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An Antidote for Patients: Combatting the Discriminatory Effects of Artificial Intelligence in Healthcare

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AN ANTIDOTE FOR PATIENTS: COMBATTING THE DISCRIMINATORY EFFECTS OF ARTIFICIAL INTELLIGENCE IN HEALTHCARE

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INTRODUCTION

Consider this hypothetical. In her state-of-the-art office, a prominent cardiologist utilizes the most technologically advanced echocardiogram machines, cardiac imaging devices, and computer systems to help diagnose and treat her patients. It is Friday afternoon, and she is getting ready to leave her office after a busy week. However, as she finishes writing up her final notes, she notices something strange. The last two patients that she had examined were of similar age, gender, and health, with a nearly identical medical history of minor heart problems. Interestingly, after inputting these two patients' medical information into a symptom checking program on her computer that is operated by Artificial Intelligence (AI), an algorithm had assigned drastically different risk assessments for the two patients. The first patient, a Black man, was assessed with little risk for a future heart attack and subsequently told that he should not follow up with his cardiologist for another five years. The second patient, a white man, was assessed with a higher risk for a future heart attack and was recommended to check back in with his doctor every six months. The doctor was dumbfounded, not understanding why or how the program offered such different treatment plans for two nearly identical patients. Still, she proceeded with the recommendations of her "revolutionary" computer program.[1]

Discrimination in healthcare has manifested itself in numerous forms throughout American history.[2] From racially segregated hospitals to the Tuskegee studies, the American healthcare system has seen, and been complicit in, overt discriminatory tactics.[3] In recent years, the

1. *See* Darshali A. Vyas et al., *Hidden in Plain Sight – Reconsidering the Use of Race Correction in Clinical Algorithms*, 383 NEW ENG. J. MED. 874, 874 (2020). The opening hypothetical is based off a study suggesting that an American Heart Association heart failure risk score algorithm assigns three extra points to patients identified as "nonblack," categorizing Black patients at a lower risk of death. The article suggests that "many of these race-adjusted algorithms guide decisions in ways that may direct more attention or resources to white patients than to members of racial and ethnic minorities." *Id.* at 874.

2. *See generally* Christopher Ogolla, *Racial Discrimination in Medicine versus Race-Based Medicine: The Ethical, Legal and Policy Implications on Health Disparities*, 3 GEO. J.L. & MOD. CRITICAL RACE PERSP. 59 (2011) (discussing the past and present barriers that inhibit equal access of care for minority classes in America, including the Tuskegee experiment which began in the 1930s, where physicians withheld penicillin from Black men with syphilis to see how the disease would run its course without treatment).

3. *See* P. Preston Reynolds, *Professional and Hospital Discrimination and the US Court of Appeals 4th Circuit 1956–1976*, 94 AM. J. PUB. HEALTH 710, 710 (2004); *see also* HARRIET

discriminatory effects of healthcare have been felt in a more subtle manner, under the guise of AI.[4] Hospital systems and individual doctors are becoming increasingly reliant on AI, a technology that can quickly analyze a vast swath of data and spit out potential treatment plans in an enormously efficient manner.[5] This is forcing policymakers to reconsider the effectiveness of current laws regarding liability and accountability for AI's actions.[6] Individual patients also have concerns about the use of AI in making healthcare decisions.[7] In particular, from the perspective of the individual patient, what modes of recourse are there to recover from algorithmic discrimination? Who can be held accountable? And finally, how will our legal system assess these questions of responsibility in an era of technology that has never been dealt with?

Scholars have suggested that patients who suffer harm during their treatment can seek compensation through tort litigation.[8] For example, physicians can be sued for medical malpractice, and the manufacturers of the AI devices can be sued for design defect.[9] However, this Comment argues that it is inadequate to categorize healthcare discrimination as just another incidental tort issue that can simply be fixed by compensating victims who

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A. WASHINGTON, MEDICAL APARTHEID: THE DARK HISTORY OF MEDICAL EXPERIMENTATION ON BLACK AMERICANS FROM COLONIAL TIMES TO THE PRESENT 159–66 (2006); JAMES H. JONES, BAD BLOOD: THE TUSKEGEE SYPHILIS EXPERIMENT 2–4, 206–08 (rev. ed. 1993).

4. *See* Press Release, Am. Med. Info. Ass'n (AMIA), AMIA Supports, Encourages Further Refinement of FDA AI/Machine Learning Regulatory Framework (June 5, 2019), [hereinafter AMIA Press Release] https://amia.org/news-publications/amia-supports-encourages-further-refinement-fda-aimachine-learning-regulatory [https://perma.cc/8J53-DU9W] (proposing that the FDA develop guidance for testing for undetected biases in AI in healthcare).

5. *See* Jessica Kent, *90% of Hospitals Have Artificial Intelligence Strategies in Place*, HEALTH IT ANALYTICS (Mar. 11, 2021), https://healthitanalytics.com/news/90-of-hospitals-have-artificial-intelligence-strategies-in-place [https://perma.cc/5CTR-L3JC] (noting that 75% of healthcare executives believe AI initiatives are more critical now due to the pandemic).

6. *See* Press Release, White House, Fact Sheet: Biden-Harris Administration Announces Key Actions to Advance Tech Accountability and Protect the Rights of the American Public (Oct. 4, 2022), [hereinafter White House Press Release] https://www.whitehouse.gov/ostp/news-updates/2022/10/04/fact-sheet-biden-harris-administration-announces-key-actions-to-advance-tech-accountability-and-protect-the-rights-of-the-american-public/ [https://perma.cc/5RA2-468N].

7. *See generally* Dhruv Khullar, *Perspectives of Patients About Artificial Intelligence in Health Care*, JAMA (May 4, 2022), https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2791851 [https://perma.cc/CY88-KEA2].

8. *See* Madeline Roe, *Who's Driving That Car?: An Analysis of Regulatory and Potential Liability Frameworks for Driverless Cars*, 60 B.C. L. REV. 317, 337 (2019) (proposing a framework for regulating autonomous vehicles based on case law in the context of surgical robot liability).

9. *See id.*

suffer such harm. This Comment focuses on developing a legal mechanism for patients seeking redress through discrimination theory, with the pointed goal of implementing a framework that does not shy away from or misdirect the root of the patients' suffering.

To bring a discrimination case, an individual can either claim intentional discrimination or unintentional discrimination.[10] It is assumed that in the context of AI, discrimination in healthcare is caused *unintentionally*; it is often presumed that the data providers and physicians are using it in good faith. Therefore, plaintiffs have attempted to litigate such cases through disparate impact theory brought as a private right of action.[11] However, district courts are split on whether a private right of action can be brought by patients who have been faced with discrimination in a healthcare setting.[12] Additionally, the Food and Drug Administration (FDA) has yet to regulate artificial intelligence effectively and thus far has only put out policy recommendations that suggest third-party audits and inspections for bias in AI.[13] Such recommendations focus on ex ante regulation, hoping to prevent discrimination in the first place.[14] However, when discriminatory data inevitably slips through the cracks of these protective regulations, a patient is left with no mode of recourse. Take, for instance, the Black patient in the hypothetical above. Under such circumstances, who can the patient sue, what can they sue for, and how can they formulate their claims?

Part I of this Comment describes how AI works and how it has been adopted by healthcare professionals.[15] Part II addresses the risks of using AI in healthcare.[16] Part III analyzes the legal issues that arise when AI discriminates in healthcare.[17] Part IV analyzes the current regulations and proposals in place to prevent AI discrimination in healthcare, and whether

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10. *See infra* Section III.

11. *See infra* Section IV.A–B.

12. *See id.*

13. *See* Press Release, Am. Med. Ass'n (AMA), AMA Passes First Policy Recommendation on Augmented Intelligence (June 14, 2018), [hereinafter AMA Press Release] https://www.ama-assn.org/press-center/press-releases/ama-passes-first-policy-recommendations-augmented-intelligence [https://perma.cc/73LU-8EP3]; U.S FOOD & DRUG ADMIN., ARTIFICIAL INTELLIGENCE/MACHINE LEARNING-BASED SOFTWARE AS A MEDICAL DEVICE ACTION PLAN (2021), https://www.fda.gov/media/145022/download [https://perma.cc/VT57-X8D7]; AMIA Press Release, *supra* note 4.

14. *See* White House Press Release, *supra* note 6. The White House proposes action plans to root out algorithmic discrimination but fails to address how the victim can seek a remedy. The White House, and legislators, are embarking on a noble endeavor to prevent algorithmic discrimination from ever occurring. This Comment will help provide a framework for recourse for victims *after* discrimination inevitably occurs.

15. *See infra* Part I.

16. *See infra* Part II.

17. *See infra* Part III.

these solutions are adequate.[18] Finally, Part V proposes a new solution for patients seeking recourse. This solution would establish a framework for litigation through disparate treatment by proving that the AI acted with the *intent* to discriminate based on the "personhood" theories of AI.[19] In particular, this Part will suggest using the *McDonnell Douglas*[20] burden-shifting framework and statistical evidence to show patterns of AI discrimination, as doing so may allow patients to see success in disparate treatment claims. One challenge with this solution is that even once the framework is implemented, it is unclear who will actually provide the compensation for the patient. This Comment argues that through the "AI Work Made for Hire Doctrine," courts can hold that AI works as an employee for the physician. Thus, the physician will bear responsibility for the AI's actions, providing patients who suffered from AI discrimination with a much-needed avenue for recourse.

I. ARTIFICIAL INTELLIGENCE: TECHNICAL PERSPECTIVES AND ARTIFICIAL INTELLIGENCE'S BENEFITS

A. Background to Artificial Intelligence in Healthcare

AI systems work by classifying and identifying objects, people, events, and situations.[21] Similar to humans perceiving and organizing patterns, AI learns to make associations.[22] An algorithm will be presented with multiple examples of elements and their correct classifications.[23] Then, the algorithm will break down the data into electrical signals and identify hidden patterns, similarities, and connections on its own, in what is known as training.[24] Finally, through experience and new data, the AI system will evolve and complete tasks autonomously.[25]

AI is transforming the landscape of the healthcare system, driven by the implementation of algorithmic programs in various settings including robotic surgery, medical imaging, and clinical decision support.[26] By 2027,

18. *See infra* Part IV.

19. *See infra* Part V.

20. *See* McDonnell Douglas Corp. v. Green, 411 U.S. 792 (1973).

21. *See* Peter Wayner, *What is artificial intelligence classification?*, VENTUREBEAT (June 16, 2022), https://venturebeat.com/ai/what-is-artificial-intelligence-classification/ [https://perma.cc/YQ6P-VJX2].

22. *See* Anders Krogh, *What Are Artificial Neural Networks?*, 26 NATURE BIOTECHNOLOGY 195, 195 (2008).

23. *See id.*

24. *See id*.

25. *See, e.g.*, Frank Griffin, *Artificial Intelligence and Liability in Health Care*, HEALTH MATRIX 31, 69 (2021).

26. *See id*.

artificial intelligence in the healthcare market is projected to grow to 67.4 billion U.S. dollars from 6.9 billion U.S. dollars in 2021, with a compounded annual growth rate of 46.2%.[27] The proliferation of AI in healthcare can be explained by a confluence of factors, including its ability to help physicians treat patients more accurately and efficiently.[28] Additionally, the COVID-19 pandemic has piqued interest in advancing AI technology in healthcare.[29] By 2035, one investor suspects that artificial intelligence will replace doctors, and a 2017 MIT study found that in some contexts, AI already produces better results than physicians.[30]

The advent of AI in medicine means that doctors will be "relinquishing control and entrusting artificial intelligence to perform dangerous and complicated tasks."[31] In June 2018, The American Medical Association ("AMA") passed its first policy recommendations for AI. AMA Board Member Jesse M. Ehrenfeld, M.D. M.P.H commented that AI can advance the delivery of care in a way that outperforms doctors or machines alone, but warning that "challenges in the design, evaluation and implementation" must be addressed, including the risks of algorithmic discrimination.[32]

B. The Benefits of Artificial Intelligence in Healthcare

Through Artificial Intelligence, physicians can interpret large amounts of data in patients' medical records, including imaging studies, laboratory results, medical history, genetic testing, and countless other data points to help make better informed recommendations to their patients.[33] These clinical decision support systems "provid[e] guidance on the safe prescription of medicines, guideline adherence, [and] simple risk

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27. *See* Markets and Markets, *Artificial Intelligence in Healthcare Market by Offering, Technology, Application, End User and Geography* (Oct. 2021), https://www.prnewswire.com/news-releases/artificial-intelligence-in-healthcare-market-worth-67-4-billion-by-2027—exclusive-report-by-marketsandmarkets-301411884.html [https://perma.cc/DZ3L-W7V8] (projecting the exponential growth of AI over the next few years).

28. *See* Griffin, *supra* note 25, at 76.

29. *See* Markets and Markets, *supra* note 27; Jessica Kent, *90% of Hospitals Have Artificial Intelligence Strategies in Place*, HEALTH IT ANALYTICS (Mar. 11, 2021), https://healthitanalytics.com/news/90-of-hospitals-have-artificial-intelligence-strategies-in-place [https://perma.cc/5CTR-L3JC] (noting that 75% of healthcare executives believe AI initiatives are more critical now due to the pandemic).

30. *See* Bob Kocher & Zeke Emanuel, *Will Robots Replace Doctors?*, BROOKINGS INST.: USC-BROOKINGS SCHAEFER ON HEALTH POL'Y (Mar. 5, 2019), https://www.brookings.edu/blog/usc-brookings- schaeffer-on-health-policy/2019/03/05/will-robots-replace-doctors/ [https://perma.cc/WJX7-9RD6].

31. Roe, *supra* note 8.

32. AMA Press Release, *supra* note 13.

33. *See* Kocher & Emanuel, *supra* note 30.

screening."[34] For example, in providing radiation dosing to cancer patients, AI "[s]ystems . . . can analyze CT scans of a patient with cancer and by combining this data with learning from previous patients, provide a radiation treatment recommendation, tailored to that patient which aims to minimize damage to nearby organs."[35]

II. THE CONCERNS FOR ARTIFICIAL INTELLIGENCE IN HEALTHCARE

Although we have seen the numerous benefits of AI, without proper controls, it can be extremely dangerous. This Part will address some of the negative aspects of this technology, specifically, algorithmic discrimination.

Algorithmic discrimination in healthcare can occur at three different points. First, broadly speaking, health data that is available may be incorrect or incomplete, in what is known as measurement errors.[36] Second, the specific data that is used to train the AI may be under-representative, in what is known as selection bias.[37] Third, the data may represent historical patterns of discrimination, in what is known as feedback loop bias.[38]

Another problem that needs to be addressed when ascertaining the discriminatory effects of AI is the "black box" nature of the algorithms.[39] AI creates an impenetrable "black box" system whose inputs and operations are not visible to the user.[40] In other words, the exact process in which the AI analyzes data is not fully understood by humans, inevitably leading to undetected errors, including bias.[41]

The issue of algorithmic discrimination in healthcare received significant publicity in a 2019 study that showed how an algorithm used by UnitedHealth Group was discriminating against Black patients.[42] The

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34. Robert Challen et al., *Artificial Intelligence, Bias, and Clinical Safety*, 28 BMJ QUALITY SAFETY 231, 231 (2019).

35. *Id.*

36. *See* Vayena et al., *Machine Learning in Medicine: Addressing Ethical Challenges*, 15 PLOS MED. 1, 2 (2018).

37. *See* Timo B. Brakenhoff et al., *Random Measurement Error: Why Worry? An Example of Cardiovascular Risk Factors*, PLOS ONE, Feb. 2018, art. no. e0192298, at 1–2.

38. *See* David Casacuberta, *Bias in a Feedback Loop: Fueling Algorithmic Injustice,* CCCB LAB (May 9, 2018), http:/1abcccb.om/enbias-in-a-feedback-loop-fuelling-algorithmic-injustice/ [https://perma.cc/BE8Y-YYV5].

39. *See* W. Nicholson Price II, *Regulating Black-Box Medicine*, 116 MICH. L. REV. 421, 429–30 (2017).

40. *See id.*

41. *See id.*

42. *See* Ziad Obermeyer et al., *Dissecting Racial Bias in an Algorithm Used to Manage the Health of Populations*, 336 SCIENCE 447, 447 (2019); Letter from Linda A. Lacewell, Superintendent, N.Y. State Dep't of Fin. Servs. & Howard A. Zucker, Comm'r, N.Y. State Dep't of Health to David S. Wichman, CEO, Unitedhealth Group Inc. (Oct. 25, 2019), [hereinafter Lacewell Letter]

algorithm, created by Optum, was used to prioritize care in hospitals to patients who were more likely to be at risk, based on their previous healthcare costs and spending patterns.[43] Since healthcare spending has been historically lower for Black patients than for non-Black patients because of unequal access to care, only 17.7% of Black patients were identified as high risk, when in reality the true percentage of high-risk Black patients was 46.5%.[44] Howard Zucker, then- commissioner of the New York State Department of Health, and other New York health officials wrote a letter to UnitedHealth stating that, "[b]y relying on historic spending to triage and diagnose current patients, your algorithm appears to inherently prioritize white patients who have had greater access to healthcare than [B]lack patients."[45] The racial bias seen in the Optum algorithm is thus far the only proven documentation of discrimination through AI in the healthcare field. However, the increased use of AI in healthcare as well as the documentation of AI bias in other fields[46] has led experts to believe that the issue of algorithmic discrimination in healthcare will increase over time.[47]

III. THE LEGAL ISSUES OF ARTIFICIAL INTELLIGENCE IN HEALTHCARE

The legal implications of AI discrimination in healthcare are vast. Some have argued that the problem of AI discrimination in healthcare is best settled through the prism of tort law and malpractice claims.[48] However this analysis misses the most direct route to address the challenges of AI

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https://www.dfs.ny.gov/system/files/documents/2019/10/20191025160637.pdf [https://perma.cc/4JR2-HGJ3] (criticizing UnitedHealth and stating that it may not "produce, rely on, or promote an algorithm that has a discriminatory effect").

43. *See* Lacewell Letter, *supra* note 42.

44. *See* Obermayer et al., *supra* note 42, at 448–49.

45. *See* Lacewell Letter, *supra* note 42.

46. *See* Soniya K. Katyal, *Private Accountability in the Age of Artificial Intelligence*, 66 UCLA L. REV. 54, 56 (2019) (targeting specific groups of people through ads); McKenzie Raub, *Bots, Bias and Big Data: Artificial Intelligence, Algorithmic Bias and Disparate Impact Liability in Hiring Practices*, 71 ARK. L. REV. 529, 540–43 (2018) (discussing how hiring algorithms affect women and minorities); Kristian Lum & William Isaac, *To Predict and To Serve?*, 13 SIGNIFICANCE MAG., Oct. 2016, at 14 (discussing the effect of biased data in predictive policing systems used by law enforcement).

47. *See* Sharona Hoffman, *What Genetic Testing Teaches About Predictive Health Analytics*, 98 N.C. L. REV. 123, 151 (2019) (predicting that when AI is used in genetic testing, it will disproportionately identify patients with criminal records at being high risk for certain diseases).

48. *See* W. Nicholson Price II, *Medical Malpractice and Black Box Medicine*, *in* BIG DATA, HEALTH LAW AND BIOETHICS 295, 300 (I. Glenn Cohen et al., eds., 2018) ("Providers . . . could be held liable for harmful use of black-box medical algorithms depending on the prevailing customary practice and the extent that custom is considered dispositive.").

discrimination in healthcare. Instead, AI discrimination should be analyzed through the lens of discrimination theory. There are two types of discrimination claims that individuals can bring. First, one can argue for disparate treatment, which is intentional discrimination. Since it is assumed that physicians are using AI in good faith, it will be difficult to prove intent and successfully pursue such a claim. Therefore, a much easier legal route for the patient to pursue is the second form of discrimination claims, in what is known as disparate impact, when unintentional discrimination occurs through policies, practices or rules that seem facially neutral.

A. Disparate Impact

In 1971, the Supreme Court provided its seminal ruling on disparate impact claims in *Griggs v. Duke Power Co.*[49] In *Griggs*, a class action employment suit was brought by African Americans, challenging an employer's hiring requirements of either passing an intelligence test or having a high school diploma.[50] Title VII prohibits requirements that discriminate based on race, color, religion, sex, and national origin, unless the employer can prove that these requirements correlate with job performance.[51] The *Griggs* plaintiffs were able to show that these requirements disproportionally affected African Americans. Because they won on disparate impact grounds, they did not have to prove intent to discriminate.[52]

The disparate impact argument made in *Griggs* has been applied to a variety of other contexts. For example, in 2015, in *Texas Department of Housing and Community Affairs v. Inclusive Communities Project,* the Supreme Court extended disparate impact theory to the Fair Housing Act, enabling private parties to bring disparate impact claims when faced with housing discrimination.[53] Similarly, in the healthcare realm, Title VI of the Civil Rights Act and Section 1557 of the Affordable Care Act provide avenues for disparate impact claims.[54]

1. Title VI

Title VI of the Civil Rights Act of 1964 prohibits entities that receive federal funding from engaging in discrimination based on race, color, or

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49. 401 U.S. 424 (1971).
50. *See id.*
51. 42 U.S.C. § 2000e.
52. *See id.*
53. 576 U.S. 519 (2015).
54. 42 U.S.C. § 2000d; *id.* § 18116; 28 C.F.R. 42.101.

national origin.[55] The entities cannot use "criteria or methods of administration which have the effect of subjecting individuals to discrimination."[56] As such, practices that have a disparate impact on protected groups are forbidden. However, the Supreme Court in *Alexander v. Sandoval* held that, under Title VI, there is no private right of action to enforce a disparate impact claim.[57] This ruling eliminated the opportunity for individual patients to bring disparate impact claims when faced with AI's discrimination in healthcare, unless they can prove intentional discrimination.

2. Section 1557 of the Affordable Care Act

In Section 1557 of the Patient Protection and Affordable Care Act (ACA), discrimination is prohibited on the basis of race, sex, national origin, disability and other criteria in particular health programs and activities.[58] The statute applies to any health program or activity that receives federal financial assistance or is administered by a federal agency, thereby including hospitals and physicians.[59] Section 1557 covers individuals protected by: (1) Title VI of the Civil Rights of 1964; (2) Title IX of the Education Amendments of 1972; (3) the Age Discrimination Act of 1975; or (4) the Rehabilitation Act of 1973.[60]

The question that has divided courts is whether Section 1557 of the ACA grants a private right of action for disparate impact claims brought under Title VI. Much of the confusion can be blamed on the ambiguity of its statutory language which states that, "[t]he enforcement mechanisms provided for and available under such [T]itle VI, [T]itle IX, [S]ection 794, or such Age Discrimination Act shall apply for purposes of violations of this subsection."[61] Does Section 1557 provide a new enforcement mechanism for each of the included prior statutes, or does Section 1557 maintain the enforcement mechanisms of each of the included prior statutes?

The Department of Health and Human Services ("HHS") under the Obama administration "interpret[ed] Section 1557 as authorizing a private right of action for claims of disparate impact discrimination," understanding

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55. 42 U.S.C. § 2000d.

56. 28 C.F.R. § 42.104(b)(2) (2020); 45 C.F.R. § 80.3(b)(2) (2020).

57. 532 U.S. 275, 292 (2001) (holding that a private right of action can only be brought under Title VI for intentional discrimination).

58. 42 U.S.C. § 18116(a) (2022).

59. *See id.*

60. *See id.*

61. *Id.* It should also be noted that the Rehabilitation Act and Age Discrimination Act allow for a private right of action to enforce their disparate impact provisions. *See* 29 U.S.C. § 705(a)(1)–(2); *id.* § 623 (I)(2)(F).

Section 1557 as providing a new enforcement mechanism.[62] This would mean that even though patients would not be able to bring a private right of action under Title VI because of *Sandoval*, under Section 1557's new enforcement mechanism, they would be able to successfully litigate the claim. In 2020, the Trump administration enacted a regulation explicitly establishing that Section 1557 adopts the enforcement sections of each of the statutes that it incorporates. This prevented patients discriminated against by AI from pursuing disparate impact claims under Section 1557.[63]

District courts are split on whether a private right of action exists under Section 1557, and the Supreme Court has yet to hear the issue. In *Rumble v. Fairview Health Services*, the United States District Court for the District of Minnesota ruled that the Congress' intent in passing Section 1557 was to create a new cause of action for discrimination in healthcare, irrespective of the individual enforcement mechanisms for Title VI, Title IX, the Age Discrimination Act, and the Rehabilitation Act.[64] In *Southeastern Pennsylvania Transport Authority v. Gilead Sciences Inc*., the United States District Court for the Eastern District of Pennsylvania ruled that the plain language of Section 1557 suggests that the incorporation of Title VI, Title IX, the Age Discrimination Act, and the Rehabilitation Act into the statute implies that they maintain their own enforcement mechanisms.[65] As such, the court held that Section 1557 will adopt Title VI's exclusion of disparate impacts claims, and this would, in theory, bar a plaintiff from bringing such a claim in the context of AI.[66]

For the *Rumble* court, the *Sandoval* decision only bars disparate impact claims under Title VI, but under Section 1557, such a claim would be permissible.[67] For the *Gilead* court, since Section 1557 was established to maintain the enforcement mechanisms of each of the statutes listed, a disparate impact claim would not be permitted under Section 1557.[68]

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62. Nondiscrimination in Health Programs and Activities, 81 Fed. Reg. 31376, 31440 (May 18, 2016).

63. *See HHS Finalizes Rule on Section 1557 Protecting Civil Rights in Healthcare, Restoring the Rule of Law, and Relieving Americans of Billions in Excessive Costs,* U.S. DEP'T HEALTH & HUMAN SERVS. (June 12, 2020), https://www.hhs.gov/about/news/2020/06/12/hhs-finalizes-rule-section-1557-protecting-civil-rights-healthcare.html [https://perma.cc/6LGB-X3X8].

64. No. 14-CV-2037 (SRN/FLN), 2015 WL 1197415, at *29 (D. Minn. Mar. 16, 2015).

65. *See* 102 F. Supp. 3d 688, 698–701 (E.D. Pa. 2015).

66. *See id.*

67. *Rumble*, 2015 WL 1197415, at *30–*31.

68. *Gilead*, 102 F. Supp. 3d at 698–701.

B. Disparate Treatment

When healthcare providers commit intentional discrimination or show deliberate indifference, patients may sue under disparate treatment. However, proving intentional discrimination is often challenging.

For a plaintiff to recover for disparate treatment, they will have to provide evidence that shows that the physician treated the patient, who is a member of a protected class, less favorably than similarly situated non-minorities.[69] If the patient cannot show that there was disparate treatment through direct evidence, the patient can still prove indirect intent through the burden-shifting framework of *McDonnell Douglas Corp. v. Green*.[70] Once indirect evidence of intent is shown, the burden shifts to the physician who can provide evidence of a non-discriminatory purpose.[71] Then, the burden will shift back to the patient who will have to show that the physician's explanation is insufficient and merely a pretext for discrimination.[72] If the patient cannot show this, they can point to a "pattern or practice" which is proven through statistical evidence, and show that "[w]here gross statistical disparities can be shown, they alone may in a proper case constitute prima facie proof of a pattern or practice of discrimination."[73] The patient must "prove more than the mere occurrence of isolated or accidental or sporadic discriminatory acts."[74] He or she must establish by a preponderance of the evidence that discrimination is the AI's "regular rather than unusual practice."[75] This is accomplished by presenting statistical evidence of similarly situated patients not in the protected class who were treated better than those in the protected class.[76]

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69. *See, e.g.*, Chance v. Reed, 538 F. Supp. 2d 500, 510 (D. Conn. 2008) (holding that a plaintiff must establish a *prima facie* case of discrimination under the *McDonnell Douglas* burden-shifting framework); *see also* Vill. of Arlington Heights v. Metro. Hous. Dev. Corp., 429 U.S. 252 (1977) (using a different framework).

70. 411 U.S. 792, 802–03 (1973).

71. *See id.*

72. *See id.* at 804–05.

73. Hazelwood Sch. Dist. v. United States, 433 U.S. 299, 307–08 (1977) (showing how disparate impact can be proven without direct evidence of intent).

74. EEOC v. Joe's Stone Crab, Inc., 220 F.3d 1263, 1286–87 (11th Cir. 2000) (quoting Int'l Bhd. of Teamsters v. United States, 431 U.S. 324, 336 (1977)).

75. *Id*. at 1287 (quoting *Teamsters*, 431 U.S. at 336).

76. *See* Craik v. Minn. State Univ. Bd., 731 F.2d 465, 470 (8th Cir. 1984).

IV. CURRENT REGULATIONS: ARE THEY EFFECTIVE?

A. FDA Regulations

The FDA is generally tasked with regulating the medical device industry and has been deemed the entity that can most effectively regulate AI in healthcare.[77] The FDA has not characterized AI as a specific device, and they have therefore proposed best practices for its use, as opposed to more binding regulations.[78] However, even if the FDA institutes regulations, they may be ineffective:

> While technical best practices may exist, AI software is typically fit for specific uses and designed to be contextually applied, which can make recipe-like legal requirements destined to fail. Engineers and data scientists design AI software to fulfill specific goals or tasks of a relevant adjacent system with any number of rules, and infrastructure design depends on the purpose and use of the system. For example, AI software that supports medical diagnosis will be designed differently, both in system and in process, than AI software for self-driving cars, which have very different tasks to perform. Even when AI infrastructure is used for a variety of different AI implementations, the software itself will be context-specific to its implementation.[79]

As such, "[a] singular model for premarket review cannot provide direction for other medical devices or even for different types of diagnostic systems, simply because the methods used to create safe and reliable diagnostic imaging systems would not necessarily be effective for other systems."[80] Preventative oversight, therefore, is often ineffective because anticipating potential risks is impossible when a completely different algorithm is being used in clinical trial experiments than in post-trial ones.[81]

B. Artificial Intelligence Accountability Acts

The "Algorithmic Accountability Act" was introduced on April 10, 2019 in the 116th Congress by Senators Cory Booker and Ron Wyden.[82] Among

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77. *See* Charlotte A. Tschider, *Medical Device Artificial Intelligence: The New Tort Frontier*, 46 BYU L. REV. 1551, 1551 (2021).

78. *Id.* at 1568–69.

79. *Id*. at 1569.

80. *Id.* at 1570.

81. *See id.* at 1572 n.98 ("For example, many training data sets might contain information that is more or less useful for specific uses and may result in less useful functionality.") (citing DREW ROSELLI, JEANNA MATTHEWS & NISHA TALAGALA, MANAGING BIAS IN AI 539 (2019), https://people.clarkson.edu/~jmatthew/publications/ManagingBiasInAI_CAMERAREADY.pdf. [https://perma.cc/NTZ9-74TT]).

82. *See* Algorithmic Accountability Act of 2019, S. 1108, 116th Cong. (2019); Algorithmic Accountability Act of 2019, H.R. 2231, 116th Cong. (2019); Press Release, U.S.

other things, the goal of the bill was to authorize the Federal Trade Commission (FTC) with the ability to formulate regulations to conduct impact assessments of AI and to require entities to evaluate their use of AI to determine if there are issues with accuracy, fairness, bias, discrimination, or privacy.[83] This act, however, did not pass.[84]

Although this would be a meaningful step toward holding AI users accountable, critics argue that it does not go far enough. The FTC is not equipped to address AI discrimination in healthcare, nor does it have the resources to provide enforcement. Even if a more equipped entity like HHS or FDA was the agency used to implement such an act, as highlighted earlier, it is almost impossible to act in a preventative manner for these autonomous technologies. The "black-box" issue makes it extremely difficult to preempt bias. Further, an AI Accountability Act provides no course of action for harmed patients in an *ex post* manner. This Comment sets out to provide a *reactive* approach for patients *after* the bias occurs.

C. Private Right of Action

The Civil Rights Act of 2008 was proposed by the late Congressman John Lewis and Senator Edward Kennedy.[85] The bill stated that the "*Sandoval* decision contradicts settled expectations created by title VI of the Civil Rights Act of 1964, title IX of the Education Amendments of 1972 . . . , the Age Discrimination Act of 1975 . . . , and section 504 of the Rehabilitation Act of 1973."[86] This Act would have amended Title VI to allow for a private right of action for disparate impact claims.[87] This would have been helpful to address disparate discrimination in healthcare committed by AI by allowing patients to finally sue under disparate impact. However, the bill did not pass.[88]

Senator Cory Booker of N.J., Booker, Wyden, Clarke Introduce Bill Requiring Companies to Target Bias in Corporate Algorithms (Apr. 10, 2019), https://www.bookersenate.gov/news/press/booker-wyden-clarke-introduce-bill-requiringcompanies-to-target-bias-in-corporate-algorithms [https://perma.cc/7DL3-QERX].

83. *See id.*

84. *See S. 1108: Algorithmic Accountability Act of 2019*, GOVTRACK.US, unequipped [https://perma.cc/854T-NNNQ] (last visited Jan. 6, 2023).

85. *See* S. 2554, 110th Cong. (2008); H.R. 5129, 110th Cong. (2008).

86. *See* S. 2554, 110th Cong. § 101 (2008).

87. *Id.*

88. *S. 2554: Civil Rights Act of 2008*, GOVTRACK.US, https://www.govtrack.us/congress/bills/110/s2554 [https://perma.cc/ZK7U-X5XB] (last visited Jan. 6, 2023).

V. PROPOSED SOLUTION

Current regulations and proposed legislation are unequipped to handle the unchartered territory of AI discrimination in healthcare. Therefore, a new regulatory framework is needed to provide compensation for patients harmed by this technology. The most important element of such a proposal is that it must provide an avenue for *ex post* litigation instead of unrealistically attempting to prevent the harm from occurring in the first place.

As discussed previously, a patient harmed by discriminatory AI in healthcare can either bring a claim of disparate treatment or disparate impact. Generally, disparate impact claims are litigated more successfully than disparate treatment claims because the evidentiary bar is much lower. However, in the context of AI discrimination in healthcare, a patient will never be successful in disparate impact litigation because of the effects of (1) the *Sandoval* decision to bar such claims under Title VI; (2) the current district court split on Title VI claims under Section 1557 of the ACA; and, (3) the Trump administration's final interpretation of Section 1557 of the ACA.

Therefore, under discrimination theory, the only chance of receiving a meaningful remedy for AI discrimination in healthcare is to prove that the discrimination was conducted *intentionally*. Although intentional discrimination is generally challenging to prove, under this proposal we will show that in the context of AI, the bar to prove disparate treatment is not actually that high.

A. Can Artificial Intelligence Act with Intent? The "Personhood" Approach

On March 18, 2018 in Tempe, Arizona, an autonomous vehicle tragically struck Elaine Herzberg, and took her life.[89] Sitting in the driver's seat of the autonomous vehicle was a human safety driver, who was supposed to take the wheel if anything went wrong.[90] Video evidence suggested that the safety driver was distracted and did not do his job properly.[91] Still, the police determined that the driver was not in the wrong; the car itself was responsible for the accident.[92] What does it mean to "blame" the car for the accident? It has been proposed that "machines . . . capable of independent initiative and

89. *See* Troy Griggs & Daisuke Wakabayashi, *How a Self-Driving Uber Killed a Pedestrian in Arizona*, N.Y. TIMES (Mar. 21, 2018), https://www.nytimes.com/interactive/2018/03/20/us/selfdriving-uber-pedestrian-killed.html [https://perma.cc/3J3L-EGUF].

90. *See id.*

91. *See id.*

92. *See id.*

of making their own plans . . . are perhaps more appropriately viewed as persons than machines,"[93] and should therefore be entitled to legal rights and obligated to abide by legal responsibilities.[94] This theory assumes that AI systems are capable of mimicking human characteristics including consciousness, and arguably in a far superior manner.[95] If AI systems are capable of experiencing consciousness and making decisions freely,[96] then it is easy to view them as "person[s]," responsible for bearing rights and duties as well.[97] The European Parliament has recently accepted a motion on the civil law aspects of the development of AI generated robotics with electronic legal personhood:

> 59f) [C]reating a specific legal status for robots in the long run, so that at least the most sophisticated autonomous robots could be established as having the status of electronic persons responsible for making good any damage they may cause and possibly applying electronic personality to cases where robots make autonomous decisions or otherwise interact with third parties independently.[98]

With this understanding, it is not out of reach to suggest that when AI acts in discriminatory ways, it is sorting through data and providing recommendations with harmful intent. In other words, the effects of AI are not the results of facially neutral "decisions." Rather, AI's actions are deliberate and intentional, formulated by a methodological decision-making process.

1. Proving Artificial Intelligence's Disparate Treatment

Because AI has the capability to act with intent, this creates a space for patients that were discriminated against in our hypothetical to prove that this discrimination was done intentionally by the AI. However, the "black-box" problem makes it impossible to prove why the AI made a discriminatory recommendation, because there is no way to trace the steps that it took. Therefore, it will be unrealistic to ever provide direct evidence of AI's intentional discrimination.

However, the patient in our hypothetical can still follow the *McDonnell Douglas* burden-shifting framework to bring his claim. First, he will need to

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93. *See* Nick Bostrom, *When Machines Outsmart Humans*, 35 FUTURES 759, 763 (2003).

94. *See* Glenn Cohen, *Should We Grant AI Moral and Legal Personhood?*, NEW WORLD: A.I. (Sept. 24, 2016), http://artificialbrain.xyz/should-we-grant-ai- moral-and-legal-personhood [https://perma.cc/9BT6-KGZE].

95. *See id.*

96. *See id.*

97. *See id.*

98. EUROPEAN PARLIAMENT RESOLUTION, RECOMMENDATIONS TO THE COMMISSION ON CIVIL LAW RULES ON ROBOTICS (2017).

show that he received inferior care as a member of a protected class. This will be easy to show based on the discrepancy between his treatment, and the white patient who received treatment after him. The burden will then shift to the doctor to prove that she had a legitimate non-discriminatory purpose to use the AI. She will easily show that the AI performs extremely well in providing diagnosis and treatment plans for her patients. The burden will shift back on the patient, who will have to show that the AI served as a pretext for discrimination.

Even if our patient cannot show that the AI was used as a pretext for discrimination, he can still win a disparate treatment claim under Title VI if he can point to a "pattern or practice" of discrimination through statistical evidence, which will "constitute [a] prima facie proof of a pattern or practice of discrimination."[99] This evidence can come from numerous studies that show how AI discriminates in healthcare and point out how healthcare AI developers "offer no explanation of why racial or ethnic differences might exist [in their algorithms] . . . [and] when these [differences] are traced to their origins, they lead to outdated, suspect racial science or to biased data."[100] As a result, the patient can finally seek a path to redress by following the aforementioned burden-shifting framework.

B. Who is Responsible for Artificial Intelligence's Disparate Treatment?

Now that a patient can prove AI's disparate treatment in healthcare, the question that must be addressed is *who* the patient will practically receive compensation from.

1. A Copyright Approach

Scholars have suggested considering accountability of AI through a copyright lens based on the AI "Work Made for Hire" model.[101] The general principle of copyright law explains that a copyright becomes the property of the author once the work is fixed in any tangible medium of expression.[102] An exception to this rule is the Work Made for Hire ("WMFH") doctrine.

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99. Hazelwood Sch. Dist. v. United States, 433 U.S. 299, 307–08 (1977).

100. Vyas et al., *supra* note 1, at 879 (discussing instances in nephrology, cardiology, and cancer treatments where racial bias is apparent).

101. *See* 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, 707, 708 (2017).

102. 17 U.S.C. §§ 102, 201 (2010); Cmty. for Creative Non-Violence v. Reid, 490 U.S. 730, 737 (1989); *Works Made For Hire*, U.S COPYRIGHT OFFICE., https://www.copyright.gov/circs/circ30.pdf [https://perma.cc/AC62-BF2G] (last visited Jan. 6, 2023).

Under this rule, if a work is made for hire, then the employer who commissioned the work is considered the author even though he or she did not actually create the work.[103] "[W]ork made for hire" is defined in Section 101 of the Copyright Act as follows:

> (1) a work prepared by an employee within the scope of his or her employment; or
>
> (2) a work specially ordered or commissioned for use as a contribution to a collective work, as a part of a motion picture or other audiovisual work, as a translation, as a supplementary work, as a compilation, as an instructional text, as a test, as answer material for a test, or as an atlas, if the parties expressly agree in a written instrument signed by them that the work shall be considered a work made for hire.[104]

In the case of a work made for hire, the employer owns all of the rights comprised in the copyright.[105] In *Community for Creative Non-Violence v. Reed*, the Court helped clarify the WMFH doctrine, explaining that if an employee created the work, the work will generally be considered a work made for hire.[106] Academics argue that AI is considered an employee, and therefore, its employer is liable for its work.[107]

2. Work Made For Hire Doctrine and Artificial Intelligence in Healthcare

Under the work for hire model, the physician should be held liable for an AI's discriminatory recommendation. As the employer of the AI, the physician is responsible for its actions, and ultimately accountable for the damage it incurs. By holding the physician liable for AI's recommendations, the physician will be incentivized to use it in a much more nuanced and careful manner. Instead of solely relying on the AI's recommendation, physicians will be encouraged to use their own reason and expertise. The AI will become a tool for physicians, rather than a crutch. This leaves patients with safe and unbiased treatment plans, and a mode of recourse if it is used improperly.

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103. *See* 17 U.S.C. § 101.

104. *Id*.

105. *See id*.

106. *See Cmty. For Creative Non-Violence*, 490 U.S. at 744.

107. Fay Cobb Payton et al., *Could AI Be Your Next Employee of the Month?*, KENAN INST. OF PRIV. ENTER. (Dec. 2, 2020), https://kenaninstitute.unc.edu/kenan-insight/ai-as-an-employee/ [https://perma.cc/BJT6-L55B].

CONCLUSION

Advanced diagnostic systems are beginning to operate through AI, changing the landscape of healthcare for physicians, patients, and regulators. Although AI in healthcare has been an effective tool in providing enhanced care to patients, there are still numerous issues that arise with its use. One abhorrent consequence of AI in healthcare has been the discrimination against patients based on race. So far, proposals and regulations have failed to provide clear guidance, and more importantly, they have failed to provide avenues for victims to pursue compensation. Consequently, a new legal framework must be implemented to provide an *ex post* mode of recourse. Because disparate impact fails, the more ambitious legal avenue of disparate treatment must be taken. Under the "personhood approach" of AI, it is not difficult to see the systems as acting with reason and intent. Considering these machines to have intent is a novel approach. However, it fits within existing legal models, because practically, a human entity must be held accountable to provide redress for the victim. Under this proposal, the AI WMFH model should be implemented, considering the AI to be an employee of the physician. In turn, the physician will be liable for the AI's intentional discrimination, and the patient will finally be provided with his or her rightful compensation. Although this framework may not eradicate discrimination in healthcare, it will certainly point us towards a future where it is far less common.