

RACIST ROBOTS AND THE LACK OF LEGAL REMEDIES IN THE USE OF ARTIFICIAL INTELLIGENCE IN HEALTHCARE

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This article examines the rapidly accelerating use of powerful artificial intelligence to make healthcare decisions. Artificial intelligence promises many benefits: affordable and accessible healthcare; diagnostic accuracy; and efficiently streamlining tasks related to prior authorization procedures. However, the perils involve proxy discrimination—an insidious form of a disparate impact claim—involving biases inadvertently coded into an algorithm disproportionately harming members of a protected class. As most Americans have employer-provided health insurance governed by the Employee Retirement Income Security Act of 1974 (ERISA), this paper argues there are no adequate legal remedies for consumers injured by proxy discrimination. The history of health insurance explains why employer-provided health insurance has exploded, which has exacerbated our ability to fashion a suitable remedy. This paper concludes federal legislation is needed to bring our regulatory structure into the computational age.

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I. INTRODUCTION

Predictive health analytics, also known as artificial intelligence (AI),¹ promises vast benefits and is now widely used in the delivery of healthcare. But AI poses a danger: unintentional proxy discrimination. Like other forms of disparate impact claims, proxy discrimination involves facially neutral practices that disproportionately harm members of a protected class.² Unintentional proxy discrimination is an especially dangerous form of a disparate impact claim because its biases are inadvertently coded into AI’s rational step-by-step decision-making process. The most prominent use of AI is in workplace hiring practices to predict future performance; however, some algorithms reject women when hiring a new candidate.³ In the health care context, AI can ruthlessly harm patients by denying medically-necessary healthcare. Surprisingly, however, the lack of legal remedies to address an unintentional disparate impact claim arising from the use of AI in health care is largely unexplored in academic literature.

AI can harm patients by denying expensive medically necessary treatments. This is a widely recognized problem by insurance regulators, with many scholars discussing ways to correct the situation, including the use of an “algorithm audit.”⁴ What is conspicuously absent from this

¹ *Artificial Intelligence*, MERRIAM-WEBSTER, <https://www.merriam-webster.com/dictionary/artificial%20intelligence> (last visited Nov. 21, 2020). AI is a computer program using a step-by-step procedure to make calculations giving it the ability to imitate human decision-making.

² Disparate impact discrimination occurs when “practices that are facially neutral in their treatment of different groups . . . in fact fall more harshly on one group than another. . . .” *Int’l Brotherhood of Teamsters v. United States*, 431 U.S. 324, 335 n.15 (1977).

³ Jeffrey Dastin, *Amazon Scraps Secret AI Recruiting Tool That Showed Bias Against Women*, REUTERS (Oct. 10, 2018, 7:04 PM), <https://www.reuters.com/article/us-amazon-com-jobs-automation-insight/amazon-scraps-secret-ai-recruiting-tool-that-showed-bias-against-women-idUSKCN1MK08G>.

⁴ See generally Max Dorfman, *Algorithms, A.I. and Insurance: Promise and Peril*, INS. INFO. INST. (Dec. 12, 2019), <https://www.iii.org/insuranceindustryblog/algorithms-a-i-and-insurance-promise->

discussion, however, and what this article seeks to add, is how our current segmented system of employer-sponsored health insurance exacerbates this problem and leaves the consumer with limited legal remedies. This paper argues the United States' segmented system cannot adequately address this unintentional discrimination despite our growing dependence on algorithms to make healthcare decisions. Moreover, current legal remedies are ill-equipped to safely regulate society's growing dependence on AI in healthcare.

The scope of this paper is not to explain the many ways that AI can go awry. This has been discussed elsewhere.⁵ Rather, the intention of this paper is to shed light on the lack of legal remedies in AI-driven healthcare highlighting the high administrative costs of solutions arising from our current disjointed healthcare system. Legal remedies are limited because of the unique historical development of health insurance in the United States.

This Article proceeds as follows: Part I describes the promises of AI to increase access to affordable healthcare and the perils of AI-driven harm to patients; Part II identifies how the United States' current segmented health financing system contributes to the problem of regulation and creates the problem of inadequate legal remedies; Part III then explains the limitations and shortcomings of remedies in their current form; and, Part IV highlights the solution of federal legislation that allows class-actions and agency oversight, thus permitting our regulatory system to enter the computational age.

II. THE PROMISE AND PERILS OF ARTIFICIAL INTELLIGENCE IN HEALTHCARE

A. THE PROMISES

AI is playing a more prominent role in healthcare. The increasing complexity of medical care, the rising costs of treatment, and the abundance of patient medical data has increased the use and demand of predictive health analytics. AI is an efficient means to make complex medical decisions and

and-peril/ (investigating a healthcare algorithm used to determine who requires expensive health care services disproportionately harmed minorities by denying medically necessary treatments).

⁵ James Guszczka et al., *Why We Need to Audit Algorithms*, HARV. BUS. REV. (Nov. 28, 2018), <https://hbr.org/2018/11/why-we-need-to-audit-algorithms>.

reduce administrative costs moving into the domain of diagnosing patients and developing treatment options, making healthcare available to those that cannot access or afford it.⁶ In a study of 1,634 images of cancerous and healthy lung tissues, AI correctly predicted the type of lung cancer with comparable precision to three pathologists.⁷ Here, AI had the same diagnostic competency as a pathologist.

AI promises to reduce gaps in health outcomes caused by geographic barriers and racial disparities. One example of this is rural access to health care. Technologies like telemedicine allow health providers to bring a portable health facility to patients in rural areas. Health organizations can bring sophisticated medical care to a rural community, rather than force the community to travel to them.

The Centers for Disease Control and Prevention (CDC) noted that the highest mortality rates occur in the most rural sections of the United States.⁸ A CDC report explains that minorities residing in rural areas are much more likely to report to never having seen a physician over the past year because of the prohibitive cost.⁹ Likewise, the CDC also found that residents in rural areas suffered from higher incidences of cancer-related deaths.¹⁰ The report suggests that access to preventative visits with a doctor is an underlying reason for the disparity in cancer-related deaths.¹¹

The benefits of AI are not confined to vulnerable communities. AI promises to optimize and even automate the insurer's prior authorization decisions for medical care.¹² The prior authorization process is complex,

⁶ Mary Anne Bobinski, *Law and Power in Health Care: Challenges to Physician Control*, 67 *BUFF. L. REV.* 595, 637 (2019).

⁷ Nariman Noorbakhsh-Sabet et al., *Artificial Intelligence Transforms the Future of Healthcare*, 132 *AM. J. MED.* 795 (2019).

⁸ Cara V. James, PhD, et al., *Racial/Ethnic Health Disparities Among Rural Adults — United States, 2012–2015*, 1–2 *CTRS. FOR DISEASE CONTROL AND PREVENTION* (Nov. 17, 2017), <https://www.cdc.gov/mmwr/volumes/66/ss/ss6623a1.htm>.

⁹ *Id.*

¹⁰ *New CDC Report shows deaths from cancer higher in rural America*, *CTRS FOR DISEASE CONTROL AND PREVENTION* (July. 6, 2017), <https://www.cdc.gov/media/releases/2017/p0706-rural-cancer-deaths.html> (last visited Mar. 11, 2021).

¹¹ *Id.*

¹² Pre-authorizations are a cost-containment device whereby the insurer is verifying whether a treatment or medication is medically necessary to avoid the over-consumption of healthcare. *See generally* Prior Authorization Services CIGNA, <https://www.cigna.com/medicare/resources/prior-authorization-services> (last visited March 12, 2021).

time-consuming, and administratively burdensome, sometimes resulting in conflicting medical decisions causing harmful delays in treatment. These problems generated by prior authorization are so widespread and acute that the American Hospital Association, America's Health Insurance Plans, the American Medical Association, and the BlueCross BlueShield Association have jointly released a statement identifying problematic areas and urging corrective action.¹³

It is in this environment that public health experts are hailing AI, which promises to automate the entire process, by considering all risk factors and patient health information—and recommending a logical treatment decision for the patient. In 2011, Jeopardy showcased this capability of fast automated decision-making when IBM Watson defeated all-time champions, Ken Jennings and Brad Rutter.¹⁴ In 2021 and beyond, the health industry has embraced future IBM Watsons to automate its decision-making for treatment decisions.¹⁵

AI can increase access to healthcare in rural areas that lack medical personnel through telemedicine. AI also promises to identify at-risk health populations for current diseases where symptoms have not manifested, and diseases that may emerge in the future. As a result, many healthcare systems and commercial insurers are now relying on algorithms to proactively identify higher-risk individuals to help manage complex patient diagnoses.¹⁶

¹³ Press Release, Consensus Statement on Improving the Prior Authorization Process, AM. MED. ASS'N, <https://www.ama-assn.org/sites/ama-assn.org/files/corp/media-browser/public/arc-public/prior-authorization-consensus-statement.pdf> (on file with author).

¹⁴ John Markoff, *Computer Wins on 'Jeopardy!': Trivial, It's Not*, N.Y. TIMES (Feb. 16, 2011), <https://www.nytimes.com/2011/02/17/science/17jeopardy-watson.html>.

¹⁵ Alicia Phaneuf, *Use of AI in Healthcare & Medicine is Booming – Here's How the Market is Benefiting from AI in 2020 and Beyond*, BUS. INSIDER (July 31, 2019), <https://www.businessinsider.com/an-algorithm-treatment-to-white-patients-over-sicker-black-ones-2019-10>.

¹⁶ Obermeyer et al., *Dissecting Racial Bias in an Algorithm Used to Manage the Health of Populations*, 366 SCIENCE 447, 447 (Oct. 25, 2019), <https://science.sciencemag.org/content/366/6464/447/tab-pdf>.

Some estimates predict annual spending on healthcare AI to have a compound annual growth rate of nearly fifty percent.¹⁷

B. THE PERILS

An insurer's decision on whether to reimburse a procedure or medication can be complex and time-consuming. The pre-authorization process involves an antiquated procedure: relying on fax machines, physicians calling busy signals, blurry print on documents, and messages misdirected to wrong numbers, which can cause delays.¹⁸ A 2019 AMA survey revealed physicians, on average, wait three business days for a decision, and that these delays have both harmed and occasionally led to patient hospitalization.¹⁹ AI offers a time and cost-saving solution.²⁰ But when AI is tasked with pre-authorizations or other medical decisions, which party should be held responsible for unsafe results? Transparency must exist to ensure the clinical safety and quality of this burgeoning technology. Yet, AI can still be a black box that issues verdicts without accompanying reasons.

Observers of the health care sector have criticized the adoption of algorithms arguing the users have not adequately considered the implications of the use of such technology—such as relying on questionable inputs. When these faulty inputs are codified into algorithms, they can perpetuate injustices and lead to the misapplication of healthcare resources.²¹

¹⁷ Allana Akhtar, *New York is Investigating UnitedHealth's Use of a Medical Algorithm that Steered Black Patients Away from Getting Higher-Quality Care*, BUS. INSIDER (Oct. 28, 2019, 11:02 AM), <https://www.businessinsider.com/an-algorithm-treatment-to-white-patients-over-sicker-black-ones-2019-10> (“[S]pending on healthcare AI is projected to grow at an annualized 48% between 2017 and 2023.”).

¹⁸ Pharmacy Insights Closer Look, *Prior Authorization Delays: Causes and Impacts*, OPTUMRX (2018), https://www.optum.com/content/dam/optum3/optum/en/resources/articles-blog-posts/m54610-b4_prechksript_deeper_dive.pdf.

¹⁹ Andis Robeznieks, *1 in 4 Doctors Say Prior Authorization Has Led to a Serious Adverse Event*, AMA (Feb. 5, 2019), <https://www.ama-assn.org/practice-management/sustainability/1-4-doctors-say-prior-authorization-has-led-serious-adverse> (highlighting that twenty-eight percent of 1,000 practicing physicians surveyed “report[] that prior authorization has led to a serious adverse event . . .”).

²⁰ Phaneuf, *supra* note 15.

²¹ Leo Beletzsky, *Deploying Prescription Drug Monitoring to Address the Overdose Crisis: Ideology Meets Reality*, 15 IND. HEALTH L. REV. 139, 168 (2018).

A rejoinder to criticism of AI is that everyone has hidden biases, and that opaque decision-making is common in healthcare. In this respect, AI is no different than our current healthcare system, and therefore concern about AI is exaggerated. Although the similarities may be correct as an empirical matter, it ignores the larger context of AI within healthcare. The use of powerful machine learning software is rapidly accelerating in development. The allure to consumers and clinicians is the ability to allow a computer to make rational decisions using vast stores of medical data—without subjective biases—and achieving diagnostic accuracy. But the risks are minimized. Whereas before, when bias may have existed on a case-by-case basis, the unfettered use of AI can systemize bias in health facilities across the country. Simply because there are other causes of disparate impact does not mean this problem should be ignored.

For example, imagine an AI-based clinical decision support software helping physicians diagnose skin cancer.²² Patients can now upload an image of suspect skin into an algorithm-based smartphone application that tells the patient whether the patient must go see a dermatologist, and, if so, instantly generates the referral.²³ The software could be harmful when the recommendations are erroneous causing a delay in people in obtaining medical care. As studies have already shown, the incidence of skin cancer depends on the color of one's skin.²⁴

MIT researchers have demonstrated that AI can retain skin biases—with the AI essentially guessing at random— but can still claim a high success rate.²⁵ The studies used to attest to AI safety may be misleading due to fundamentally flawed data sets used in the statistical analysis. The MIT study analyzed over 1,200 images finding the facial-recognition software had a thirty-four percent error rate when identifying darker skin tones, especially

²² Images of lesions are categorized high or low risk for skin cancer (usually melanoma).

²³ Freeman et al., *Algorithm Based Smartphone Apps to Assess Risk of Skin Cancer in Adults: Systematic Review of Diagnostic Accuracy Studies*, *BMJ* (Feb. 10, 2020), <https://www.bmj.com/content/368/bmj.m127>.

²⁴ Porcia T. Bradford, *Skin Cancer in Skin of Color*, *DERMATOLOGY NURSING*, 170, 171 (2009), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2757062/>.

²⁵ Larry Hardesty, *Study Finds Gender and Skin-Type Bias in Commercial Artificial-Intelligence Systems*, *MIT NEWS* (Feb. 11, 2018), <https://news.mit.edu/2018/study-finds-gender-skin-type-bias-artificial-intelligence-systems-0212>.

among women.²⁶ But the data set claimed the error was never less than 0.8 percent—substantially different than the thirty-four percent.²⁷ This discrepancy arose because the patient data used to assess the software’s performance was seventy-seven percent male and eighty-three percent white. This same problem of defective statistical analysis can exist within clinical AI.

The clinical software could be guessing at diagnosis but still claim a high success rate. If the underlying data is underinclusive for subpopulations, then AI can produce skewed results. This is a concern many researchers have already voiced about poor-performing software.²⁸ The results are either disparate health outcomes or claim denials because the insurer believes the requested treatment is not medically necessary.²⁹

Under this set of facts, due to the disparate treatment of a protected class of individuals with skin cancer, the insurers would be liable under state and federal laws, such as New York’s Insurance Law,³⁰ Human Rights Law,³¹ a deceptive business practice under N.Y. General Business Law,³² and Title VII of the Civil Rights Act³³ which prohibits discrimination.³⁴

Instances of AI health inconsistencies are well-documented. One recent example is the New York insurance regulator’s investigation into Impact Pro, the creator of an algorithm that is widely used in healthcare.³⁵ A

²⁶ *See id.*

²⁷ Hardesty, *supra* note 25.

²⁸ Freeman et. al., *supra* note 23, at 1, 2.

²⁹ “Medically necessary” or a “medical necessity” exists when it is reasonable and necessary to protect life, to prevent significant illness or significant disability, or alleviate severe pain. This explanation typically comes in a document called an Explanation of Benefits (EOB) from the insurer.

³⁰ N.Y. INS. LAW § 2606(a)(1) (McKinney 2019) (providing, in pertinent part, that no insurer “shall because of race, color, creed, national origin, or disability: (1) Make any distinction or discrimination between persons as to the premiums or rates charged for insurance policies or in any other manner whatever.”).

³¹ N.Y. EXEC. LAW § 296 (McKinney 2014) (New York State Human Rights Law).

³² N.Y. GEN. BUS. LAW § 349(a) (McKinney 2014), “Deceptive acts or practices in the conduct of any business, trade or commerce or in the furnishing of any service in this state are hereby declared unlawful.”

³³ Title VII of the Civil Rights Act of 1964, 42 U.S.C. § 2000e-2(k).

³⁴ *See* Letter from Linda A. Lacewell, Superintendent of N.Y. State Dep’t of Fin. Servs. & Howard A. Zucker, Comm’r N.Y. State Dep’t of Health to UnitedHealth Group (Oct. 25, 2019), available at <https://dfs.ny.gov/system/files/documents/2019/10/20191025160637.pdf>.

³⁵ Akhtar, *supra* note 17.

prominent peer-reviewed journal discovered white patients were treated more favorably and received more expensive health procedures than sicker black patients between 2013 and 2015 because the algorithm made distinctions based on race.³⁶ The AI excluded black patients from receiving costlier complex health procedures at a higher rate than white patients.³⁷ The bias arose because healthcare costs were used as a proxy for the severity of illness but, “[d]espite health care cost appearing to be an effective proxy for health by some measures of predictive accuracy, large racial biases ar[o]se.”³⁸ Here, the AI relied on a rational reason to distinguish between healthy and sick people: by reasoning by proxy that lower health costs meant people were generally healthier. But lower healthcare costs did not mean the patient was healthier. As a result, black patients were excluded from receiving medically necessary treatments.³⁹ AI can promote the same race-based discrimination that we have seen elsewhere, despite purporting to be race-neutral. Here though, it is more hidden.

The algorithm created by data scientists is not the only problem that can cause harm. The algorithm may be perfectly programmed within the machine-learning process (a step-by-step procedure for solving a problem) by treating everyone the same when making its decision, but it can still produce discriminatory results. Even in a perfect world, where the data scientists carefully program the algorithm so that it does not discriminate based on factors such as race, ethnicity, religion, or any other socio-economic factor—the underlying data could be skewed—with the data producing skewed results.⁴⁰

Examples abound with AI making questionable decisions. In 2014, Amazon developed software to aid in its recruitment of qualified engineers. However, the algorithm discriminated against women and Amazon

³⁶ *Id.*

³⁷ Melanie Evans & Anna Wilde Mathews, *New York Regulator Probes UnitedHealth Algorithm for Racial Bias*, WALL ST. J. (Oct 26, 2019, 7:00 AM), <https://www.wsj.com/articles/new-york-regulator-probes-unitedhealth-algorithm-for-racial-bias-11572087601/>.

³⁸ Obermeyer, *supra* note 16, at 1.

³⁹ Akhtar, *supra* note 17.

⁴⁰ If the data is flawed, then the algorithm is fundamentally flawed, so these components go together. For example, in an algorithm: $w(xy)+w(yz) \geq w(xz)$; the “w” is the weight assigned to the data points. If the data points are erroneous, the entire equation will yield the wrong results.

subsequently abandoned the software in 2017.⁴¹ Likewise, in 2016, judges used AI to help predict the likelihood of recidivism when making sentencing decisions. But the algorithm discriminated against black individuals and was subsequently abandoned.⁴² In 2019, law enforcement used a facial-analysis program to identify criminal suspects—and the algorithm falsely identified blacks as criminal suspects.⁴³

Insurance regulators are already performing “algorithm audits,” but are not equipped to understand the nuances of machine-learning algorithms and are only prepared to respond once a disparity has been discovered. Insurance regulators are not computer scientists and cannot examine AI ex-ante to ensure its safety. AI is designed to predict future outcomes so unless ex-ante legal remedies are developed, then the harm can only be remedied once it has already been done.⁴⁴ A regulatory regime must be tailored to avoid these disparities in the future. This ongoing discussion in assessing legal remedies is important, but it is conspicuously absent from the academic literature.

III. OUR HEALTH CARE FINANCING SYSTEM

To understand the use of AI in healthcare, we must first understand our healthcare financing system which is dominated by employer-provided health insurance. First, the current healthcare financing system is tied to AI

⁴¹ Jonathan Shaw, *Artificial Intelligence & Ethics*, HARV. MAG., Jan.–Feb. 2019, at 44, 45.

⁴² *Id.*; see also Julia Angwin, Jeff Larson, Surya Mattu & Lauren Kirchner, *Machine Bias*, PROPUBLICA (May 23, 2016), <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>. But see Ed Yong, *A Popular Algorithm Is No Better at Predicting Crimes Than Random People*, THE ATLANTIC (Jan. 17, 2018), <https://www.theatlantic.com/technology/archive/2018/01/equivant-compass-algorithm/550646/> (citing studies showing the recidivism algorithm had equal predictive accuracy).

⁴³ See *NIST Study Evaluates Effects of Race, Age, Sex on Face Recognition Software*, NAT'L INST. STANDARDS & TECH. (Dec. 19, 2019), <https://www.nist.gov/news-events/news/2019/12/nist-study-evaluates-effects-race-age-sex-face-recognition-software>; Larry Magid, *Facial Recognition Loses Support as Bias Claims Rise*, MERCURY NEWS, (July 3, 2020, 6:19 AM), <https://www.mercurynews.com/2020/07/02/magid-facial-recognition-accused-in-racial-bias-being-pulled-back-by-cities-and-companies/>.

⁴⁴ Solon Barocas & Andrew D. Selbst, *Big Data's Disparate Impact*, 104 CALIF. L. REV. 671, 707 (2016) (“Data mining is designed entirely to predict future outcomes”).

through the experience-rating system,⁴⁵ which looks to reduce costs when possible. Second, I argue ERISA governing employer-based health insurance contributes to the lack of legal remedies for injured consumers.

The health insurance market is divided into four different categories: the self-insured, large employers, small employers, and individual markets, each of which is governed by different regulations and laws. Access to remedies varies by market, a consequence of our fragmented health care system and its disjointed development.

A. THE CREATION OF HOSPITAL INSURANCE AND THE PHYSICIAN'S REACTION

Modern health insurance began in the United States during the Great Depression in Dallas, Texas. The Great Depression left wealthy donors poor and patients with less disposable income. Hospitals were going broke once these sources of income disappeared.⁴⁶ In 1929, Baylor University created a program of prepaid hospitalization benefits to generate steady income. In exchange for fifty cents a month, Baylor provided three weeks of hospitalization to Dallas County school teachers.⁴⁷ The program was a success and other hospitals began to offer the same type of plan.

These hospital pre-payment plans inspired physicians to establish similar plans with employers to care for injuries and sicknesses for employers' workers.⁴⁸ The first version of physician-benefit plans began in 1929—the same year hospital pre-payment plans began.⁴⁹ From the beginning, health insurance for hospitals and physicians—despite the common purpose to finance healthcare decisions—developed as separate regimes.

This emergence of the private market for health insurance excluded the population that could not afford health insurance or were historically too sick to qualify: the elderly, poor, and unemployed. Because of this gap, the federal government created a new avenue to access health insurance. In July

⁴⁵ Experience-rating uses the individual or business's unique risk profile to develop a unique rate. See *Experience-Rating*, BLACK'S LAW DICTIONARY (11th ed. 2019).

⁴⁶ PAUL STARR, THE SOCIAL TRANSFORMATION OF AMERICAN MEDICINE 295 (1982).

⁴⁷ *Id.*

⁴⁸ *Id.* at 301.

⁴⁹ *Id.*

1965, President Lyndon B. Johnson signed into law legislation that established the Medicare and Medicaid programs. Subsequently, in 2010, President Barack Obama signed the Affordable Care Act (ACA), which created new health insurance exchanges within each state where eligible consumers could purchase health insurance with a government subsidy to help pay for the plan.⁵⁰ Exchanges were created for individuals to purchase health insurance.⁵¹

Thus, the development of health insurance in the United States has been fragmented in the ways by which a consumer accesses health insurance. Consumers access health insurance via state-exchanges, employer-provided health insurance, Medicare, Medicaid, individual and small-group marketplace through commercial insurers, association plans that are not within the scope of the ACA, or short-term disability plans. The federal and states agencies are scattered over fifty states since the states primarily regulate the business of insurance. Federal laws govern remedies in some cases, and state laws govern remedies in others. Because of these developments, uniformity in legal remedies to regulate AI is nearly impossible given our current system.

B. THE RISE OF EXPERIENCE-RATING AND EMPLOYER-CENTRIC HEALTH INSURANCE

During World War II, tax advantages helped to make employer-based coverage more desirable.⁵² A favorable change to the tax code exempting employer-payments to an employee's health insurance coverage incentivized more spending by employers on health insurance premiums.⁵³ This favorable tax benefit led to the explosion of employer-provided health insurance, which still exists today. Group insurance provided four core benefits: reduced adverse selection, lower administrative costs, federal tax advantages, and greater access to insurance since there is no underwriting

⁵⁰ Affordable Care Act, HEALTHCARE.GOV, <https://www.healthcare.gov/glossary/affordable-care-act/> (last visited Nov. 1, 2020).

⁵¹ 45 C.F.R. pt. 155 (2014) (establishing the exchanges).

⁵² John A. Cogan, Jr., *Does Small Group Health Insurance Deliver Group Benefits? An Argument in Favor of Allowing the Small Group Market to Die*, 93 WASH. L. REV. 1121, 1141 (2018).

⁵³ *Id.*

requirement.⁵⁴ As of 2018, over half of the United States' total population receives health insurance from their employer-sponsored health insurance.⁵⁵

IV. LIMITATIONS AND SHORTCOMINGS FOR CURRENT LEGAL REMEDIES

A wrongful pre-authorization denial for an expensive medical procedure is challenging in the health insurance context because, unlike other sales of goods in the marketplace, substitution is not available for health insurance. Normally, substitution occurs after a breach of contract where the buyer may “cover” by obtaining the original goods from another seller and recovering the difference in cost from the breaching party.⁵⁶ However, within the health insurance marketplace, the buyer who discovers the contract has been breached cannot then go and find another health insurance company to contract with to cover the procedure or medication.⁵⁷ This is like any other unilateral insurance contract where the marketplace offers no remedy to the non-breaching party.

A. ERISA REMEDIES

Most Americans get their private health insurance through an employer-provided group plan.⁵⁸ The bulk—about sixty-one percent—of these plans are self-funded.⁵⁹ Thus ERISA, which governs group health plans that are not government or church plans has two effects. First, for self-funded plans, all state laws are preempted.⁶⁰ Second, and more importantly for

⁵⁴ Cogan, Jr., *supra* note 53, at 1125.

⁵⁵ KATHERINE KEISLER-STARKEY & LISA N. BUNCH, HEALTH INSURANCE COVERAGE IN THE UNITED STATES: 2019, U.S. CENSUS BUREAU (Sept. 15, 2020) (showing in 2019, 55.4 percent of people had employer-provided health insurance) <https://www.census.gov/library/publications/2020/demo/p60-271.html>

⁵⁶ *E.g.*, N.Y. U.C.C. Law § 2-712(1)-(2).

⁵⁷ Insurance is excluded from the UCC since it is not a transaction in goods. Thus, the non-breaching party may not employ the UCC substitute provision in § 2-712. U.C.C. § 2-102 (AM. LAW INST. & UNIF. LAW COMM'N 2013)

⁵⁸ KEISLER-STARKEY & BUNCH, *supra* note 55.

⁵⁹ 2019 Employer Health Benefits Survey, KFF (Sept. 25, 2019), <https://www.kff.org/report-section/ehbs-2019-section-10-plan-funding/>.

⁶⁰ 29 U.S.C. § 1144(a).

ERISA-covered group plans—all state remedies are preempted. ERISA will often govern the available legal remedies in employee health plans.

Assuming ERISA governs the plan, ERISA preempts all state law causes of action that duplicate, supplement, or supplant the civil enforcement remedy provided in the ERISA statute.⁶¹ There are two types of ERISA preemption: complete and conflict. “Complete preemption exists when a *remedy* falls within the scope of or is in direct conflict with [ERISA].”⁶² Therefore, ERISA preempts state laws that coincide with civil enforcement mechanisms and are replaced by a limited number of causes of action. However, under conflict preemption, ERISA preempts state laws “insofar as they relate now or hereafter to any employee benefit plans.”⁶³ As an exception, ERISA’s savings clause allows state laws “which regulate[] insurance, banking, or securities”⁶⁴ and thus allows those state laws to survive ERISA preemption.

ERISA’s remedies are inadequate and often fail to make an injured patient whole. For instance, if a health plan denied or delayed authorization of a medical service causing the patient’s death, his or her family would have no right to collect any damages for their loss.⁶⁵ This is due to ERISA’s broad, sweeping preemption framework. Complete preemption is typically invoked as a defense to a party’s state law claims.⁶⁶ The outcome of this regime is that self-funded employer-sponsored benefit plans are immune from attempts by the states to regulate them.⁶⁷

ERISA plans are further insulated from claims-related liability through the existence of a “discretionary clause.”⁶⁸ Discretionary clauses protect an ERISA-covered benefits plan administrator from liability by mandating the least demanding standard of judicial review for their conduct.

⁶¹ *Aetna Health, Inc. v. Davila*, 542 U.S. 200, 209 (2004). An exhaustive discussion on ERISA preemption exceeds the scope of this article.

⁶² *Haynes v. Prudential Health Care*, 313 F.3d 330, 333 (5th Cir. 2002) (emphasis added).

⁶³ 29 U.S.C.A. § 1144(a) (2006).

⁶⁴ 29 U.S.C.A. § 1144(b)(2)(A) (2006).

⁶⁵ Katherine T. Vukadin, *Delayed and Denied: Toward an Effective ERISA Remedy for Improper Processing of Healthcare Claims*, 11 YALE J. HEALTH POL’Y L. & ETHICS 331, 353 (2011).

⁶⁶ *Gutierrez v. Flores*, 543 F.3d 248, 252 n.5 (5th Cir. 2008).

⁶⁷ Vukadin, *supra* note 65, at 689.

⁶⁸ *Firestone Tire & Rubber Co. v. Bruch*, 489 U.S. 101, 115 (1989). The default standard would be *de novo* unless the plan contained a clause conferring discretion upon the administrator; then the standard of review in federal court would be the arbitrary or capricious standard.

De novo is the default standard for claims review unless the plan contained a clause conferring discretion upon the administrator; then the standard becomes the arbitrary or capricious standard.⁶⁹ Today these discretionary clauses are ubiquitous in ERISA plans.⁷⁰

Plan participants are not completely left out in the cold. ERISA does provide a remedial scheme but there are substantial procedural limitations. Class action suits must comply with Rule 23 of the Federal Rules of Civil Procedure (FRCP) because ERISA preempts state laws and thus the federal courts have jurisdiction.⁷¹ Class certification under FRCP Rule 23 is problematic. The type of health insurance plan will affect whether a plaintiff can satisfy the class certification requirements of Rule 23. Different insurance plan types could lead to a plaintiff failing class certification if other members of the class have different plans. Common questions of diagnosis and coverage could require lengthy trials destroying class certification.⁷² There are substantial procedural limitations when the plaintiffs attempt class certification under the FRCP.

Compensatory damages are not an available remedy in class actions. Section 1132(a)(2)-(3) states: “A civil action may be brought by the Secretary, or by a participant, beneficiary or fiduciary . . . to obtain appropriate equitable relief.”⁷³ Interpreting the phrase “appropriate equitable relief” Justice Scalia, writing for the majority held the statute refers to “categories of relief that were typically available in equity (such as injunction, mandamus, and restitution, but not compensatory damages).”⁷⁴ Thus, extracontractual compensatory or punitive damages arising from an alleged wrongful denial of benefits are not recoverable as “appropriate equitable relief” under ERISA.

⁶⁹ *Id.*

⁷⁰ Vukadin, *supra* note 65, at 698.

⁷¹ CRAIG C. MARTIN, ET AL., JENNER & BLOCK PRACTICE SERIES ERISA LITIGATION HANDBOOK 177 (5th ed. 2012).

⁷² *See Doe v. Guardian Life Ins. Co. of Am.*, 145 F.R.D. 466, 476–77 (N.D. Ill. 1992) (participants claiming breach of fiduciary duties in health insurance plan met commonality and typicality requirement, but common questions did not predominate).

⁷³ 29 U.S.C. § 1132(a)(2)-(3).

⁷⁴ *See Mertens v. Hewitt Assocs.*, 508 U.S. 248, 255–56 (1993) (holding that plan participants cannot bring civil actions for money damages to obtain “appropriate equitable relief” to redress violations of statute or plan when it is not authorized).

Further, the Supreme Court has held that Health Maintenance Organizations (HMOs) cannot be sued in federal court under ERISA for adverse treatment decisions.⁷⁵ This is true even if the adverse treatment causes death. Courts ordinarily reason that since ERISA's regulatory scheme only allows for a limited set of remedies the courts will not permit additional remedies that Congress did not establish.⁷⁶

In summary, ERISA is the biggest obstacle to fashioning an adequate and uniform legal remedy for patients harmed by AI insured under a group health plan. Plaintiffs are limited to those specific remedies listed under ERISA; therefore, no consequential, non-economic, or punitive damages.⁷⁷ Furthermore, any state law remedy functioning as a deterrence mechanism would be preempted if it was an ERISA health plan.

B. FIRST POTENTIAL LEGAL REMEDY: DISPARATE IMPACT CLASS ACTIONS

“Disparate impact” was first used in the context of employment decisions. The Supreme Court held it was illegal under Title VII of the Civil Rights Act for a company to use intelligence test scores and high school diplomas, factors which disproportionately disqualified people of color, to make hiring or promotion decisions, even if discrimination was unintentional.⁷⁸ The absence of discriminatory intent did not redeem a practice where factors were used that were unrelated to measuring job capability.⁷⁹

Scholars have advocated for adopting the disparate impact doctrine to protect from discrimination in data mining.⁸⁰ In a disparate impact case, the plaintiff must show:

A particular facially neutral employment practice causes a disparate impact with respect to a protected class. If shown,

⁷⁵ *Pegram v. Herdrich*, 530 U.S. 211, 211 (2000).

⁷⁶ *See Pilot Life Ins. Co. v. Dedeaux*, 481 U.S. 41, 54 (1987).

⁷⁷ John Morrison & Jonathan McDonald, *Exorcising Discretion: The Death of Caprice in ERISA Claims Handling*, 56 S.D. L. REV. 482, 484 (2011) (citing 29 U.S.C. § 1132 (2006)).

⁷⁸ *Griggs v. Duke Power Co.*, 401 U.S. 424, 430 (1971) (“Under the [Title VII] Act, practices, procedures, or tests neutral on their face, and even neutral in terms of intent, cannot be maintained if they operate to ‘freeze’ the status quo of prior discriminatory employment practices.”).

⁷⁹ *Id.*

⁸⁰ Barocas & Selbst, *supra* note 44, at 701.

the defendant-employer may “demonstrate that the challenged practice is job related for the position in question and consistent with business necessity.” If the defendant makes a successful showing to that effect, the plaintiff may still win by showing that the employer could have used an “alternative employment practice” with less discriminatory results.⁸¹

The analysis is similar to the problems within AI. Since class members share similar data points, the argument is that unintentional discrimination could be treated as a disparate impact claim. Class actions—with extracontractual damages—under a legal theory of unintentional discrimination against AI architects, hospitals, and insurers would theoretically function as a legal-deterrence mechanism. By enabling class actions against the users of AI, the law could incentivize running repeated quality assurance trials to ensure AI safety and fairness.

However, healthcare decisions are normally insulated from large extracontractual awards because of ERISA. As previously discussed, ERISA preempts any state remedy for self-funded employer-sponsored benefit plans—with only the equitable remedies explicitly set out in ERISA. Therefore, ERISA is a barrier for class-actions suits as a deterrence mechanism.

Even if the plan is not preempted by ERISA, the litigation is too little, too late since not receiving medically necessary treatments means a patient will likely die when those treatments are denied. Additionally, it is harder to identify an injury within AI compared to an individual denied a job despite the applicant’s competent credentials. Lastly, bringing a claim would be expensive with needed expert testimony, including health experts, computer scientists, engineers, and physicians to testify to the design of the algorithm and the standard of care for the medical diagnosis.

⁸¹ *Id.*

C. SECOND LEGAL REMEDY: THE AFFORDABLE CARE ACT SOLUTION

The discussion for legal remedies must touch upon the Affordable Care Act (ACA).⁸² The goal of the ACA is to increase access to healthcare and decrease the costs of healthcare.⁸³ The ACA has a significant anti-discrimination provision which mirrors other federal laws like the Civil Right Act.⁸⁴ Section 1557 of the ACA prohibits discrimination due to race, color, national origin, sex, age, or disability.⁸⁵ However, only some employers are subject to § 1557 since the regulations only apply to health programs and activities that receive federal funding from Health and Human Services (HHS).⁸⁶ As a result, § 1557 only has limited applicability to employer-sponsored health benefit programs. But even if they do apply, the claims are still ERISA-based and subject to the same problems outlined above.

The ACA is not equipped to handle this rapidly accelerating technology. The ACA focuses on community-rating requirements, making it illegal for qualifying health insurers to discriminate against individuals with pre-existing conditions in *pricing* the coverage or *rescinding* an offer of coverage with exceptions for charging higher rates based on age, tobacco use, and geography.⁸⁷ It is not intended to focus on the patient at the point of service.

Proponents of the ACA may argue this problem can be solved by allowing policymakers to ensure equal access across the marketplace by defining the coverage requirements for *all* health insurers, including the dominant employer-provided insurance segments.

Currently, the ACA authorizes the Secretary of HHS to define Essential Health Benefits (EHBs) that ACA-covered plans must offer to its

⁸² Patient Protection and Affordable Care Act, Pub. L. No. 111-148, 124 Stat. 119 (2010).

⁸³ Nat'l Fed'n of Indep. Bus. v. Sebelius, 132 S. Ct. 2566, 2580 (2012) ("The Act aims to increase the number of Americans covered by health insurance and decrease the cost of health care.").

⁸⁴ 42 U.S.C. §§ 1981(a)-(c) (2018).

⁸⁵ 42 U.S.C. § 18116 (2018).

⁸⁶ 45 C.F.R. § 92.1 (2018) (The enforcement provision of § 1557 states "[t]his part applies to health programs or activities administered by recipients of Federal financial assistance from the Department, Title I entities that administer health programs or activities, and Department-administered health programs or activities.").

⁸⁷ 42 U.S.C. § 300gg.

subscribers.⁸⁸ To ensure consistency in plan designs, the ACA requires specific coverages ranging from emergency services, mental health, to primary care. Within these categories, the ACA lists four general considerations when the HHS Secretary designs coverage: (1) the benefit must be balanced without undue weights given to a single category; (2) the coverage cannot discriminate based on age, disability, or life expectancy; (3) the needs for diverse groups; (4) and the benefits should not be denied based on age or health demographics. In effect, the HHS Secretary has broad latitude and flexibility to define which procedures should be included within these ACA-covered plans. Arguably the ACA gives a pathway to solving the problem of unequal treatments across different plans. However, an attempt to solve the problem of defining which services would be covered is dangerous.

There are at least three reasons for this. First, there are hundreds of insurers each with multiple plan types with different policy definitions. As a result, it would be unreasonable to expect each insurer to have identical definitions for coverage across the marketplace. Second, it would be impossible to define in detail exactly which procedures should be covered, and any attempt to would run thousands of pages long and would be incomprehensible to a patient. Also, each year novel treatments are created as scientific drugs and procedures advance. These new, novel treatments would likely be excluded from an authorized list, while obsolete procedures would be preferred. Third, at the patient level, it is impossible to predict ex-ante the types of procedures that should be covered in each instance. A physician must look at several health risk factors and prescribe treatments. Authorizing a specific list of procedures ex-ante could harm the patient. Therefore, a top-down approach to address unequal treatment is misguided. Any solution should be tailored to safeguard a physician's ability to prescribe the safest treatments.

Also, although the ACA contains an appellate process to provide consumers with assistance when denied coverage disparate impact discrimination is harder for an individual to prove. For many patients, an overturned decision based on an appeal is only good news if it is overturned in time. Many of these pre-authorizations are for a time-sensitive procedure; thus, measuring the number of successful legal challenges is likely under-

⁸⁸ 42 U.S.C. § 18022(b)(1).

inclusive. As the data from the previously mentioned study showed, black individuals were less likely to receive necessary healthcare services.

D. THIRD POTENTIAL REMEDY: DISCLOSURE

The ACA is the largest piece of legislation in the area of disclosure. Health insurers must report “claims payment policies, enrollment, disenrollment, number of claims denied, cost-sharing requirements, out-of-network policies, and enrollment rights in plain language.”⁸⁹ Although the ACA requires insurers to disclose its actuarial rates, this focus is more concerned with pricing than decision-making.

Qualified health plans covered under the ACA and self-funded employers are not required to disclose the data behind the rates or the algorithms. This missing information is the potential threat causing disparate health treatments. Disclosure requirements under the ACA do not provide an effective legal remedy.

Even if the law was amended to require disclosure of machine-learning software, this requirement would face significant legal hurdles. First, this complex software is subject to patent rights and protections.⁹⁰ Patent protections exist to incentivize new inventions by rewarding the patent holder and to encourage further research and development. Requiring the patent holders of AI to broadly disclose their work product is contrary to the purpose of patent protection. Since AI is considered intellectual property, patent holders would vociferously challenge disclosure requirements and any regulatory attempt to release AI to public scrutiny. Second, insurance regulators are not engineers and are not trained to analyze complex data sets to determine whether consistent results are produced. Lastly, broad access to third-party agencies or law enforcement to protected health information may violate a patient’s privacy. In sum, disclosure rules are not adequately equipped to deal with the safety of AI.

V. THE NEED FOR FEDERAL LEGISLATION

Some questions must be answered before we can appropriately determine the proper regulatory regime. Can regulators even gain access to

⁸⁹ *Focus on Health Reform: Summary of the Affordable Care Act*, HENRY J. KAISER FAM. FOUND. 5 (last modified Apr. 23, 2013), <https://www.kff.org/health-reform/fact-sheet/summary-of-the-affordable-care-act/>.

⁹⁰ 35 U.S.C. § 101 (1952) (requiring individuals who invents or discovers any new and useful process or machine to obtain a patent in accordance to the title).

the data to proactively identify faulty steps in the algorithm? Is the data granular enough to identify whether the data set itself is flawed? If regulators could do so, what is the financial cost for each agency to find and identify these flaws? The current fragmented health system adds enormous administrative costs to properly regulating AI if each agency had to answer the questions above.

Therefore, I argue that federal legislation is needed in this area for a new regulatory agency and to fix the legal remedies allowed to a consumer. Regulating AI has significant transaction costs and information asymmetry, so a new regulatory agency can improve efficiency through uniform legal and regulatory remedies. Regulators can hold data-centric firms more accountable and correct market failures. By appointing computer scientists and policymakers to oversee algorithms in different industries, such as the credit markets, banking, insurance, health care, and judicial systems, the U.S. current basic regulatory structure could function in the computational age.

In 2019, U.S. lawmakers introduced a bill called the Algorithm Accountability Act which would require large companies to “audit machine learning-powered system—like facial recognition or ad-targeting algorithms,” with the Federal Trade Commission responsible for creating rules for evaluating “highly sensitive automated systems” and ensure data integrity.⁹¹ This concept should be extended to machine-learning software used in healthcare decision-making.

Second, modifying ERISA’s broad, complete preemption to allow for extracontractual damages toward benefit administrators for self-insured plans would incentivize quality assurance measures. Due to ERISA preemption, many consumers are stripped of remedies available under state law, allowing only the recovery of entitled medical benefits under the plan. These limitations must be changed to avoid the burden of wrong health diagnoses and disparate outcomes to fall on the patient.

As a quality assurance measure, hospitals and algorithm creators would conduct test-runs on algorithms to ensure their safety and detect any

⁹¹ Algorithmic Accountability Act of 2019, H.R. 2231, 116th Cong. (2019); Adi Robertson, *A new bill would force companies to check their algorithms for bias*, THE VERGE (Apr. 10, 2019), <https://www.theverge.com/2019/4/10/18304960/congress-algorithmic-accountability-act-wyden-clarke-booker-bill-introduced-house-senate> (discussing the bill primarily followed the algorithmic discrimination lawsuit filed against Facebook and is aimed at regulating technology companies, or any company making over \$50 million).

adverse treatment recommendations. These test runs would be variable sets to identify problems in healthcare decisions. For example, the control data set would contain 1,000 correct diagnoses with statisticians properly accounting for age, race, and demographics. The variable set includes the AI diagnosing these 1,000 cases.⁹² The distribution created is the standard deviation between the correct treatment decision and an erroneous decision. The higher the standard deviation, the more flawed the algorithm is in making treatment decisions. One practical solution is for the National Institute of Health (NIH). More public funding from organizations like the NIH or stakeholders of AI to provide peer-reviewed statistical analyses would be a practical way to increase this type of analysis.

VI. CONCLUSION

Justice Brandeis said, “The greatest dangers to liberty lurk in insidious encroachment by men of zeal, well-meaning but without understanding.”⁹³ Although AI promises advances in healthcare, more thought is needed to ensure the safety of its use. Legal remedies must also make injured patients whole. Advocates of AI argue machines eliminate human biases from the decision-making process. However, AI is only as good as the underlying data and the computer scientists who create them.

⁹² The effect of sample size can affect the empirical results. If the goal is accurate prediction (correct diagnosis), then the sample size must be representative to ensure an accurate prediction rate (the proportion of correct diagnoses). 1,000 control-cases compared to the 1,000 AI-generated outputs would be a baseline in the statistical analysis. In some cases, using more control-cases to variable-cases will be warranted due to large population sizes or to test the independence of results.

⁹³ *Olmstead v. U.S.*, 277 U.S. 438, 479 (1928) (Brandeis, J., dissenting).