narcotics.[66] This section begins with a brief discussion of the CSA's background. It proceeds with an analysis of the CSA's fundamental flaw: it is ineffective when used by prosecutors as a tool to restrict the illicit distribution of opioids in the context of overprescribing physicians.

A.   Background

To enforce the CSA, Congress created the DEA, a federal law enforcement agency under the DOJ, to investigate and prepare the prosecution of CSA violators.[67] The DEA has carried out the CSA's restrictions by tracking all individuals and entities that distribute prescription opioids and by placing prescription drugs, referred to by the CSA as "controlled substances," into one of five schedules based on their medical utility, potential for abuse, potential for

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64.   Kelly K. Dineen & James M. DuBois, *Between a Rock and a Hard Place: Can Physicians Prescribe Opioids to Treat Pain Adequately While Avoiding Legal Sanction?*, 42 AM. J.L. & MED. 7, 22 (2016). The implications such a prosecution can have on a physician's life are best embodied by events following a 2017 trial involving Dr. Charles Szyman (Szyman). Szyman, a Wisconsin pain management physician, was indicted on nineteen counts of overprescribing opioid medication. Alisa M. Schafer, *Dr. Charles Szyman Trial: Jury Finds Ex-Manitowoc Doctor Not Guilty of Drug Trafficking*, HERALD TIMES REP. (Nov. 17, 2017, 4:53 PM), https://www.htrnews.com/story/news/2017/11/17/dr-charles-szyman-trial-jury-finds-ex-manitowoc-doctor-not-guilty-drug-trafficking-overdose-deaths/872710001/ [hereinafter *Szyman Trial*]. The jury in this case was tasked with determining whether Szyman's high-dose opioid prescriptions were written for a "legitimate medical purpose," even if signs indicated his patients were addicted to, abusing, and diverting the opioids. *Id.* Following a five-day trial, the jury found that Szyman had prescribed the opioids for a "legitimate medical purpose" and acquitted him of the charges. *Id.* Tragically, Szyman passed away one year after his acquittal. Alisa M. Schafer, *Former Manitowoc Doctor Charles Szyman Dies at 66*, HERALD TIMES REP. (Feb. 21, 2018, 11:47 AM), https://www.htrnews.com/story/news/2018/02/21/dr-charles-szyman-dies-ex-manitowoc-doctor-accused-over-prescribing-pain-meds/359201002/. His obituary indicated that "in lieu of flowers, memorials would be appreciated to the American Foundation for Suicide Prevention." *Id.*

65.   *See generally Szyman Trial*, *supra* note 64.

66.   Nathan Guevremont et al., *Physician Autonomy and the Opioid Crisis*, 46 J.L. MED. & ETHICS 203, 206 (2018) (describing the CSA's historical background).

67.   *DEA Mission Statement*, U.S. DRUG ENFORCEMENT ADMIN., https://www.dea.gov/mission (last visited Jan. 29, 2019).

physical or psychological dependence, and probability for safe use under medical supervision.[68]   The prescription drugs contained within each schedule are categorized by the DEA, ranging from substances which have highly addictive qualities and thus require high levels of control, to substances that have lesser addictive qualities and thus require lesser levels of control.[69]

The CSA also imposes additional requirements on the prescribing of controlled substances, including: (1) medical practitioners must register with the DEA prior to prescribing any controlled substances;[70] and (2) controlled substances may only be prescribed by registered medical practitioners "for a legitimate medical purpose . . . in the usual course of [their] professional practice."[71]   Failure to adhere to the CSA's requirements is a federal crime.[72]   As a result, prescribing practices which violate the CSA demonstrate the violator was "acting as a drug 'pusher'" rather than as a physician.[73]   However, such a determination—whether a physician prescribed a controlled substance for a "legitimate medical purpose"—has proven to be an elusive concept for physicians, prosecutors, and courts to grasp.

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68.   *See* CSA, 21 U.S.C. § 827(a) (2012); *see also id.* § 812(b).

69.   *See id.* § 812(b). For example, Schedule I drugs, such as heroin or ecstasy, are considered to have a "high potential for abuse[,]" are not considered to have any medical use, and are thus not to be prescribed. *Controlled Substance Schedules*, U.S. DEP'T JUSTICE, https://www.deadiversion.usdoj.gov/schedules/ (last visited Jan. 24, 2019).   In contrast, Schedule V drugs, such as low dose Robitussin or codeine, are freely prescribed as they have many "accepted medical use[s]" and a low potential for abuse. *Id.* The DEA makes scheduling decisions based upon the advice and recommendations of the Department of Health and Human Services, Food and Drug Administration, and National Institute on Drug Abuse. BRIAN T. YEH, CONG. RESEARCH SERV., RL34635, THE CONTROLLED SUBSTANCES ACT: REGULATORY REQUIREMENTS 1-2 (2012).

70.   21 U.S.C. § 822(a)(2) (explaining that every person who "proposes to dispense" a controlled substance is required to register with the United States Attorney General); 21 C.F.R. § 1301.11(a) (2019) ("Every person who manufactures, distributes, dispenses, imports, or exports any controlled substance or who proposes to [do so] shall obtain a registration . . . .") "Practitioners may register [to prescribe] any or all schedules except Schedule I." Douglas J. Behr, *Prescription Drug Control Under the Federal Controlled Substances Act: A Web of Administrative, Civil, and Criminal Law Controls*, 45 WASH. U. J. URB. & CONTEMP. L. 41, 54 (1994).

71.   21 C.F.R. § 1306.04(a).

72.   21 U.S.C. § 841(a)(1) (stating that it is a federal crime for any non-registered individual to "knowingly or intentionally . . . manufacture, distribute, or dispense, or possess with intent to manufacture, distribute, or dispense, a controlled substance"); *see also* United States v. Moore, 423 U.S. 122, 124 (1975) (interpreting the CSA and holding that physicians are subject to criminal liability "when their activities fall outside the usual course of professional practice"). Actions in violation of the CSA subject medical practitioners to potential "suspension and/or revocation of Drug Enforcement Administration (DEA) licenses, significant monetary fines, and probationary periods." Sigrid Fry-Revere & Elizabeth K. Do, *A Chronic Problem: Pain Management of Non-Cancer Pain in America*, 16 J. HEALTH CARE L. & POL'Y 193, 201 (2013).

73.   *Moore*, 423 U.S. at 138.

B.   Fundamental Flaw

To bring a criminal action against an overprescribing physician, a prosecutor must demonstrate that: (1) the physician knowingly and intentionally furnished a prescription for a controlled substance; (2) the physician's behavior served no "legitimate medical purpose;" and (3) the physician acted outside of "the usual course of medical practice."[74] However, the standard found in factor two, "legitimate medical purpose," is not defined by the CSA, meaning it is often at issue in the prosecution of overprescribing physicians.

The lack of a definition for such a standard is largely based upon a deep-rooted conflict that focuses on the need for balance between two adversarial parties: law enforcement and medical professionals.[75] "Efforts by prosecutors and regulators to determine what is a 'legitimate medical purpose' [have been repeatedly characterized as attempts] to define the standard of acceptable care by medical professionals and invade physicians' exclusive turf[,] [thereby] seriously [threatening physicians'] professional integrity."[76] For that precise reason, Congress chose not to delegate authority to create, and thereby define, physicians' federal standards of care to the Attorney General or DEA, but left it to the states to create such standards.[77] Consequently, the United States Supreme Court has interpreted the CSA's statutory scheme as prohibiting any federal attempt to define "legitimate medical purpose."[78] Instead, the courts analyze issues concerning the standard on a case-by-case basis and rely on state-specific medical licensing standards.[79]

Take, for example, a recent analysis of the issue by the United States Court of Appeals for the First Circuit, which considered

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74.   *See* United States v. Singh, 54 F.3d 1182, 1187 (4th Cir. 1995) (quoting United States v. Tran Trong Cuong, 18 F.3d 1132, 1141 (4th Cir. 1994)).

75.   This conflict stems from the contrasting goals of law enforcement and physicians. *See* Hoffmann, *supra* note 8, at 257. Law enforcement officers aim to improve public safety by holding corrupt physicians accountable, while medical professionals aim to improve patient health by prescribing treatment based upon their expertise. *Id.*

76.   *Id.*

77.   *See* 21 U.S.C. § 903 (indicating that state law shall regulate in areas that Congress has not explicitly sought to occupy, such as medical licensing standards). Each state's medical licensing board sets its own licensing standards, which define professional standards of care. *Frequently Asked Questions on Ethics*, AM. MED. ASS'N, https://www.ama-assn.org/about/publications-newsletters/frequently-asked-questions-ethics (last visited Aug. 17, 2019). These standards vary from state to state. *Id.*

78.   *See* Gonzales v. Oregon, 546 U.S. 243, 270-72 (2006) (explaining that while Congress could create, and thereby define, federal mandatory standards of care for physicians, section 903 of the CSA indicates that it has chosen to leave such standards to the states).

79.   *See, e.g.*, United States v. Sabean, 885 F.3d 27, 46 (1st Cir. 2018) (citing *Singh*, 54 F.3d at 1187; United States v. August, 984 F.2d 705, 713 (6th Cir. 1992)).

whether a physician acted without a "legitimate medical purpose," and, therefore, outside of the usual course of professional conduct:

> [t]here is no pat formula describing what proof is required to ground a finding that a defendant acted outside the usual course of professional practice. . . . Rather, inquiring courts must approach the issue on a case-by-case basis. . . . In conducting this tamisage, testimony from a medical or pharmacological expert may be helpful — but such expert testimony is not a sine qua non to a finding of guilt. . . . [In drawing their conclusions, jurors] may draw on their everyday experiences, and they can be expected to have some familiarity with how doctors care for patients.[80]

The court's analysis, and the idea of presenting this issue to the jury without a clear guiding standard that defines an action that is not done for a "legitimate medical purpose," is flawed for two reasons.

First, members of the jury, who possess no medical expertise, cannot be *expected* to make judgements on the legitimacy of complex medical practice without a supplementary expert testimony requirement.[81] Second, issues of quality physician care cannot realistically be litigated with uniformity when physician care procedures vary so dramatically between physicians' offices. Such variances in care procedures inevitably leads to varying opinions in the minds of patients, and in turn, jurors, as to the appearance of quality physician care. For example, a physician from a small-town doing business out of a small-volume office may be intimately familiar with the patients that physician sees, whereas a physician from a large city doing business out of a booming practice may not be acquainted, personally, with each patient. The level at which physician and patient are acquainted will likely affect the physician's understanding of the patient's condition, in turn affecting the "checkup" procedures the physician performs, thereby affecting the patient's (and potential juror's) perception of "normal" medical procedure. With this in mind, consider the effect such a lack of uniformity may have on decisions rendered by ninety-four different

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80. *Sabean*, 885 F.3d at 46-47 (citing *Singh*, 54 F.3d at 1187; *August*, 984 F.2d at 713; United States v. Elder, 682 F.3d 1065, 1070 (8th Cir. 2012); United States v. Pellmann, 668 F.3d 918, 924 (7th Cir. 2012)).

81. The need for using expert testimony to describe prescribing practices typically taken for an illegitimate purpose would be alleviated in most cases if the solution suggested below was implemented, as the courts would have the trademark signs of such actions at their disposal and could use them to instruct juries.

federal district courts: will decisions rendered by a jury relating to the legitimacy of an opioid prescription following a cursory-like evaluation be analyzed in the same fashion by juries in the United States District Court for the District of Montana as they will be in the United States District Court for the Southern District of New York? Because of the probable differences in examination expectations between patients from Montana and New York, the lack of uniformity provides a likely source for inconsistent and misguided decisions and demands Congress to act by taking steps to ensure the creation of a guiding standard.

IV.   ILLEGITIMATE MEDICAL PURPOSE

Defining "legitimate medical purpose" risks setting a nationwide medical standard of care, which would intrude into the medical profession; hence, Congress has forgone such a task.[82] Congress, however, could vest authority to clearly define "*illegitimate* medical purpose" in an expert agency without causing the same effect. A concept such as "illegitimate medical purpose" would provide guidelines for: (1) physicians when prescribing opioids; (2) prosecutors when determining whether a physician's prescribing practices constitute a suspicious practice worthy of prosecution; and (3) courts when determining whether the physician's prescribing practices were conducted for a reason *other than* a "legitimate medical purpose." The DEA, as the agency designated by Congress to enforce and investigate large-scale drug crimes, has repeatedly deemed several activities to have been conducted for "illegitimate medical purposes." There are also multiple court decisions discussing such illegitimate prescribing practices, which the DEA and prosecutors consider to be "red flags."[83] Thus, because these "red flags" are traditionally determinative findings that a physician acted for an illegitimate purpose, these "red flags" justify and could provide the skeleton for such a regulation.

In 1978, the United States Court of Appeals for the Fifth Circuit in *United States v. Rosen* provided a list of eight indicators that demonstrated a physician prescribed a controlled substance for an

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82.   *See* Hoffmann, *supra* note 8, at 257 (noting that congressional invasion into the medical profession is a factor that "appears to prevent rational exploration of the issue and cooperative means of dealing with the problem").

83.   *See id.* at 278 (noting that commission of a "red flag" has been deemed by the DEA and prosecutors to be evidence of a physician's guilt because a reasonable physician would have known that such action serves no legitimate medical purpose); *see also infra* notes 85-86.

"illegitimate medical purpose."[84] Over time, these eight indicators have been consistently articulated by the courts as common "red flags" of illegitimate prescribing practices, and have been advanced by prosecutors as prima facie evidence of a physician's guilt.[85] These factors are not all-inclusive.[86] Instead, they, when presented together with recently reoccurring illegitimate acts by physicians, provide a uniform, yet flexible framework for determining whether an act was committed for an "illegitimate medical purpose."

To enforce such a framework, Congress should elect to define "illegitimate medical purpose" by vesting the DEA with authority to supplement section 841 through a supporting regulation. As the CSA's expert agency, the DEA focuses on investigating and preparing for the prosecution of violating physicians. Thus, its keen awareness of the factors that contribute to the decision to institute a physician prosecution would aid it in crafting this regulation. Such a regulation should rely on the precedent-derived "indicators"

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84.   582 F.2d 1032, 1035-36 (5th Cir. 1978).

85.   The eight indicators, which support the inference that a prescription was written for an illegitimate medical purpose, include:

1.   Prescribing excessively large amounts of opioids, *see* United States v. Joseph, 709 F.3d 1082, 1104 (11th Cir. 2013);

2.   Failure to perform a physical examination or diagnostic testing, or performing only minimal examination or diagnostic testing, on patients, *see* United States v. Merrill, 513 F.3d 1293, 1297-98 (11th Cir. 2008);

3.   Physician instructions that prescriptions should be filled at different pharmacies to avoid detection and ensure prescriptions were filled, *see* United States v. Hooker, 541 F.2d 300, 304 (1st Cir. 1976);

4.   Continuing to prescribe opioids to patients, despite the physician's understanding that the patients were redistributing the opioids prescribed to them, *see* United States v. Hurwitz, 459 F.3d 463, 474 (4th Cir. 2006);

5.   Prescriptions that are repeatedly refilled early for no legitimate reason, *see* United States v. Kohli, 847 F.3d 483, 490 (7th Cir. 2017);

6.   A physician's use of street slang to identify the opioids prescribed, *see Rosen*, 582 F.2d at 1036-37;

7.   Prescriptions that do not correspond, in typical medical practice, to the ailment being complained of by the patient, such as a long-term prescription for a minor ailment, *see* United States v. Tran Trong Cuong, 18 F.3d 1132, 1139 (4th Cir. 1994); and

8.Writing multiple prescriptions for overlapping treatment periods in order to "spread out" the prescriptions, *see* United States v. Armstrong, 550 F.3d 382, 390 (5th Cir. 2008).

86.   More recently, the DEA has consistently identified, and the courts have relied upon, other indicators that a prescription was written for an illegitimate medical purpose, including:

1.   Pre-signed prescriptions, *see* United States v. Evans, 892 F.3d 692, 718 (5th Cir. 2018);

2.   Unconventional methods of payment for prescriptions, *see* United States v. McIver, 470 F.3d 550, 553 (4th Cir. 2006) (cash exchanged for prescriptions); *Tran Trong Cuong*, 18 F.3d at 1134 (repair services exchanged for prescriptions); and

3.   Unusual physician office patterns, *see* United States v. Crittenden, 716 F. App'x 142, 145 (4th Cir. 2017) (excessively high patient volume for a relatively small office); United States v. Green, 818 F.3d 1258, 1276 (11th Cir. 2016) (patients traveling long distances to get to the physician's office).

of illegitimate prescribing by physicians and should address the following:

1. Whether the ailment complained of justified the amount of medication prescribed?

2. Whether a physical exam or diagnostic test was performed prior to prescription, and if so, how thorough was the exam or test performed?

3. Whether the physician instructed the patient to fill the prescription at different pharmacies?

4. Whether any signs indicated to the physician that the patient was addicted to or redistributing the medication prescribed?

5. Whether the physician repeatedly allowed the medication prescribed to be refilled early?

6. Whether the medication prescribed was reasonably related to the ailment complained of?

7. Whether multiple prescriptions were written following a single appointment?

8. Whether the prescriptions were filled out by the physician prior to the appointment?

9. Whether the physician accepted unconventional payment methods?

10. Whether the physician's office displayed conditions uncharacteristic to such an office given the office's size, amount of employees, and location?

Such a regulation would serve multiple purposes. First, the framework itself would educate physicians as to which prescribing practices to avoid due to the risk of investigation and prosecution. Second, the framework would aid prosecutors in making a precise determination as to which physicians to pursue and prosecute. Third, the framework would provide the courts with set standards such that they can analyze cases involving section 841 with uniformity, regardless of the varying facts and circumstances. Fourth, the framework would allow jurors to make a determination as to the validity of a physician's prescribing practices without medical

expertise. By serving these purposes, the regulation would also allow the Trump Administration to accomplish its aggressive approach toward cutting off the illicit supply of opioids in an efficient manner that maintains respect for physicians' expertise.

CONCLUSION

To combat our country's growing drug problem, President Trump is enforcing a new and aggressive approach to decrease the amount of illegal opioids diverted to the streets, which entails DOJ prosecutions of physicians who criminally overprescribe prescription opioids. Such a tactic has drawn comparisons to, and increasingly resembles, prosecutions of street-drug dealers. As a result, this has led to greater scrutiny on, and increased prosecutions for, physicians' prescribing practices. While any newly implemented approach will undoubtedly be accompanied by positive and negative effects, as it stands, the negative effects of Trump's aggressive approach will likely outweigh the positive effects because "legitimate medical purpose," as used in the CSA, is undefined by regulation or precedent and is thus subject to different interpretations amongst physicians, prosecutors, and courts. Lack of guidance guarantees inconsistent results in physician prosecutions because jurors, who possess little to no medical expertise, are placed in the impossible position of having to determine the validity of a medical professional's prescribing practices. As such, it is imperative that Congress act, by vesting the DEA with authority to promulgate a regulation necessary to clarify prescribing practices that are traditionally conducted for an "illegitimate medical purpose." Such a regulation would serve to educate physicians, prosecutors, and courts and could also provide guidance for jurors, thereby allowing for greater precision in determining which prosecutions of overprescribing physicians have merit. Ultimately, this regulation would allow the Trump Administration to strike a middle ground by both achieving its desired outcome of cracking down on corrupt physicians while ensuring physicians are safe from misguided prosecution.