AI FOR RETROSPECTIVE REVIEW

CATHERINE M. SHARKEY*

INTRODUCTION

Artificial intelligence (AI) has infiltrated the administrative state.[1] On December 3, 2020, the Trump Administration released an "Executive

* Segal Family Professor of Regulatory Law and Policy, New York University School of Law. Bridget Pals (NYU 2021) and Eddie Percarpio (NYU 2022) provided extraordinary research assistance. Mike Livermore provided helpful feedback.

1. Cognizant that "[t]here is no universally accepted definition of 'artificial intelligence,'" this article follows the lead of the Administrative Conference of the United States (ACUS) in defining the umbrella term broadly:

> AI systems tend to have characteristics such as the ability to learn to solve complex problems, make predictions, or undertake tasks that heretofore have relied on human decision making or

Order on Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government."[2] As part of its "Guidance for Regulation of Artificial Intelligence Applications," released on November 17, 2020, the Office of Management and Budget (OMB) directed agencies to "consider how best to promote retrospective analysis of rules that may be outmoded, ineffective, insufficient, or excessively burdensome" and then to "modify, streamline, expand, or repeal them in accordance with what has been learned."[3] Retrospective review of existing regulations is not a new phenomenon; the Trump Administration followed the Obama Administration (and prior to that, the Clinton Administration) in urging such review. But the novel use of artificial intelligence to identify rules that should be subject to retrospective analysis warrants attention and further exploration.

OMB's general agency guidance followed closely on the heels of the "Regulatory Clean Up Initiative" final rule published on November 16, 2020, by the Department of Health and Human Services (HHS).[4] As HHS explained:

> While retrospective regulatory review and reform has until now been a largely manual process, new technologies exist that can support policy subject matter experts (SMEs) in their efforts to review large amounts of regulatory text. As part of HHS's pioneering efforts to pilot the use of Artificial Intelligence (AI) and other advanced analyses, HHS recently applied AI and Natural Language Processing (NLP) technology to support and accelerate SME reviews in cognizant divisions of HHS of unstructured text in the

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> intervention. There are many illustrative examples of AI that can help frame the issue . . . . [including] AI assistants, computer vision systems, biomedical research, unmanned vehicle systems, advanced game-playing software, and facial recognition systems as well as application of AI in both information technology and operational technology.

Admin. Conf. of the U.S., Statement #20, *Agency Use of Artificial Intelligence*, 86 Fed. Reg. 6616 (Jan. 22, 2021).

2. E.O. 13960, The White House, Exec. Order on Promoting the Use of Trustworthy Artificial Intelligence in the Fed. Gov't (Dec. 3, 2020), https://www.whitehouse.gov/presidential-actions/executive-order-promoting-use-trustworthy-artificial-intelligence-federal-government/ [https://perma.cc/U294-9P22] [hereinafter E.O. 13960].

3. Memorandum from Russell T. Vought, Dir., Office of Mgmt. & Budget, *Guidance for Regulation of Artificial Intelligence Applications*, at 11 (Nov. 17, 2020), https://www.whitehouse.gov/wp-content/uploads/2020/01/Draft-OMB-Memo-on-Regulation-of-AI-1-7-19.pdf [https://perma.cc/H39P-L297] [hereinafter *OMB AI Memo*]. OMB noted that its guidance was in accordance with Exec. Order No. 13563, 76 Fed. Reg. 3821 (Jan. 21, 2011).

4. Regulatory Clean Up Initiative, 85 Fed. Reg. 72899 (Nov. 16, 2020).

> Code of Federal Regulations (CFR), facilitating the identification of opportunities to improve HHS's regulations.[5]

The "Regulatory Clean Up Initiative" rule made non-substantive changes to existing HHS regulations, such as "correcting references to other regulations, misspellings, and other typographical errors."[6]

The seemingly mundane nature of this final rule, however, should not obscure its revolutionary import. To begin, it is (as far as I am aware) the first use of AI in a final rule and one that has (thus far) escaped widespread attention. This particular use case for AI in rulemaking was overlooked in "Government by Algorithm: Artificial Intelligence in Federal Administrative Agencies," a February 2020 comprehensive report (for which I served as one of four lead authors) that surveyed AI use cases across federal agencies.[7] This Article adds to our understanding of those federal agency AI use cases, specifically with regard to rulemaking applications.

Beyond buttressing our understanding of agencies' current and potential future uses of AI in rulemaking, this Article spotlights HHS's innovative use of AI in the retrospective review process. The "Regulatory Clean Up Initiative" is HHS's opening gambit, the first rule to emerge out of a years-long pilot project. Back in September 2019, at a presentation at The White House Summit on Artificial Intelligence in Government, the HHS Associate Deputy Secretary discussed a pilot project underway using AI to assist agencies' retrospective review process by identifying outdated

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5. *Id.*

6. *Id.*

7. David Freeman Engstrom et al., *Government by Algorithm: Artificial Intelligence in Federal Administrative Agencies*, ADMIN. CONF. OF THE U.S. REP., (Feb. 2020), https://www-cdn.law.stanford.edu/wp-content/uploads/2020/02/ACUS-AI-Report.pdf [https://perma.cc/38AW-SPXC]. The Administrative Conference of the United States (ACUS), an independent federal agency that convenes experts to recommend improvements to administrative process and procedure, commissioned this study on the current uses of artificial intelligence in the federal administrative state. ACUS's follow-on Statement on "Agency Use of Artificial Intelligence" (*see supra* note 1), which aimed to explore how federal regulatory agencies can "take advantage of these new tools in ways consistent with due process and other legal norms" likewise did not address the context of retrospective review or rulemaking more generally. Admin. Conf. of the U.S., Statement #20, *Agency Use of Artificial Intelligence*, (Dec. 16, 2020), https://www.acus.gov/sites/default/files/documents/Statement%2020%20Agency%20Use%20of%20Artificial%20Intelligence.pdf.

Presumably the AI uses in retrospective review across different agencies—hitherto largely below the radar—will surface, as the December 3, 2020, Exec. Order mandates that "each agency shall prepare an inventory of its non-classified and non-sensitive use cases of AI . . . including current and planned uses, consistent with the agency's mission." E.O. 13960, *supra* note 2.

or overly burdensome rules or areas of duplication and overlap among agencies.[8] And now, within the November 2020 rule itself, HHS has signaled broader expansions and future rulemaking uses of the AI-driven technologies: "Future uses of these technologies to promote comprehensive and systematic retrospective review will continue to algorithmically refine identification of potentially 'outmoded' regulations and will seek algorithmic characterization of . . . regulations which are 'ineffective, insufficient, or excessively burdensome,' as candidates for SME review and potential reform."[9]

This Article is the first to explore the significant administrative law issues that agencies will face as they devise and implement AI-enhanced strategies to identify rules that should be subject to retrospective review. Part I introduces the effect of politics on retrospective review by canvassing both the consistencies and differing emphases of the relevant executive orders across the Obama and Trump Administrations. The HHS pilot is then presented as an innovative case study in its own right that also frames some generalizable salient administrative law design and oversight issues. In addition to promulgating the first rule using AI technologies, HHS has historically provided robust descriptions of its approach to identifying regulations for retrospective review. HHS, moreover, has put itself forward as the leading federal agency for "regulatory reform."[10]

Part II sheds light on both the peril and future promise of the deployment of AI in the retrospective review process. AI could provide a reliable and efficient mechanism to help agency policy officials sift through the thousands of pages of the CFR and target regulations of particular interest. Alternatively, it could instead be deployed to obscure the inputs and decision-making process to fuel a politically motivated agenda (either pro- or anti-regulatory). Against the backdrop of scant information provided

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8. HHS ADS Charles Keckler, THE WHITE HOUSE SUMMIT ON ARTIFICIAL INTELLIGENCE IN GOV'T (Sept. 2019) (PowerPoint slides, on file with *Belmont Law Review*); *see also* Tajha Chappellet-Lanier, *White House AI Summit focuses on government as a user of the technology*, FEDSCOOP (Sept. 9, 2019), https://www.fedscoop.com/white-house-ai-summit-government-ai-use-cases/ [https://perma.cc/5HQG-BA2Y] ("Charles Keckler . . . shared the agency's 'AI for deregulation' pilot. The project, which began one year ago, aims to use natural language processing to find HHS regulations that may be too burdensome, obsolete or ineffective. The end goal, after subject matter expert review, is to eliminate or change these regulations in order to streamline the HHS regulatory environment.").

9. Regulatory Clean Up Initiative, 85 Fed. Reg. at 72899–900.

10. *See* U.S. DEP'T OF HEALTH AND HUM. SERVS. ANN. REP. (2019); *see also* Press Release, U.S. Dep't of Health and Hum. Servs., Secretary Azar Highlights Recognition of HHS as Top Agency for Regulatory Reform (Oct. 17, 2018), https://www.hhs.gov/about/news/2018/10/17/secretary-azar-highlights-recognition-of-hhs-as-top-agency-for-regulatory-reform.html [https://perma.cc/TN2H-U55Y] (reporting that Secretary Azar noted that "HHS was the No. 1 Cabinet agency in terms of regulatory accomplishments for Fiscal Year 2018").

by HHS regarding its AI-driven approach to target regulations for retrospective review, this Part investigates potential factors that could predict which regulations may be overly burdensome, overlapping, or insufficiently stringent. One such factor might include whether the regulation's cost-benefit analysis aligns with current best practices. Another factor might leverage NLP techniques to reveal patterns in comments regarding the sentiment of the regulated community with regard to the burden of a particular regulation.

Finally, as AI infiltrates the administrative state, concerns regarding transparency, reasonableness, accountability, and oversight rear their heads. Part III tackles future challenges to be faced in the realm of AI for retrospective review. It is conventional received wisdom that the informal rulemaking process under the Administrative Procedure Act (APA) provides "predictable and meaningful opportunities for interested stakeholders to provide input on draft regulations and scrutinize the evidence and analytic bases of regulatory proposals."[11] In its November 2020 "Guidance for Regulation of Artificial Intelligence Applications," OMB carried this conventional wisdom into the 21st century, by emphasizing that "[i]n soliciting public input on Notices of Proposed Rulemaking (NPRMs) that relate to AI applications, agencies will benefit from the perspectives and expertise of stakeholders engaged in the design, development, deployment, operation, and impact of AI applications, and facilitate a decisionmaking process that is more transparent and accountable."[12] But HHS's "Regulatory Clean Up Initiative" rule was not subject to the notice-and-comment process. The rule, moreover, offered only the most general description of the AI-driven NLP techniques used. While heeding OMB's caution that "current technical challenges in creating interpretable AI can make it difficult for agencies to ensure a level of transparency necessary for humans to understand the decision-making of AI applications,"[13] Part III proposes enhanced public participation and notice-and-comment processes as necessary features of AI-driven retrospective review.

I. RETROSPECTIVE REVIEW

The value of retrospective review—namely re-assessing the costs and benefits of regulations sometime after they are promulgated—has been recognized by Democratic and Republican administrations alike. The Regulatory Flexibility Act (RFA) requires agencies to publish plans to conduct retrospective reviews of certain regulations.[14] Multiple executive

11. *OMB AI Memo*, *supra* note 3, at 12.
12. *Id.*
13. *Id.* at 11.
14. 5 U.S.C. § 610 (2009) (providing for the periodic review of rules).

orders from the Obama and Trump Administrations likewise require agencies to submit plans for periodic reviews of certain regulations.[15]

That said, the Obama and Trump Administrations approached retrospective review in distinct manners. Most significantly, the Trump Administration injected a pronounced deregulatory thrust into the regulatory review process, reflected in its executive orders and ultimately shaping the process by which agencies targeted regulations ripe for review.

A. Executive Order Politics

With Executive Order 13,563, the Obama Administration urged retrospective review, seeking to eliminate regulations that had become "unjustified or unnecessary" or "outmoded, ineffective, insufficient, or excessively burdensome."[16] Agencies, moreover, were required to create and publish Final Retrospective Review Plans.[17] My review of these agency plans revealed several commonalities across agencies' processes for targeting regulations for review.[18] Typically, the agency plans drew attention to the number of people impacted by a regulation as well as the date the regulation was promulgated and the time since its most recent review. Next, most plans provided for the solicitation of comments, both internally from staff and fieldworkers and also from the general public. Several agency plans noted the relevance of the receipt of complaints regarding specific regulations or where the agency is continually granting compliance waivers.

Agency plans also share similarities in the types of regulatory features they target for retrospective review. Complexity, for instance, emerged as a relevant feature, with agencies indicating a preference for clear, concise, and readily comprehensible rules. Most plans also identified changes in technological circumstances or changes in legal circumstances, such as the enactment of a new statute or amendment, a United States

15. *See, e.g.*, Exec. Order No. 12866, 58 Fed. Reg. 51,735 (Oct. 4, 1993); Exec. Order No. 13563, 76 Fed. Reg. 3821 (Jan. 21, 2011).

16. *See, e.g.*, Exec. Order No. 13563 § 6, 76 Fed. Reg. 3821, 3822 (Jan. 21, 2011) (promoting retrospective analysis to identify rules that "may be outmoded, ineffective, insufficient, or excessively burdensome"). Exec. Order No. 13563 built on the Clinton Administration Exec. Order No. 12866 § 5, 58 Fed. Reg. 51735, 51739–40 (Oct. 4, 1993) (urging review of regulations to determine which ones have become "unjustified or unnecessary" or "duplicative or inappropriately burdensome in the aggregate").

17. Exec. Order No. 12866 § 5, 58 Fed. Reg. 51,735 (requiring each agency to create a preliminary "program. . . under which the agency will periodically review its existing significant regulations").

18. All of the agency plans—which contain the required preliminary and final plans along with February 2015, July 2015, January 2016, and July 2016 updates—are publicly available at: Office of Mgmt. & Budget, https://obamawhitehouse.archives.gov/omb/oira/regulation-reform [https://perma.cc/WZL4-EKCJ].

Supreme Court decision interpreting a statute or amendment, or an update to a referenced regulation. Many plans also highlighted necessary updates to the cost-benefit evaluation of a regulation, whether based on new understandings or ability to measure the relevant costs and benefits, or the distributional effects of the regulation, or a re-assessment based on the real world impacts of the regulation. Finally, most plans evinced a concern regarding duplication of effort among agencies.

The Trump Administration pushed this retrospective review mandate a step further. Executive Order 13,771 created a "regulatory budget," requiring that, for each additional significant regulation, two existing regulations had to be eliminated and that the total incremental cost of all regulations should be no greater than zero.[19] In furtherance of this demand, the Trump Administration required agencies to create Regulatory Review Task Forces (RRTFs) charged with identifying regulations that, among other things, "eliminate jobs, or inhibit job creation," "are outdated, unnecessary, or ineffective," and "impose costs that exceed benefits."[20]

Unlike the Obama Administration E.O. 13,563, the Trump Administration E.O. 13,771 does not call for agencies to submit plans. That said, my review of available agency statements from fall 2019 revealed some consistency across administrations. For instance, both administrations flag regulations as ripe for review based upon the age of a regulation, the amount of time since a regulation has gone through a comprehensive review, the frequency of a regulation's amendments, and subsequent legal developments.[21]

Finally, Trump Administration Executive Order 13,924, Regulatory Relief to Support Economic Recovery, called for a specialized additional retrospective review by canvassing recent rule changes and relaxations conducted in response to COVID-19. This retrospective review pilot[22] asked each agency to consider all of the changes made in response to COVID-19 and determine whether or not those changes should remain permanently in effect.[23] Under E.O. 13,924, agencies are required to report their findings to

19. Exec. Order No. 13771, 82 Fed. Reg. 9339 (Feb. 3, 2017).

20. Exec. Order No. 13777, 82 Fed. Reg. 12285 (Feb. 24, 2017).

21. For example, hand-in-hand with considering the age of a regulation, the Department of Veteran Affairs noted that some of their regulations are out of date in that they fail to incorporate court holdings and binding Veteran Affairs General Counsel opinions. *See* PLAN FOR PERIODIC REVIEW OF EXISTING REGULATIONS, U.S. DEP'T OF VETERAN AFF. at 3 (Aug. 2011), https://obamawhitehouse.archives.gov/sites/default/files/other/2011-regulatory-action-plans/veteransaffairsregulatoryreformplanaugust2011.pdf.

22. Adam White, *Covid-19, Regulatory Recalibration, and Learning for the Long Run*, YALE J. ON REG.: NOTICE & COMMENT (May 20, 2020), https://www.yalejreg.com/nc/covid-19-regulatory-recalibration-and-learning-for-the-long-run/ [https://perma.cc/7PF8-EQ6W].

23. Exec. Order No. 13924, 85 Fed. Reg. 31353 (May 22, 2020), mandates:

the Office of Management and Budget (OMB).[24] But these lists are not publicly available.[25] While there have been myriad COVID-related federal

> The heads of all agencies shall review any regulatory standards they have temporarily rescinded, suspended, modified, or waived during the public health emergency, any such actions they take pursuant to . . . this order, and other regulatory flexibilities they have implemented in response to COVID-19, whether before or after issuance of this order, and determine which, if any, would promote economic recovery if made permanent, insofar as doing so is consistent with the policy considerations identified in . . . this order, and report the results of such review to the Director of the Office of Management and Budget, the Assistant to the President for Domestic Policy, and the Assistant to the President for Economic Policy.

24. OMB followed up with a memo to the heads of executive departments and agencies, requiring, among other things:

> A list of temporary regulatory actions the agency has taken in response to COVID-19 along with analysis of whether each such action is suitable for issuance as a permanent measure to promote economic recovery. For each action suitable for issuance as a permanent measure, please also include a brief description of why each proposed action will promote economic recovery going forward; the projected timeline for issuance of a permanent regulatory action; any good cause, exigent circumstance, or emergency authorities the agency intends to invoke for issuance; and any other important and pertinent information.

Russell T. Vought, *Memorandum for the Heads of Executive Departments and Agencies: Implementation of Executive Order 13,924*, OFFICE OF MGMT. & BUDGET (June 9, 2020), https://www.whitehouse.gov/wp-content/uploads/2020/06/M-20-25.pdf [https://perma.cc/ZD7M-RWCM]. Agencies were given two weeks to complete these tasks. *Id.*

Much of the engagement, to date, with Exec. Order No. 13924, including OMB's most substantial guidance, has focused on enforcement discretion as opposed to rulemaking. Paul Ray, *Memorandum for the Deputy Secretaries of Executive Departments and Agencies: Implementation of Section 6 of Executive Order 13924*, OFFICE OF MGMT. & BUDGET (Aug. 31, 2020), https://www.whitehouse.gov/wp-content/uploads/2020/08/M-20-31.pdf [https://perma.cc/9B48-BP8V].

25. Moreover, there are only a handful of references to Exec. Order No. 13924 in the Federal Register and none of them invokes retrospective review. Each of the surfaced examples represented a rollback or delay in compliance requirements, but none of them referenced the part of Exec. Order No. 13924 that deals with retrospective review of temporary rollbacks. *See, e.g.*, Safety Standard for Hand-Held Infant Carriers, 85 Fed. Reg. 46000 (July 31, 2020) (Consumer Safety Protection Commission delayed the effective date for a new rule regarding hand-held infant carriers to the end of the calendar year); Federal Motor Vehicle Safety Standards; Minimum Sound Requirements for Hybrid and Electric Vehicles, 85 Fed. Reg. 54273 (Sept. 1, 2020) (National Highway Traffic and Safety

regulatory rollbacks, both before and after the release of E.O. 13,924, the retrospective review process recommended by the Executive Order has not yet manifested in a clear way.[26]

B. HHS Case Study

Historically, under the Obama Administration, the Department of Health and Human Services (HHS) provided robust accounts of its retrospective review process.[27] HHS committed to a retrospective review effort as part of its "Regulatory Reform and Simplification" goal laid out in its most recent strategic plan, covering 2018-22.[28] Under the Trump

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Administration delayed the effective date for vehicle safety standards and minimum sound requirements for hybrid and electric vehicles by six months, in response to a petition); Medicare Program, 85 Fed. Reg. 50074, 50119–200 (Aug. 17, 2020) (Centers for Medicare/Medicaid Services (CMS), in a proposed rulemaking regarding CY 2021 Revisions to Payment Policies, sought comment on whether it would be advantageous to allow practitioners to bill and be paid based on shorter monitoring periods than historically available, when using remote physiologic monitoring (RPM). CMS requested these comments in line with Exec. Order No. 13924's urging for deregulatory actions.); Policy Statement on Passenger Vessel Financial Responsibility, 85 Fed. Reg. 49600, 49600 (Aug. 14, 2020) (Federal Maritime Commission published a policy statement "to provide guidance on possible regulatory relief with respect to COVID-19's unprecedented economic effects to passenger vessel operators"; in particular, the policy offers alternatives to evaluating passenger vessel operators' financial responsibility related to "nonperformance of transportation and death or injury to passengers."); Limited Extension of Relief for Certain Persons and Operations During the Coronavirus Disease 2019 (COVID-19) Public Health Emergency, 85 Fed. Reg. 38763 (June 29, 2020) (The Federal Aviation Administration and Department of Transportation extended additional relief to flight operators, waiving "certain training, recent experience, testing, and checking requirements.").

26. Similarly, the EPA rolled back enforcement of many environmental standards for the first several months of the crisis. *COVID-19 Enforcement and Compliance Resources*, EPA, https://www.epa.gov/enforcement/covid-19-enforcement-and-compliance-resources [https://perma.cc/SY2J-G63F] (last visited Sept. 12, 2020). These are precisely the types of rescissions that could eventually lead to a re-examination of pre-COVID practices and, consequently, future deregulatory rulemakings.

27. HHS was already actively engaged in retrospective review prior to Obama E.O. 13,563, based on requirements from the Regulatory Flexibility Act, congressional appropriations, changes in "technology, new data or other information, or legislative change" and in response to rulemaking petitions. *See* Dep't of Health and Hum. Servs., *Preliminary Regulatory Reform Plan* at 5 OFFICE OF MGMT. & BUDGET (May 2011), https://obamawhitehouse.archives.gov/omb/oira/regulation-reform [https://perma.cc/6C9E-U7LP] (also describing revisions HHS has made in response to retrospective review activities).

28. *See* Assistant Secretary for Planning and Evaluation (ASPE), *Overview: HHS Strategic Plan, FY 2018-2022*, U.S. DEP'T OF HEALTH AND HUM. SERVS.

Administration, HHS touted itself as the "top agency for regulatory reform" and the "top federal agency in reducing regulatory burden."[29] It also emerged as a federal agency leader in experimenting with AI. This section compares and contrasts the "old-fashioned" approach to retrospective review under both the Obama and Trump Administrations to the more recent "AI for deregulation" approach taken up under the Trump Administration.

1. The "Old-Fashioned" Approach

Under the Obama Administration, HHS provided a robust description of its approach to identifying regulations for retrospective review, which encompassed several steps.[30] First (as is typical across most Obama era agencies' retrospective review plans), the agency would take inventory of all existing significant regulations, including information on when the regulation was originally promulgated, its most recent modification, and the reason for the modification. More specifically, each agency within HHS would develop a list to review over the subsequent two-year period, identifying significant regulations that had been operational for at least five years since originally promulgated and not yet reviewed. Second (again consistent with the factors flagged across agency plans), agencies within HHS incorporated public comments and feedback on which regulations would be good candidates for retrospective review, including (somewhat more expansively than other agencies) by examining past comments from town hall meetings, public comments, and internet portals. Next, each agency prioritized regulations to review, beginning with regulations that "agencies can easily modify, streamline, or rescind" and

(Feb. 28, 2018), https://www.hhs.gov/about/strategic-plan/overview/index.html#overview [https://perma.cc/TBG2-7ERD]. Every four years, HHS updates its strategic plan in conformance with the Government Performance and Results Act (GPRA) of 1933 and the GPRA Modernization Act of 2010. Pub. L. 103-62 and Pub. L. 111-352, respectively. *Id.* HHS laid out five departmental strategic goals: (1) Reform, Strengthen, and Modernize the Nation's Healthcare System; (2) Protect the Health of Americans Where They Live, Learn, Work, and Play; (3) Strengthen the Economic and Social Well-being of Americans Across the Lifespan; (4) Foster Sound, Sustained Advances in the Sciences; and (5) Promote Effective and Efficient Management and Stewardship. *Id.* This last goal, and more particularly its subtheme titled "Regulatory Reform and Simplification," houses HHS's retrospective review effort. *Id.*

29. U.S. DEP'T OF HEALTH AND HUM. SERVS., 2019 ANNUAL REPORT 43 (2019) [hereinafter 2019 ANNUAL REPORT]. HHS measured its success through reducing the present-value economic burden of its regulations by $11.4 billion and touting making forty-six "deregulatory actions" compared with eighteen "regulatory actions." *Id.*

30. *See* U.S. DEP'T OF HEALTH AND HUM. SERVS., PRELIMINARY PLAN FOR RETROSPECTIVE REVIEW OF EXISTING RULES 4–5 (May 18, 2011).

then proceeding to consider remaining regulations in accordance with the goal of developing a "streamlined, robust, and balanced regulatory framework."[31]

Delving more into the precise targeted features of regulations signaling ripeness for review, HHS urged agencies to identify regulations that required updating in light of changing technology. HHS also urged agencies to focus on reducing reporting and record-keeping burdens and to eliminate outdated provisions.[32] In a similar vein, HHS encouraged agencies to determine whether the regulation was meeting its objectives or, more specifically, to consider whether it could be replaced with a "less proscriptive" activity.[33] In line with this, agencies were asked to identify regulations that could be replaced with guidance, incentives, public disclosure, or other non-regulatory measures. Finally, HHS urged its agencies to evaluate whether the regulation was effective.[34] Specifically, HHS aimed to move towards incorporating evaluations within its regulations.[35]

The July 2015 update from HHS outlined the progress made on the retrospective review of twelve regulations, which sheds light on the types of regulations undergoing modification.[36] For example, in the Medicare Shared Savings Program: Accountable Care Organizations, HHS increased transparency in reimbursement proceedings. HHS credited its success to public comments and economic analysis, reporting an annual savings from the final rule of $240 million as compared to the prior rule.[37] Another example is the Head Start Performance Standards, which updated 15-year old education standards as required by the Improving Head Start for School Readiness Act of 2007.[38] HHS reduced the number of requirements by 40%

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31. *Id.* at 4.

32. HHS provided additional information on some of their previous successful uses of retrospective review. *Id.* at app. B. Rationales that HHS used to identify regulations (79) for retrospective review: of the twenty-three "department-wide" initiatives, the vast majority of regulations were justified based on changes in circumstances or technology (13), followed by efforts to reduce paperwork (7), and "clean up" or eliminate outdated provisions (3). *Id.* Other regulations, however, were simply identified as agency priorities without additional information. *Id.*

33. *Id.* at 4.

34. *Id.*

35. For example, the Graphic Warning labels on Cigarette Packs included a mechanism to evaluate the effectiveness of the labels. *See FDA Proposes New Health Warnings for Cigarette Packs and Ads*, FDA (May 1, 2020), https://www.fda.gov/tobacco-products/labeling-and-warning-statements-tobacco-products/fda-proposes-new-health-warnings-cigarette-packs-and-ads [https://perma.cc/C84N-ZPQV].

36. *See* U.S. DEP'T OF HEALTH AND HUM. SERVS., HHS RETROSPECTIVE REVIEW UPDATE 1 (July 2015).

37. *Id.*

38. *Id.*

and reorganized for clarity. HHS cited "extensive consultation with researchers, practitioners . . . and other experts."[39] Aside from these rules and proposed rules, HHS noted several anticipated regulatory activities.[40] A year later, the July 2016 report described 61 regulations that had been flagged for retrospective review.[41] HHS pointed to the role of public comments and conversations with stakeholders in modifying these regulations as well as changed circumstances and outdatedness of a rule.

HHS does not have retrospective review reports after 2016 and, as mentioned above, the Trump Administration E.O. 13,771 did not require agencies to publish reports.[42] HHS did, however, provide some information about the progress of its RRTF and its deregulatory actions under E.O. 13,771. In particular, HHS identified 126 potential deregulatory actions in 2018 and 2019—far more than the agency could implement.[43] The characteristics tracked by HHS incorporated comments from public input and peer review, showing some consistency with earlier aims of retrospective review.[44] As of 2018, HHS estimated its recent regulatory reforms would reduce paperwork by 53 million hours and save $5.2 billion.[45]

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39. *Id.* Other examples include: (1) Reform of Requirements for Long-Term Care Facilities, a proposed rule that revised the requirements for Long-Term Care facilities, with an aim of increasing flexibility in care provisions; HHS again cited public comment and industry feedback. *Id.* at 2; (2) Veterinary Feed Directives rule that streamlined certain veterinary processes and claimed a more cost-effective regulatory program, leading to annual savings of $7.87 million. *Id.*; (3) Medicaid Managed Care, proposed rule developed through public comment, on-the-ground feedback from state partners, "aligns" Medicaid rules with other major health coverage rules (such as Qualified Health Plans and Medicare Advantage Plans). *Id.* at 3.

40. *See id.* at 3–10.

41. U.S. DEP'T OF HEALTH AND HUM. SERVS., HHS JULY 2016 RETROSPECTIVE REPORT (July 2016). Of the flagged rules, twenty-six were "completed," four were "new" (*e.g.* they had not previously been included in a retrospective analysis update), and the remainder were ongoing. *Id.*

42. *See Retrospective Review of Existing Rules*, U.S. DEP'T OF HEALTH AND HUM. SERVS. (Mar. 10, 2016), https://www.hhs.gov/open/retrospective-review/index.html [https://perma.cc/29NW-4L6W]; Exec. Order 13771, 82 Fed. Reg. 9,339 (Jan. 30, 2017).

43. Office of Budget, *FY 2021 Annual Performance Plan and Report - Regulatory Reform*, U.S. DEP'T OF HEALTH AND HUM. SERVS. (Mar. 11, 2020), https://www.hhs.gov/about/budget/fy2021/performance/index.html [https://perma.cc/W9UU-WBLL].

44. *Id.*

45. *Secretary Azar Highlights Recognition of HHS as Top Agency for Regulatory Reform*, U.S. DEP'T OF HEALTH AND HUM. SERVS. (Oct. 17, 2018), https://www.hhs.gov/about/news/2018/10/17/secretary-azar-highlights-recognition-of-hhs-as-top-agency-for-regulatory-reform.html [https://perma.cc/NP4J-3366].

Beyond this, HHS's regulatory agenda lends further insight. The preamble to the regulatory agenda for FY2019 covers a wide array of both regulatory and deregulatory actions; however, it does not clearly tie in elements of retrospective review.[46] Some deregulatory actions are justified based on "additional flexibilit[y],"[47] "clearer federal guidance,"[48] and a reduction in "burdensome and costly regulations."[49] However, a closer look shows that HHS targeted the Affordable Care Act's nondiscrimination requirements (which it justified based on Paperwork Reduction Act requirements), revised regulations to limit "burdens on religious freedom and conscience," and took steps to address "the failings of the Affordable Care Act."[50] It is thus difficult to discern whether HHS's retrospective review-based justifications or, instead, more overtly political justifications were the actual driving forces behind the deregulatory actions.

It is not yet clear, moreover, how much progress HHS made with respect to its COVID-19 centered deregulatory retrospective review. For example, HHS allowed a large telehealth expansion in April 2020—a month before E.O. 13,924 was issued.[51] That expansion was tied to a relaxation of the enforcement of Health Insurance Portability and Accountability Act (HIPPA) standards, allowing doctors to use platforms, such as Skype and FaceTime, that are not HIPPA compliant.[52] HHS has not yet issued a rulemaking or guidance document regarding any permanent changes.[53]

Finally, on November 4, 2020, HHS published a notice of proposed rulemaking, "Securing Updated and Necessary Statutory Evaluations Timely," that would automatically sunset regulations after 10 years in order

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46. *Statement of Regulatory Priorities for Fiscal Year 2020*, OFF. OF INFO. AND REG. AFF. 1 (last visited May 11, 2020), https://www.reginfo.gov/public/jsp/eAgenda/StaticContent/201910/Statement_0900_HHS.pdf [https://perma.cc/U54Q-YGHH].

47. *Id.* at 2.

48. *Id.* at 2–3.

49. *Id.* at 3.

50. *Id.* at 2, 3, 8.

51. *See* Council of Economic Advisers, *Deregulation Sparks Dramatic Telehealth Increase During the COVID-19 Response*, THE WHITE HOUSE (Apr. 28, 2020), https://www.whitehouse.gov/articles/deregulation-sparks-dramatic-telehealth-increase-covid-19-response/ [https://perma.cc/6RRZ-UZZF].

52. *Id.*

53. *See* Assistant Secretary for Public Affairs (ASPA), *Telehealth: Delivering Care Safely During Covid-19*, U.S. DEP'T OF HEALTH AND HUM. SERVS. (July 15, 2020), https://www.hhs.gov/coronavirus/telehealth/index.html [https://perma.cc/AY7N-6Y7G]. While the Federal Communications Commission has issued funding to expand telehealth, that funding was released prior to HHS enacting the enforcement discretion guidance and well before Exec. Order 13294. *See* Promoting Telehealth for Low-Income Consumers; COVID-19 Telehealth Program, 85 Fed. Reg. 19892 (Apr. 9, 2020) (to be codified at 47 C.F.R. pt. 54).

"to incentivize periodical retrospective review."[54] According to HHS, "one of the most important factors for ensuring agencies conduct retrospective reviews of their regulations is to provide for the sunset or automatic expiration of certain regulatory requirements after a period of time unless a retrospective review determines that the regulations should be maintained."[55] In essence, this rule would invert the baseline for retrospective review in a dramatically deregulatory direction—rather than the agency selecting regulations to modify or rescind, an agency must select a regulation for review in order for the regulation to continue in force. The final version of this rule was promulgated on January 19, 2021, and gave HHS an additional five years to review any rules that are overdue for retrospective review under the sunset provision.[56]

HHS's version of regulatory reform in response to E.O. 13,771 and 13,777 consistently emphasized its outsized number of "deregulatory actions and negative net cost" of all its actions. It is against this backdrop that we next consider its pilot project of introducing AI-driven technologies into its retrospective review process—which it has dubbed "AI for Deregulation."[57]

2. "AI for Deregulation"

The Trump Administration's deregulatory thrust, injected into the old-fashioned retrospective review approach continued from the Obama Administration, is a solid pillar in the HHS "AI for Deregulation" strategy. Where AI meets retrospective review, the Trump Administration has urged, across the board, that "[i]n conducting such retrospective reviews, agencies

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54. The NPRM imposed automatic expiration of all regulations "at the end of (1) two calendar years after the year that this proposed rule first becomes effective, (2) ten calendar years after the year of the regulation's promulgation, or (3) ten calendar years after the last year in which the Department assessed and, if required, reviewed the regulation, whichever is latest." Securing Updated and Necessary Statutory Evaluations Timely, 85 Fed. Reg. 70096, 70097 (Nov. 4, 2020).

55. *Id*.

56. The Final Rule stated:

> HHS finalizes this rule to provide that, subject to certain exceptions, all regulations issued by the Secretary or his delegates or sub-delegates . . . shall expire at the end of (1) five calendar years after the year that this final rule first becomes effective, (2) ten calendar years after the year of the Section's promulgation, or (3) ten calendar years after the last year in which the Department Assessed and, if required, Reviewed the Section, whichever is latest.

See Final Rule: Securing Updated and Necessary Statutory Evaluations Timely, 86 Fed. Reg. 5694 (Jan. 19, 2021) (to be codified at 45 C.F.R. pts. 200, 300, 403, 1010, and 1390).

57. Keckler, *supra* note 8; Chappellet-Lanier, *supra* note 8.

can determine whether regulatory changes are necessary to remove barriers to the adoption of net beneficial AI systems by identifying and promulgating deregulatory actions, consistent with Executive Orders 13771, 'Reducing Regulation and Controlling Regulatory Costs,' and 13777, 'Enforcing the Regulatory Reform Agenda.'"[58] The Trump Administration thereby wielded AI as yet another potential motivator for its broader deregulatory agenda.[59]

As mentioned at the outset, HHS pioneered the first rule to incorporate AI-driven technologies.[60] In its "Regulatory Clean Up Initiative" final rule (published on November 16, 2020), HHS described its pilot program using a new method of regulatory analysis, "an AI-driven tool that analyzed HHS's regulations using NLP as applied to the regulatory text in the CFR."[61] As HHS explained:

> This NLP analysis is designed to accelerate and augment expert review, by highlighting "candidate" provisions that could be outmoded, allowing HHS SMEs to focus on these provisions as potential areas of opportunity for modernization. The NLP analysis revealed numerous reform opportunities, including instances where a regulation citation is now incorrect. Combined with the policy expertise of HHS SMEs, this NLP analysis method has yielded promising results towards reforming and modernizing regulations at HHS.[62]

HHS's rule was released without much fanfare and without much foreshadowing—notwithstanding the fact that it emerged out of a years-long pilot project within HHS to deploy artificial intelligence in retrospective review.[63] At the September 2019 White House Summit on Artificial Intelligence in Government, the HHS Deputy Secretary presented

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58. *OMB AI Memo*, *supra* note 3, at 11 (referencing Exec. Order No. 13771, Reducing Regulation and Controlling Regulatory Costs, 82 Fed. Reg. 9339) (Jan. 30, 2017), https://www.govinfo.gov/content/pkg/FR-2017-02-03/pdf/2017-02451.pdf [https://perma.cc/P2VW-M6HD]; Exec. Order No. 13777, Enforcing the Regulatory Reform Agenda, 82 Fed. Reg. 12,285 (Feb. 24, 2017), https://www.govinfo.gov/content/pkg/FR-2017-03-01/pdf/2017-04107.pdf [https://perma.cc/6ZH6-8SER].

59. The unexplored underlying assumption here is that regulations actually impede agencies' ability to adopt AI systems.

60. Regulatory Clean Up Initiative, 85 Fed. Reg. 72899 (Nov. 16, 2020).

61. *Id.*

62. *Id.*

63. U.S. Dep't of Health & Hum. Servs., *HHS Launches First-of-its-Kind Regulatory Clean-Up Initiative Utilizing AI*, HHS.GOV (Nov. 17, 2020), https://www.hhs.gov/about/news/2020/11/17/hhs-launches-first-its-kind-regulatory-clean-up-initiative-utilizing-ai.html [https://perma.cc/4RY5-X4HY].

AI for Deregulation which laid out a few of its findings based on the pilot project underway: 85% of HHS regulations created before 1990 had not been edited; HHS had nearly 300 broken citation references in the CFR; there were more than fifty instances of triplicate reporting requirements; and there were 114 parts in the CFR with no regulatory entity listed.[64] At that time, in terms of prioritizing ways for technology to accelerate regulatory reform HHS ranked, as first, "identifying potentially outdated regulations."[65] Despite this, scouring the publicly available HHS annual reports and budget proposals, only a few references to this innovative AI use case surfaced. HHS debuted the use of AI in regulatory reform in its 2019 Annual Report (released on February 2, 2020).[66] The Deputy Secretary's Office initiated an experimental AI-enabled review of all HHS regulations that identified "hundreds of technical errors and over 50 opportunities to remove paperwork submission requirements – especially outdated requirements like faxes."[67]

The 2021 Budget (published only 18 days later), confirmed these modest ambitions for AI, but also left the door open for more ambitious uses of AI to "modernize regulations."[68] HHS allocated an $8 million

64. Keckler, *supra* note 8; Securing Updated and Necessary Statutory Evaluations Timely, 85 Fed. Reg. 70096, 70101–02 (Nov. 4, 2020).

65. *Id.*

66. With regard to the use of AI outside of its regulatory reform effort, HHS mentioned the following: (1) use of AI in its "Buy Smarter" initiative for acquisitions of goods and services. 2019 ANNUAL REPORT, *supra* note 28, at 44, https://www.hhs.gov/sites/default/files/2019-annual-report.pdf [https://perma.cc/RJK4-5L5X]; (2) an FDA plan to make a more "digital, traceable, and safer food system" through sensor networks, blockchain, and AI. *Id.* at 32; (3) setting up a neural net to speed up analysis of security data through the OCIO. *Id.* at 46; and (4) a collaboration with industry to use AI to match patients with clinical trials through the CTO. *Id.*

HHS' 2018 Annual Report likewise contained a few references to the use of AI. U.S. DEP'T OF HHS, 2018 ANNUAL REPORT (2018), https://www.hhs.gov/sites/default/files/2018-annual-report.pdf [https://perma.cc/8WCP-55YY]. The HHS CTO focused on leveraging AI to "improv[e] experimental therapy, matching clinical trials, and responding to Lyme disease." *Id.* at 24. AI's use is flagged in ReImagine HHS's "Buy Smarter" effort to improve acquisitions of goods and services. *Id.* at 40 (mentioning the development of a "secure, immutable automated data layer to provide the HHS workforce with real-time, agency-wide data for effective decision making throughout the acquisition process"). However, there was no mention of AI with regard to deregulation or regulatory review and simplification. Nor was it mentioned in adjacent sections on "Building Budgetary and Operational Excellence" or "Maximizing the Promise of Data."

67. 2019 ANNUAL REPORT, *supra* note 29, at 43.

68. U.S. DEP'T OF HEALTH AND HUM. SERVS., FY 2021 BUDGET IN BRIEF 13 (content last reviewed Feb. 20, 2020) [hereinafter FY 2021 BUDGET IN BRIEF].

budget increase to support the agency-wide AI strategy.[69] As part of its "regulatory reduction" effort, HHS "used an Artificial Intelligence-driven regulation analysis tool and expert insight to analyze the Code of Federal Regulations, seeking potential opportunities to modernize regulations."[70] The 2021 budget describes the AI's function as "reviewing and—where a change is warranted— . . . addressing incorrect citations and eliminating the submission of triplicate or quadruplicate of the same citation."[71]

II. THE PROMISE AND PERIL OF AI FOR RETROSPECTIVE REVIEW

The use of AI-driven technologies holds enormous promise to revolutionize the process of retrospective review; at the same time, it poses challenges and sheds new light on addressing conventionally framed threats to the administrative state such as transparency and democratic accountability.[72]

From a good governance standpoint, AI could dramatically improve the existing manual, labor-intensive process by which agencies sort through regulations for retrospective review. One could imagine a rulemaking that sets up an automated search process that uses some algorithm to propose rules for review.[73] AI technologies could assist in identifying variables that may have predictive power for whether or not an agency would consider a regulation to be ripe for retrospective review. To begin, the technologies can vastly enhance the efficiency of sorting based on pre-defined criteria. For example, regulations that are legally binding (and can be tagged based upon language such as "shall" or "must") are

69. The 2021 Budget referenced several uses of AI at several agencies and departments within HHS: (1) FDA: import screening; review of adverse event reports; identification of potential problems associated with chronic consumption of food constituents and contaminants, and promote AI medical devices. *Id.* at 25; (2) NIH: deepen understanding of underlying causes of chronic diseases and identify successful early treatments. *Id.* at 58 (The budget provides $50 million to utilize AI in this effort.); (3) Center for Medicare and Medicaid Services (CMS): rapid review of chart documentation to improve payment accuracy to reduce improper payments, prevent fraud, and target bad actors regarding Medicare. *Id.* at 99; also, to predict unplanned hospital admissions and adverse events. *Id.* at 133; (4) Administration for Community Living (ACL): in-home AI "to facilitate communication and food-ordering and increase knowledge and self-management of chronic diseases to reduce hospitalizations." *Id.* at 161.

70. FY 2021 BUDGET IN BRIEF, *supra* note 68, at 13.

71. *Id.* at 13–14.

72. Admin. Conf. of the U.S., *supra* note 1.

73. This could also avoid some of the classic problems with retrospective analysis—namely that the agencies charged with retrospective review are expected to criticize their own work. So taking their hands off might help facilitate and legitimate the selection of rules for review. I thank Mike Livermore for this insight.

promising candidates in terms of narrowing the relevant domain to regulations most likely to impact the regulatory environment.[74]

Historically, with regard to "old-fashioned" retrospective review, federal agencies responded to democratic pressure when formulating their respective agendas and in deciding whether and how to revise rules. The introduction of AI tools into this process might give the impression that neutral principles flag regulations that are due to be revisited via a predictive, supervised learning approach. If that is so, then agencies should be able to justify and defend how such tools are deployed. Agencies, moreover, should explain how they identify a suitable training data set of regulations to refine the operative algorithms.[75] Here is where disclosure, public participation, and oversight are key to guard against some of the perils of the use of AI.

The Institute of Policy Integrity (IPI) at NYU School of Law promulgated some guiding principles for retrospective review in 2011 (prior to any emphatically pro-regulatory or pro-deregulatory stance from the White House).[76] Many of the agency retrospective review plans described above referenced IPI's guidelines.[77] Particularly relevant to the analysis here, IPI cautioned that retrospective reviews should avoid both deregulatory and pro-regulatory biases and should instead calibrate regulatory programs for improved efficiency and effectiveness.[78]

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74. This is included in the functionality of RegData (discussed *infra* Section II.A.1).

75. Consider a dataset of regulations labeled "0" or "1" that is used to train supervised learning algorithms used to target regulations for retrospective review. Without information about the labeling process—for example, is it the result of a political process within the agency to target certain sectors, or turned over to industry rating systems—it is difficult to evaluate the process.

76. *See* Institute for Policy Integrity, Comments on Reducing Regulatory Burden: Retrospective Review Under Exec. Order No. 13563, 76 Fed. Reg. 10526 (Mar. 28, 2011), https://policyintegrity.org/documents/Policy_Integrity_Comments_on_DOI_Retrospective_Review.pdf [https://perma.cc/EHM2-C96D]. Retrospective review is not given much attention in IPI's 2020 Transition Guidance, although IPI does advocate removing some of the distortions of the regulatory review process, such as the "two-for-one" rule. *See* Jason A. Schwartz, *Enhancing the Social Benefits of Regulatory Review*, INST. FOR POL'Y INTEGRITY N.Y.U. SCH. OF L., 6 (Oct. 2020), https://policyintegrity.org/files/publications/Enhancing_the_Social_Benefits_of_Regulatory_Review.pdf.

77. *See, e.g.*, Dep't of Def. Plan for Retrospective Analysis of Existing Rules, 4 (Aug. 18, 2011), https://obamawhitehouse.archives.gov/sites/default/files/other/2011-regulatory-action-plans/departmentofdefenseregulatoryreformplanaugust2011a.pdf; Dep't of State Final Plan for Retrospective Analysis of Existing Rules, 4 (Aug. 17, 2011), https://obamawhitehouse.archives.gov/sites/default/files/other/2011-regulatory-action-plans/departmentofstateregulatoryreformplanaugust2011.pdf.

78. With this goal of fostering unbiased and independent retrospective analysis of existing rules, IPI recommended that agencies appoint a review team of

A. Existing AI Tools Harnessed for Deregulatory Aims

This section explores pilot retrospective review projects utilizing two AI tools. The first, RegData, is a tool incorporating AI technologies that has been exploited by the Mercatus Center in furtherance of an explicit deregulatory agenda. It was used as part of a model that claimed that the United States could have an economy 25 percent larger if there had been no new regulations between the 1970s and today.[79] A later generation of RegData was used in comments supporting the HHS Sunset Provision rule (discussed above).[80] Scholars have "call[ed] into question prevailing accounts that have relied exclusively on the quantification of regulatory obligations" without giving due regard to offsetting benefits.[81]

RegExplorer, another tool incorporating AI technologies, has been used by a number of state and federal governments to assist in retrospective regulatory review. Deloitte initially piloted RegExplorer with the Canadian federal government to identify the average age of regulations, the amount of time elapsed since being updated, and semantic trends in regulatory prescriptiveness.[82] To date, its applications seem to reflect a deregulatory bent. At the state level, Ohio recently used RegExplorer to identify and eliminate rules that, per the algorithm's determination, were redundant and burdensome.[83] And overseas, the Australian state of New South Wales

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personnel separate from the authors of the initial rule. With regard to targeting rules to review, IPI urged agencies to adopt clear and publicly available guidelines for how they select rules ripe for review. Once selected, the retrospective analysis should include a thorough and balanced review of a rule's impact, including costs and benefits as well as distributional effects.

79. Bentley Coffey, Patrick A. McLaughlin, & Pietro Peretto, *The Cumulative Cost of Regulations* (Mercatus Working Paper), https://www.mercatus.org/system/files/Coffey-Cumulative-Cost-Regs-v3.pdf. The model is developed in a one-sided framework that considers costs (How restrictive is the rule? How complicated is the rule? How many rules are there?) but ignores benefits.

80. James Broughel & Kofi Ampaabeng, *HHS's Innovative New Sunset Regulation* (Dec. 4, 2020), https://www.mercatus.org/publications/regulation/hhs%E2%80%99s-innovative-new-sunset-regulation.

81. Cary Coglianese et al., *Unrules*, 73 STAN. L. REV. (forthcoming 2021) (manuscript at 1, 25), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3701841.

82. Craig Alexander and Aisha Ansari, *Making Regulation a Competitive Advantage* 32, DELOITTE, https://www2.deloitte.com/content/dam/Deloitte/ca/Documents/finance/ca-en-making-regulation-comp-advantage-pov-aoda-v2.pdf.

83. Allen Bernard, *Ohio using AI to cull old laws and streamline regulations*, TECHREPUBLIC (June 25, 2020), https://www.techrepublic.com/article/ohio-using-ai-to-cull-old-laws-and-streamline-regulations/. Beyond merely flagging duplicate rules, RegExplorer helped Ohio identify "how many functions in state government require [people] to show up at a state office or fill out a form," which the government then used as a proxy for burden. *Id.*

(NSW) also used RegExplorer to zero in on burdensome, onerous, or outdated regulations. AI was used to help identify prescriptive or onerous text that, for example, included words such as "shall," "must," "cannot," or "ought" (similar to RegData's restrictions keyword metric).[84] RegExplorer also assisted in flagging paper-based procedural compliance activities, such as publications of notices in newspapers, witnesses in person, or oaths, as a proxy for "overly burdensome."[85]

1. RegData

RegData includes a digitized domain of the Code of Federal Regulations, the State Administrative Codes for 46 states plus the District of Columbia, and Administrative Codes for Canada and Australia.[86] RegData uses textual analysis to classify regulatory text by industry (by NAICS [North American Industry Classification System] code), link regulatory text to the implementing agency, and examine trends over time in restrictive regulations.[87] The Mercatus authors "use machine-learning text-classification algorithms to predict which industry is primarily affected by each obligation-imposing term."[88]

The innovative Mercatus study used RegData to conduct retrospective review in Canada.[89] The authors primarily focused on the linguistic complexity of regulations in order to categorize those due for

84. REGULATING FOR NSW'S FUTURE, NSW TREASURY 4 (July 2020), https://www.treasury.nsw.gov.au/sites/default/files/2020-07/FINAL%20Treasury%20report%20210720.pdf.

85. *Id.* at 9–10.

86. *See generally RegData US Technical Documentation*, QUANTGOV, https://www.quantgov.org/regdata-us-documentation [https://perma.cc/34D9-7LPR]; *State RegData*, QUANTGOV, https://www.quantgov.org/state-regdata [https://perma.cc/7RS3-QJ8E]; *RegData Canada*, QUANTGOV, https://www.quantgov.org/regdata-canada [https://perma.cc/5S3Z-6YRY]; *RegData Australia*, QUANTGOV, https://www.quantgov.org/regdata-australia [https://perma.cc/4H3B-7THE] (discussing the sources of information which are contained in RegData projects).

87. Omar Al-Ubaydli & Patrick A. McLaughlin, *RegData: A Numerical Database on Industry-specific Regulations for All US Industries and Federal Regulations, 1997-2012* 4, 15, 17, 21, 38 (Mercatus Center, Working Paper, 2014), https://www.mercatus.org/system/files/McLaughlin-RegData.pdf [https://perma.cc/WT49-67ST].

88. Coglianese et al., *supra* note 81.

89. *See generally* Patrick A. McLaughlin, *RegData Canada: A Data-Driven Approach to Regulatory Reform* 1 (Mercatus Center, Policy Brief, 2019), https://www.mercatus.org/publications/regulatory-analysis/regdata-canada-data-driven-approach-regulatory-reform [https://perma.cc/6CUT-3QWM] (discussing the RegData Canada project).

review.[90] The authors posited that linguistically complex regulations place an additional time and cost burden on regulated entities by requiring more time to read and understand, and, due to the complexity, likely increasing the number of attorneys needed for compliance.[91]

The study proposed several metrics for targeting regulations for retrospective review. First, they considered sentence length.[92] In Canada, the Treasury recommends that regulations have twenty words or less per sentence.[93] The authors thus argued that regulations with longer sentences should be subject to review or the sentences broken down. Second, the study relied on a metric called "Shannon Entropy" which is used to measure the rate at which new ideas are added to text.[94] Shakespeare typically scores between 9.0-9.7;[95] the researchers suggested using the Shakespeare score as a cutoff for review.[96]

While reducing complexity could certainly enhance readability, it would not necessarily target regulations that are outdated. The AI-driven technologies, moreover, are harnessed in an explicitly deregulatory fashion. As Cary Coglianese and co-authors point out, RegData does not account for "unrules" within regulatory text, which serve to alleviate obligations on covered entities.[97] This imbalanced focus on restrictive terms (obligations), without noting the exceptions and exemptions, could cause a retrospective AI tool to flag certain regulatory texts as overly burdensome or costly when, in reality, the costs may be far below what the number of "restriction" terms would suggest. In other words, agency use of the RegData tools would likely target a high proportion of false positives (i.e., designating a rule as overly burdensome or costly when it in fact embeds pressure valves).[98]

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90. *See id.*
91. *Id.* at 4–5.
92. *Id.* at 5.
93. *Id.*
94. *Id.*
95. *Id.*
96. *Id.* at 5–6.
97. Coglianese et al., *supra* note 81. More explicitly: "[the RegData authors] have used their results showing a nearly 20 percent increase in obligation-related words since 1997 to caution against adding further regulation, claiming that 'regulatory accumulation will continue to stifle economic growth.' But the Mercatus Center research does not take account of unrules." *Id.* at 24–25. Coglianese's point is that "government regulation is far less onerous – and far more flexible – than previously imagined" by Mercatus and others who use an exclusively one-sided test. *Id.* at 3. Therefore, "[a] regulatory system can only be understood as the net effects of both its rules and its unrules." *Id.*
98. To remedy this issue, Coglianese et al. replicate the Mercatus Institute's methodology but expand the analysis to include obligation-alleviating terms such as "waive," "exempt," or "exclude." Comparing the ratio of obligation-imposing and obligation-alleviating terms in CFR Titles labeled "Food & Drugs" and "Public

Weighting an AI tool to minimize false negatives at the expense of a higher false positive rate (like the above would suggest) better serves a deregulatory agenda. Successful pursuit of a deregulatory agenda, however, is conditional on the AI tool's ability to estimate accurately the average cost or burden of a rule (or component within a rule). RegData would seem to come up short here, given its reliance on rather crude proxies.[99] Partisan (and nonpartisan) agendas for retrospective review would be better served by employing precise parameters in an AI-leveraged regulatory analysis—which leads us directly to the AI-driven tool known as RegExplorer.

2. RegExplorer

Deloitte's RegExplorer, like RegData, runs on a domain of digitized federal and state regulations (as well as several foreign countries).[100] It can view a regulation's text in a machine-readable format and discover how agencies regulate certain terms via its "Search" function. It can also understand certain things about a given regulation, such as the types of topics ("sub-topics") the regulation discusses (e.g., "electrical and nuclear industries"). AI is used to identify (within a particular confidence interval) which topics are discussed by a given section of regulatory text.

Not only is the functionality of RegExplorer more sophisticated than RegData, it is also more user-friendly. It is organized by tabs with specific functions, all of which can be visualized through a dashboard. The "Research" tab allows searching by the year of a regulation's last edit and the age of the regulation. The "Analyze" tab maps cross-references made by a given part of a regulation to other parts of the CFR. Finally, the "Compare" tab facilitates the search for regulatory overlap (i.e., do Reg A and Reg B discuss the same things?).

AI tools may be particularly effective in terms of searching for overlapping regulatory areas. AI technologies are used to determine whether two agencies regulate the same topic areas.[101] They can help to

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Health," for instance, the authors find a ratio of one obligation-alleviating term for every 4.5 obligation-imposing words. This ratio was ranked the tenth and eleventh most alleviating out of the 49 observed CFR Titles. *Id.* at 32. However, a high alleviation-to-obligation ratio does not necessarily indicate more deregulation. For one, it neglects to account for the deregulatory power of a given word in the context of a rule or set of obligations.

99. Imprecision, moreover, decreases transparency in the process and in the effects, further shrouding a potentially black box in opacity.

100. DELOITTE, REGEXPLORER, https://www.regulatoryexplorer.com (last visited Mar. 3, 2021).

101. More specifically, neural networks were deployed to create topic clusters of the CFR. *See* Daniel Byler, Beth Flores & Jason Lewis, *Using Advanced Analytics to Drive Regulatory Reform* 8, DELOITTE, https://www2.deloitte.com/content/dam/Deloitte/us/Documents/public-sector/us-ps-using-advanced-analytics-

build classification schemes linking text in the regulation to a particular agency and industry. Whereas RegData has classifications linking text to industry and agencies, the RegExplorer "Compare" function is much more sophisticated. Such technologies can be used effectively to identify regulations on similar topic areas directed at the same industry as candidates for streamlining.

B. Future AI Tools Harnessed for Increased Efficiency and Effectiveness

Looking to the future use of AI tools in the realm of retrospective review, it is imperative for good governance aims to consider not only factors that could predict regulations that have out-lived their usefulness, but also those that could predict that a given regulation is outdated as a result of being under-protective. Notwithstanding the fact that the Trump Administration had an explicitly deregulatory agenda (as reflected in E.O. 13,771[102] and 13,924[103])—and as touted in HHS's articulation of its "AI for Deregulation" pilot[104]—the future use of AI-driven technologies in retrospective review should not serve as a one-way deregulatory ratchet.

Academic commentators—and some pioneering agencies—have touted the use of AI to sift through voluminous comments in the notice-and-comment informal rulemaking process.[105] AI-driven NLP technologies

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to-drive-regulatory-reform.pdf. The AI component identified close relationships between regulatory texts (e.g. that the regulation of "boats" and "fishing ship" share a common theme). After grouping CFR sections by topic, the tool produces certain summary statistics about the clusters that could indicate the need for updating, for instance, the difference in years between the oldest and youngest section in a cluster. *Id.*

102. Exec. Order No. 13771, 82 Fed. Reg. 9339 (Feb. 3, 2017).

103. Exec. Order No. 13924, 85 Fed. Reg. 31353 (May 22, 2020).

104. *HHS Launches First-of-its-Kind Regulatory Clean-Up Initiative Utilizing AI*, *supra* note 63; Keckler, *supra* note 8.

105. *See, e.g.*, Michael Livermore, *Computationally Assisted Regulatory Participation* 93 NOTRE DAME L. REV. 977, 1027, 1033–34 (2018) (discussing myriad benefits of leveraging NLP to help agencies sift through public comments, particularly for the benefit of enhancing "the efficacy of political review, akin to the role that cost-benefit analysis is thought to play by some commentators"); Engstrom et al., *supra* note 7, at 59-60 (describing how the FCC used AI/ML tools to identify duplicates, fake comments, and analyze sentiment in over twenty million comments responding to the proposed net neutrality rollback); Cary Coglianese & David Lehr, *Regulating by Robot: Administrative Decision Making in the Machine-Learning Era*, 105 GEO. L.J. 1147, 1172 ("[I]t is hardly unimaginable today that agencies could automate entirely the notice-and-comment rulemaking process, especially for the kinds of routine rules that make up the bulk of government rules"); Cary Coglianese, *A Framework for Governmental Use of Machine Learning*, ADMIN CONF. OF THE U.S. REP. 33 (Dec. 8, 2020),

harnessed for retrospective review could, for example, (1) identify comments that flag rules (or portions of rules) as burdensome and (2) identify partisan valence with respect to a particular rule component by matching partisanship of organization to sentiment (in favor or against) the component or rule.[106] With regard to searching for regulatory overlap, AI tools might also be used to identify regulations where a high proportion of comments name a topic heavily regulated by a different agency—as a predictor of overlapping regulatory areas.

A potentially fruitful area for AI tools to exploit (which does not yet appear to be part of the functionality of the above-described tools or discussed in the academic literature) would be regulatory impact analyses. By Executive Order, all significant regulations must be accompanied by a cost-benefit analysis.[107] Over time, certain elements of this cost-benefit analysis have changed. AI-driven technologies might identify comments that criticize the cost-benefit analysis as insufficient.

Relatedly, an AI tool might specifically probe the value-of-a-statistical life (VSL) methodology. There is no uniform VSL across agencies.[108] Agencies independently choose how to calculate VSLs.[109] While, historically, agency VSLs have varied dramatically, more recently, agency VSL values coalesce in the range between $6 and $9 million.[110] In 2010, for example, the Environmental Protection Agency (EPA) set the VSL at $9.1 million—while considering placing a 50% premium on cancer deaths—the Food and Drug Administration (FDA) used a VSL of $7.9 million (increasing its 2008 estimate by over half), and the Department of

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https://www.acus.gov/sites/default/files/documents/Coglianese%20ACUS%20Final%20Report.pdf (describing AI's capacity to improve public engagement, and noting the CFPB's efforts to incorporate AI to manage the "unprecedented volume" of comments and complaints from interested parties).

106. While public commentary can and should continue to be a useful tool, given the lack of engagement, we may also want to consider using other data as a proxy for public sentiment. For example, Google Trends track the relative frequency of different search terms—it may be possible to discern which *types* of regulations are on the public's mind.

107. The content of these analyses is described in more detail in Circular A-4. *Circular A-4*, OFFICE OF MGMT. AND BUDGET (Sept. 17, 2003), https://obamawhitehouse.archives.gov/omb/circulars_a004_a-4/ [https://perma.cc/8286-MD28].

108. In 2012, the Institute for Policy Integrity submitted comments to then-OIRA Administrator Cass Sunstein, urging that unifying the VSL across agencies should be a priority. Inst. for Pol'y Integrity, *Public Comments: Recommendations to Promote Interagency Coordination* (May 10, 2012) https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/2012_cb/comments/ipi-interagency-coordination-final-comments.pdf [https://perma.cc/DJL7-MMZ2].

109. Richard L. Revesz, *Quantifying Regulatory Benefits*, 102 CALIF. L. REV. 1423, 1437 (2014).

110. CASS R. SUNSTEIN, VALUING LIFE: HUMANIZING THE REGULATORY STATE 94 (2014).

Transportation used a value of $6 million.[111] A 2017 White House Report notes that only three agencies have issued guidance on VSL calculations, but that "[i]n practice, agencies have tended to use a value above the mid-point of" the range of VSL provided by Circular A-4.[112] Agency VSLs are subject not only to substantial inter-agency variation, but also inter-temporal variation. Estimates of VSL have increased dramatically over the past few decades, even after accounting for inflation. For example, the Department of Agriculture's VSL was $3.6 million in 1994, but $8.9 million by 2016.[113] Similar increases have taken place in HHS, the FDA, and the EPA.[114]

Regulations that use an outdated VSL estimate are at risk of under-protecting public health.[115] For example, considering the steep increase in the FDA's VSL estimate between 2008 and 2011,[116] it is possible that rules that were considered overly burdensome in prior administrations may no longer be sufficiently protective. Regulations promulgated without any cost-benefit analysis may also be at risk of being under-protective.[117] Livermore and Revesz explain this paradox in part by noting that, absent a cost-benefit analysis, industry may be able to influence the agency in a fashion not "exposed to the scrutiny of notice-and-comment rulemaking."[118] Consequently, regulations devoid of a cost-benefit analysis may be ripe for retrospective review.

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111. Binyamin Appelbaum, *As US. Agencies Put More Value on a Life, Businesses Fret*, N.Y. TIMES (Feb. 16, 2011) https://www.nytimes.com/2011/02/17/business/economy/17regulation.html [https://perma.cc/596Z-LQ62].

112. OFF. OF MGMT. AND BUDGET: OFF. OF INFO. AND REG. AFF., EXEC. OFF. OF THE PRESIDENT, 2017 REPORT TO CONGRESS ON THE BENEFITS AND COSTS OF FEDERAL REGULATIONS AND AGENCY COMPLIANCE WITH THE UNFUNDED MANDATES REFORM ACT (2017).

113. Dave Merrill, *No One Values Your Life More Than the Federal Government*, BLOOMBERG (Oct. 19, 2017), https://www.bloomberg.com/graphics/2017-value-of-life/ [https://perma.cc/8K89-XQ9Z].

114. *Id.*

115. On a related note, there was a period wherein the EPA applied a "senior discount" to the VSL for older individuals. *See, e.g.*, W. Kip Viscusi & Joseph E. Aldy, *Labor Market Estimates of the Senior Discount for the Value of Statistical Life*, 53 J. OF ENVTL. ECON. & MGMT. 377–78 (2007). This practice has since fallen out of favor. Merrill, *supra* note 112. It may well be that other agencies have had similar overhauls in their cost-benefit analyses—and AI tools could thereby assist in identifying.

116. Michael A. Livermore & Richard L. Revesz, *Rethinking Health-Based Environmental Standards*, 89 N.Y.U. L. REV. 1185, 1185–86 (2014).

117. In *Rethinking Health-Based Environmental Standards*, Livermore & Revesz find that the health-based National Ambient Air Quality Standards (NAAQS) have been set at levels that "are less stringent than those that would result from the application of a cost-benefit analysis." *Id.* at 1258.

118. *Id.* at 1247.

III. GUARDRAILS FOR AI IN RETROSPECTIVE REVIEW

As AI-driven technologies are integrated into retrospective review or other rulemaking processes, it is critical that the uses align with underlying administrative law values of transparency, accountability, public participation, and oversight. The Trump Administration's December 3, 2020, "Executive Order on Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government"[119] emphasized that "[t]he ongoing adoption and acceptance of AI will depend significantly on public trust."[120] Agencies are therefore admonished to "design, develop, acquire, and use AI in a manner that fosters public trust and confidence."[121]

These general principles are relevant to the use of AI in retrospective review. Especially relevant are the Executive Order's mandates that the AI be: (i) "[u]nderstandable" ("Agencies shall ensure that the operations and outcomes of their AI applications are sufficiently understandable by subject matter experts, users, and others, as appropriate.");[122] (ii) "[r]esponsible and traceable" ("The design, development, acquisition, and use of AI, as well as relevant inputs and outputs of particular AI applications, should be well documented and traceable, as appropriate and to the extent practicable.");[123] and (iii) "[t]ransparent" ("Agencies shall be transparent in disclosing relevant information regarding their use of AI to appropriate stakeholders, including the Congress and the public, to the extent practicable.").[124]

Transparency is key for meaningful public participation and oversight. As OMB has recognized, "[i]n addition to improving the rulemaking process, transparency and disclosure can increase public trust and confidence in AI applications by allowing (a) non-experts to understand how an AI application works and (b) technical experts to understand the process by which AI made a given decision."[125]

There is a burgeoning academic literature that discusses the promise and peril of AI, highlighting the administrative law values of transparency and reasons-giving.[126] An intriguing emerging question is the

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119. Exec. Order No. 13960, 85 Fed. Reg. 78939, 78939 (Dec. 8, 2020).

120. *Id.*

121. *Id.*

122. *Id.* at 78940 § 3(e).

123. *Id.* at § 3(f).

124. *Id.* at § 3(h).

125. *OMB AI Memo*, *supra* note 3.

126. *E.g.*, Coglianese, *supra* note 105, at 5-6 (arguing that the success of digital algorithms in a given use case will depend on certain preconditions, such as "a well-defined objective for repeated tasks for which there exist large quantities of data on outcomes and related correlates"); Ryan Calo, *Artificial Intelligence Policy: A Primer and Roadmap*, 51 U.C. DAVIS L. REV. 399 (2017) (identifying a

extent to which AI algorithms are (or should be deemed) "rules" subject to the APA. Most commentators divide uses of AI technologies into those that "support" agency action—and therefore do not implicate the APA's directives—and those that "determine" agency actions and thus should be subject to the full panoply of APA demands.[127]

Such line-drawing exercises marking a definitive divide between "supportive" and "determinative" uses of AI technologies, however, may have unintended consequences. For example, they might provide a "safe harbor" (from notice-and-comment) to agency officials to pilot uses of "supportive" AI technologies. This is not bad per se, assuming the distinction is meaningful. But it does critically overlook the possibility that the AI tool may over time gravitate over the line towards playing a more policy-relevant "determinative" role.

The case study of HHS and its promulgation of the very first AI use in rulemaking—without even divulging its use of Deloitte's RegExplorer AI tool—illustrates the potential peril. Several years into the HHS pilot, the tool has yet to be vetted through the NPRM process; indeed, little to no information about the tool has been provided to the public. While the tool purportedly played a decisively "supportive" role, it remains to be seen whether subsequent iterations will place the AI in a more "determinative" position. Indeed, HHS was forthright with its determination to use AI in retrospective review to implement the Trump Administration's deregulatory

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number of policy and institutional challenges posed by the application of AI to various topic areas).

127. *See, e.g.*, Coglianese & Lehr, *supra* note 105, at 1170 (setting forth a spectrum of AI uses and hinging subjection of AI to APA §533 requirements on whether the AI is used in a supportive or determinative role in the decision-making process); Melissa Mortazavi, *Rulemaking Ex Machina*, 117 COLUM. L. REV. 202, 209–10 (2017) ("[S]ome uses of automated technology in rulemaking might support agency action without violating the statutory requirements of the APA. For example, removing duplicate submissions, when truly identical, appears to save time with little substantive loss. This is a mechanical process, the equivalent of a keyword search, which is a fundamentally different process from using an automated analysis to sort comments based on fluid and adapting criteria."). Cuéllar and Huq have a more nuanced conception, looking at "what [the AI systems] do" and in particular flagging uses that "embed a forward-looking policy" in its structure as subject to APA dictates. Mariano-Florentino Cuéllar & Aziz Z. Huq, *Toward the Democratic Regulation of AI Systems: A Prolegomenon* (Univ. of Chi., Working Paper No. 753, 2020), https://ssrn.com/abstract=3671011; *see also* David Freeman Engstrom & Daniel E. Ho, *Algorithmic Accountability in the Administrative State*, 37 YALE J. ON REG. 800, 837 (2020) ("[T]he extent to which an algorithm binds will turn in significant part on the degree to which there is a human in the loop—a question that is itself a highly subjective one and also likely to change with informal shifts in agency practice.").

agenda.[128] The real promise of AI for retrospective review lies in the accountability and transparency behind how it works, so that when it inevitably gets leveraged in a political way, courts and the public can understand what is going on and react accordingly.

A. Disclosure and Soliciting Feedback on Retrospective Review Plans

Pursuant to what I have deemed the "old fashioned approach," agencies solicited public feedback on their retrospective review process. Under the Obama Administration, agencies published Final Retrospective Review Plans.[129] Most agencies solicited feedback from the public as to regulations that they thought required retrospective review.[130] Some noted, however, that this process did not result in a large number of comments. For example, the Office of Personnel Management received only three comments, none of which was actually related to the regulations the agency had flagged for initial review.[131] Other agencies had more success with public outreach and also took a more direct approach to public engagement. The Department of Labor, in developing both its preliminary and final

128. Chappellet-Lanier, *supra* note 8 ("Charles Keckler . . . shared the agency's 'AI for deregulation' pilot. The project, which began one year ago, aims to use natural language processing to find HHS regulations that may be too burdensome, obsolete or ineffective. The end goal, after subject matter expert review, is to eliminate or change these regulations in order to streamline the HHS regulatory environment.").

129. All plans are available at: Office of Mgmt. & Budget, https://obamawhitehouse.archives.gov/omb/oira/regulation-reform [https://perma.cc/PR93-RR5M].

130. *See, e.g.*, FINAL PLAN FOR RETROSPECTIVE ANALYSIS PURSUANT TO EXECUTIVE ORDER 13656, U.S. DEP'T OF AGRIC. at 3 (Aug. 18, 2011) https://obamawhitehouse.archives.gov/sites/default/files/other/2011-regulatory-action-plans/departmentofagricultureregulatoryreformplanaugust2011.pdf; PLAN FOR RETROSPECTIVE ANALYSIS OF EXISTING RULES, DEP'T OF COM., 8–11 (Aug. 18, 2011) https://obamawhitehouse.archives.gov/sites/default/files/other/2011-regulatory-action-plans/departmentofcommerceregulatoryreformplanaugust2011a.pdf (describing each Commerce's bureau's solicitation of feedback); ENV'T PROTECTION AGENCY, IMPROVING OUR REGULATIONS: FINAL PLAN FOR PERIODIC RETROSPECTIVE REVIEWS OF EXISTING REGULATIONS, 48–49 (Aug. 2011) https://obamawhitehouse.archives.gov/sites/default/files/other/2011-regulatory-action-plans/environmentalprotectionagencyregulatoryreformplanaugust2011.pdf (describing two comment periods yielding hundreds of written comments); DEP'T OF THE INTERIOR, PLAN FOR RETROSPECTIVE REGULATORY REVIEW at 15–16, (Aug. 2011) https://obamawhitehouse.archives.gov/sites/default/files/other/2011-regulatory-action-plans/departmentoftheinteriorregulatoryreformplanaugust2011.pdf.

131. OFF. OF PERSONNEL MGMT., PLAN FOR RETROSPECTIVE ANALYSIS OF EXISTING RULES (Aug. 22, 2011), https://obamawhitehouse.archives.gov/sites/default/files/other/2011-regulatory-action-plans/officeofpersonnelmanagement regulatoryreformplanaugust2011.pdf [https://perma.cc/GPZ2-SGSM].

plans, created an interactive website; public engagement for the preliminary plan drew over 940 users and 113 individual recommendations, stimulating discussion and voting among users.[132] The Social Security Administration successfully solicited over four hundred messages to its "RegsReview" email inbox—although most comments were unrelated to retrospective review—and contacted nine hundred stakeholders and individuals.[133] Under the Trump Administration, HHS solicited comments to establish regular review cycles (e.g., every four or ten years) but noted concern that doing so could also result in a regulation being reviewed before industry has had the opportunity to fully adapt; as a result, effectiveness could be underestimated.[134]

But there is a seemingly sharp break with regard to the "AI for Deregulation" plan. HHS did not publish, or otherwise make available to the public, any of its metrics and progress made through the Regulatory Review Task Forces. Moreover, in its first AI rulemaking, HHS explained that the changes to existing rules were not material enough on their face to warrant notice-and-comment. HHS would seem to be on firm ground—and supported by existing academic commentary—that its AI technologies played only a "supportive" role of the most mundane character. But this is only the first step of an increasingly technologically-leveraged program that is shrouded from public view and comment. Consider, for example, how the sheer number of unreviewed regulations subject to the automatic sunsetting provision would place increasing pressure on HHS to use an automated (and perhaps a less supportive and more determinative) approach to identifying and reviewing outmoded or overly burdensome regulations.[135] For this reason—and contra the existing literature—I argue that this process and the tool should also be subject to notice-and-comment.

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132. *See* DEP'T OF LAB., PLAN FOR RETROSPECTIVE ANALYSIS OF EXISTING RULES, 3–5 (Aug. 2011) https://obamawhitehouse.archives.gov/sites/default/files/other/2011-regulatory-action-plans/departmentoflaborregulatoryreformplanaugust2011.pdf. The website appears to have continued in use until 2015. *See Shaping Smarter Regulations*, DEP'T OF LAB. (last visited Jan. 2, 2021) https://dolregs.ideascale.com/a/ideas/recent/campaign-filter/byids/campaigns/15893/stage/unspecified.

133. SOC. SEC. ADMIN., FINAL PLAN, Exec. Order 13563 at 2 (Aug. 2011), https://obamawhitehouse.archives.gov/sites/default/files/other/2011-regulatory-action-plans/socialsecurityadministrationregulatoryreformplanaugust2011a.pdf [https://perma.cc/NT57-R2WN].

134. *See* DEP'T HEALTH AND HUM. SERVS., FINAL PLAN, 85 Fed. Reg. 70096 (Nov. 4, 2020), https://www.govinfo.gov/content/pkg/FR-2020-11-04/pdf/2020-23888.pdf [https://perma.cc/AEE9-VKGF].

135. There does not seem to be a definitive tally of regulations subject to the sunsetting provision. But given the fact that the NPRM noted that 85% of the pre-1990 regulations had not been revised, 85 Fed. Reg. 70096, 70111 (Nov. 4, 2020), it is likely to be quite significant.

B. Notice-and-Comment for AI Supportive and Augmented Tools

The informal rulemaking process under the APA "provides predictable and meaningful opportunities for interested stakeholders to provide input on draft regulations and scrutinize the evidence and analytic bases of regulatory proposals."[136] The APA requires agencies to "give interested persons an opportunity to participate in rulemaking through submission of written data, views, or arguments."[137]

OMB has recognized the pivotal role that soliciting public input on Notices of Proposed Rulemakings (NPRMs) relating to AI applications plays in ensuring that "agencies will benefit from the perspectives and expertise of stakeholders engaged in the design, development, deployment, operation, and impact of AI applications" and in facilitating "a decisionmaking process that is more transparent and accountable."[138]

But, as mentioned at the outset of the article, HHS promulgated its first AI rule—the "Regulatory Clean Up Initiative"—without notice-and-comment.[139] HHS explained that the rule made non-substantive changes to existing HHS regulations, such as "correcting references to other regulations, misspellings and other typographical errors."[140] Indeed, this is the very type of "supportive" AI use that academic commentators would also place on the other side of the line, not subject to the dictates of the APA, including notice-and-comment.

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136. *OMB AI Memo*, *supra* note 3, at 13.

137. 5 U.S.C. § 553(c) (1966).

138. *OMB AI Memo*, *supra* note 3, at 4, 13 ("Agencies must provide ample opportunities for the public to provide information and participate in all stages of the rulemaking process, to the extent feasible and consistent with legal requirements (including legal constraints on participation to, for example, protect national security and address imminent threats or respond to emergencies). Agencies are also encouraged, to the extent practicable, to inform the public and promote awareness and widespread availability of voluntary frameworks or standards and the creation of other informative documents."). Moreover, OMB has recognized:

> To the extent feasible, agencies should also provide opportunities for stakeholder consultation before the NPRM stage, including through the issuance, when appropriate, of RFIs and Advance Notices of Proposed Rulemaking (ANPRMs) to inform decisions about the need to regulate. Agencies should also consider holding stakeholder and public meetings both prior to issuing an NPRM and during the public comment period.

See also Exec. Order No. 13563, (Jan. 18, 2011) (noting that regulations "shall be adopted through a process that involves public participation."); Exec. Order No. 13859 (Feb. 11, 2019) (calling on agencies to increase public access to government data and models where appropriate).

139. *See supra* Section I.B.2.

140. Regulatory Clean Up Initiative, 85 Fed. Reg. 72899 (Nov. 16, 2020).

Consider how these seemingly innocuous categorizations may either be used in a highly politicized way or else constitute the first step in considerably more substantive endeavors. For example, what if the AI that labels subtopics is used to flag industries that the HHS wishes to deregulate? (Is this assisted/supportive AI or augmented/determinative AI?) Or what if the use of AI to discover regulatory overlap is used by the HHS in order to harmonize regulations by finding the least restrictive common denominator? What if both of these tools are later on rolled into a larger AI tool that flags "excessively burdensome" regulations?[141]

Now let's take a closer look at these questions in the context of the HHS's use of AI for retrospective review. In HHS's recent Notice of Proposed Rulemaking, "Securing Updated and Necessary Statutory Evaluations Timely," the agency explained:

> The need for a Department-wide regulatory review process is also supported by the Department's regulatory reform project, which piloted an approach to augment expert policy insights with AI-driven data analysis. Machine learning surfaced a number of potential reform opportunities, identifying over 1,200 CFR section citations that merited consideration for reform and 159 CFR sections that could benefit from regulatory streamlining based on their similarities to other sections.[142]

HHS explicitly noted that AI augmented human insights to identify "potential reform opportunities."[143] HHS's pilot project formed the basis, at least in part, for the new proposed rule. Here—and in its earlier rule—HHS disclosed that AI was used to help identify "outmoded" regulations, but there is nary a detail regarding how the AI worked or was used in the process.[144] Nonetheless, according to the proposed rule, "Regulations that have become outmoded will be amended or rescinded."[145]

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141. *Id.* at 72899–90 ("Future uses of these technologies to promote comprehensive and systematic retrospective review will continue to algorithmically refine identification of potentially 'outmoded' regulations and will seek algorithmic characterization of other regulatory targets of Exec. Order No. 13563—regulations which are 'ineffective, insufficient, or excessively burdensome', as candidates for SME review and potential reform.").

142. Securing Updated and Necessary Statutory Evaluations Timely, 85 Fed. Reg. 70096, 70111 (Nov. 4, 2020).

143. *Id.* And to what extent does it matter from a procedural/transparency perspective whether a human or AI tool is doing the flagging for a particular (non)innocuous action? It might even be better from a transparency perspective if we had the AI tool doing the less innocuous task because in many ways it is more scrutable than a person.

144. *Id.*

145. *Id.*

The proposed rule points to various factors used to target regulations for retrospective review. AI technologies—especially in light of the functionalities of the RegExplorer tool—could play a significant role in many of them (although HHS does not take the opportunity to discuss this). First, the proposed rule mentions "[t]he continued need for the Regulation, consideration of which shall include but not be limited to the extent to which the Regulation defines terms of sets standards used in or otherwise applicable to other Federal rules."[146] And it also points to "[t]he extent to which the Regulation overlaps, duplicates or conflicts with other Federal rules, and, to the extent feasible, with State and local governmental rules.[147] As discussed above, the RegExplorer tool's "Compare" function, which uses AI (subtopic classification) to identify areas of regulatory overlap, is poised to assist here. Second, the proposed rule adverts to "[t]he complexity of the regulation."[148] Recall that RegData attempts to identify this as well, and RegExplorer may offer an AI-based augmentation.[149] Third, the rule highlights "[t]he degree to which technology, economic conditions, or other factors have changed in the area affected by the Regulation since the Regulation was promulgated or the last time the Regulation was reviewed by the Department."[150] AI would define the "area" i.e., the "subtopic." Additionally, RegExplorer would generally be useful to quickly flag regulations which have not been reviewed for a while.

HHS should identify where AI will come into play in the assessment of these retrospective review factors. By neglecting to inform the public of where AI will sit in the review process, no one will be able to provide meaningful feedback on HHS's use of AI (and specifically Deloitte's RegExplorer tool) to perform different tasks.[151] HHS should also provide further details describing when and how the AI will be used to "support" or "augment" human decision-making. Thus, for example, to return to the factor regarding overlapping, duplicative, or conflicting regulations, HHS might disclose something akin to: "To identify such

146. *Id.* at 70121.

147. *Id.*

148. *Id.*

149. Ethan Greist, *How to Use QuantGov*, QUANTGOV (Jan. 1, 2020), https://www.quantgov.org/how-to-use-quantgov [https://perma.cc/259K-2BET]. RegData apparently utilizes a keyword search for "restrictive" terms like "shall," "may not," "must," "required," and "prohibited." A more sophisticated AI application of this keyword search would be to apply what RegExplorer did with subtopic analysis to restrictiveness. In other words, the same way an algorithm uses machine learning to identify that "fishing boat" and "ship" talk about the same thing, it would use the restriction keywords like "shall" or "must" to train the model to identify other restriction terms.

150. Securing Updated and Necessary Statutory Evaluations Timely, 85 Fed. Reg. 70096, 70121 (Nov. 4, 2020).

151. *See generally* Cuéllar & Huq, *supra* note 127, at 18–19.

regulations, RegExplorer, an AI tool developed by Deloitte, was used to identify topics (e.g., "dog" or "ice cream") and industries (e.g., "electrical engineering"). Any topical overlaps for definitional disparities were then flagged for human review."

But here, I would push even further—especially in light of the fact that the "human in the loop" has garnered talismanic significance in terms of shielding AI uses from disclosure and review by casting them in a "support" role.[152] The APA's notice-and-comment mandate has been interpreted to require that agencies make publicly available the critical information—including studies, data, and methodologies—underlying proposed rules.[153] In *Portland Cement Ass'n v. Ruckelshaus*, the D.C. Circuit remanded the EPA's order establishing "standards of performance" rules because the EPA's failure to disclose the basic data relied upon suppressed the ability for meaningful comment.[154] Notably—and in light of the existing line-drawing efforts to distinguish "supportive" from "determinative" uses of AI—the data in question that was suppressed merely represented "a partial basis" for the overall rule.[155] Four years later, *Nova Scotia* struck down an FDA rule for "failure to disclose the basic data relied upon," which in turn obviated any opportunity for meaningful comment on the proposed rule.[156] The threshold set by *Ruckelshaus* and

152. Vikram Singh Bisen, *What is Human in the Loop Machine Learning: Why & How Used in AI?*, VSINGHBISEN (May 20, 2020), https://medium.com/vsinghbisen/what-is-human-in-the-loop-machine-learning-why-how-used-in-ai-60c7b44eb2c0 [https://perma.cc/G24T-DF24].

153. *See* Portland Cement Ass'n v. Ruckelshaus, 486 F.2d 375 (D.C. Cir. 1973).

154. *Id.* at 402.

155. *Id.* at 392 (finding a critical defect in the decision-making process in arriving at the standard under review in the initial inability of petitioners to obtain—in timely fashion—the test results and procedures used on existing plants *which formed a partial basis for the emission control level adopted*, and in the subsequent seeming refusal of the agency to respond to what seem to be legitimate problems with the methodology of these tests) (emphasis added). *See also id.* at 393 ("It is not consonant with the purpose of a rulemaking proceeding to promulgate rules on the basis of inadequate data, or on data that [in] critical degree, is known only to the agency."). *But see* Cooling Water Intake Structure Coal. v. United States EPA, 905 F.3d 49, 78 (2nd Cir. 2018) ("Unless the scientific material discussed in the biological opinion ultimately formed the 'basis' of the EPA's rule, the public was not entitled to comment on it.") (citing United States v. Nova Scotia Food Prods. Corp., 568 F.2d 240 (D.C. Cir. 1977)).

156. United States v. Nova Scotia Food Prods. Corp., 568 F.2d 240, 252 (D.C. Cir. 1977) ("To suppress meaningful comment by failure to disclose the basic data relied upon is akin to rejecting comment altogether. For unless there is common ground, the comments are unlikely to be of a quality that might impress a careful agency. The inadequacy of comment in turn leads in the direction of arbitrary decision-making.").

Nova Scotia, requiring disclosure of the basic data underlying the rule, points in the direction of agency disclosure of training data.[157] Thus, in addition to HHS disclosing how Deloitte's RegExplorer tool was used, the agency should provide information about the training data, the process for classifying subtopics, how the clustering algorithm works and with what accuracy.

Of course, disclosure and public participation can be taken too far. Two sets of caveats are typically invoked. First, "current technical challenges in creating interpretable AI can make it difficult for agencies to ensure a level of transparency necessary for humans to understand the decision-making of AI applications."[158] Second, "[w]hat constitutes appropriate disclosure and transparency is context-specific, depending on assessments of potential harms (including those resulting from the exploitation of disclosed information), the magnitude of those harms, the

157. *See generally* Katherine J. Strandburg, *Rulemaking and Inscrutable Automated Decision Tools*, 119 COLUM. L. REV. 1851, 1882–83 (2019) (arguing that, in order to provide adequate accountability and a generalizability check on the AI tool, an agency must publish "information treated as part of the record for backing up the rule" including "summary information about the training data, explanations about how it was sourced, descriptions of validation process, and validation results"). Other scholars coalesce around a similarly granular level of disclosure. Aziz Huq recommends that a "datasheet" accompany an algorithmic decision, that "records the choices and manipulations of training data, and the 'composition, collection process, recommended uses, and so on' of the raiding data." *Constitutional Rights in the Machine Learning State*, 106 CORNELL L. REV. 48 (2020) (referencing Timnit Gebru et al., *Datasheets for datasets*, arXiv preprint ariv:1803.09010, at 2 (2018)). Coglianese & Lehr suggest that there should be disclosure of "all iterations of an algorithm or alternative algorithms that were considered, their predictions, and their corresponding specifications." Coglianese & Lehr, *supra* note 105, at 1211.

158. *OMB AI Memo*, *supra* note 3. Trade secret protection issues are often raised at this juncture. *See, e.g.*, David Rubenstein, *The Outsourcing of Algorithmic Governance*, YALE J. REG. (Jan. 19, 2021) ("When procured from private vendors, AI systems may be shrouded in trade secrecy, which can impede public transparency and accountability."), https://www.yalejreg.com/nc/the-outsourcing-of-algorithmic-governance-by-david-s-rubenstein/. Strandburg and Huq dismiss these concerns for different reasons. For Strandburg, if confidentiality agreements or trade secret protections would prohibit the disclosure of summary information regarding the training data (e.g. sourcing, validation techniques, and results), then rulemaking entities should not sign those agreements or source those technologies. Strandburg, *supra* note 157, at 1882–84. Huq argues that protective orders solve countervailing intellectual property concerns. Cuéllar & Huq, *supra* note 127, at 49 ("It is difficult to see how any of these disclosure obligations would impinge upon intellectual property interests in algorithmic design, even on the assumption that such an interest was a substantial one, given the availability of a protective order.").

technical state of the art, and the potential benefits of the AI application."[159] With regard to the use of AI in retrospective review, the oft-invoked worry about adversarial gaming does not pertain due to the retrospective nature of the activity.

CONCLUSION

Scholars have made valiant attempts to scale the level of required disclosure to the significance of the AI in the process[160] or the significance of the policy in which it is embedded.[161] But, as the HHS case study illustrates, there is an unaddressed risk that a "supportive" AI role could morph into an "augmented" one driving an automated search process that uses some algorithm to propose rules for review that continues to evade notice-and-comment and meaningful public scrutiny.[162] A better solution may be the establishment of a bright line for AI, requiring that an NPRM always articulate (1) the policy-level purpose of the AI-supportive/augmented tool, (2) the factors it influences in the evaluation process, (3) how it was trained or developed, and perhaps even (4) what it may be used for in the future.

159. *OMB AI Memo*, *supra* note 3. Another possible concern/caveat, raised by Strandburg, considers chilling effects or negative repercussions (e.g. pressure on regulatory loopholes) of too much disclosure. If the bar for required NPRM disclosure is too high, i.e. if it requires narrative mapping from cases to outcomes, then "inscrutable decision tools simply cannot be incorporated into APA rules." Strandburg, *supra* note 157, at 1881. Also, with a high bar, people will either prohibit the use of AI for significant rules (which is bad because of their benefits) or officials will simply reinterpret or narrow the scenarios where explanation is required. *Id*. at 1881–82.

160. Coglianese & Lehr, *supra* note 105.

161. Cuéllar & Huq, *supra* note 127.

162. It is worth noting that disclosure must also be adequate for oversight by various internal and external actors—a significant topic that must be taken up elsewhere. Here, I highlight the significant role played by OIRA. OIRA has historically played a coordinating role among federal agencies. The Trump Administration's December 3, 2020 "Executive Order on Promoting the Use of Trustworthy Artificial Intelligence in the Federal Government" charges OIRA with extending its coordinating role in the sphere of AI: "When OIRA designates AI-related draft regulatory action as 'significant' for purposes of interagency review under Executive Order 12866, OIRA will ensure that all agencies potentially affected by or interested in a particular action will have an opportunity to provide input." *OMB AI Memo*, *supra* note 3, at 7.