

COMMENTARY

Great Trees Require Strong Roots: Evaluating Data and Delegation Doctrine Underlying Proposed Reforms to FDA's Accelerated Approval Program

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Abstract: In “Missing the Forest for the Trees: Aduhelm, Accelerated Approvals & the Agency,” Dr. Matthew Herder argues that agency capture and politicized discretion drive delays in confirmatory trials of accelerated approval drugs amongst other concerns at US Food and Drug Administration (FDA). In highlighting this important problem and offering nuanced insight into agency workings based in part on interviews with twenty-three unnamed FDA officials and a three-drug case study, Dr. Herder suggests two innovative solutions. However, amidst broader debates balancing agency expertise, data, and delegation, these proposed policy solutions would benefit from more corroborative evidence and consideration of institutional advantages within constitutional limits.

Introduction

Just as drug efficacy cannot be demonstrated by a single patient, solutions to the problems underlying untimely completion of post-approval studies should not be based on a single drug. Doing so risks incomplete conclusions and misunderstandings. On this premise, Dr. Matthew Herder's article, “Missing the Forest for the Trees: Aduhelm, Accelerated Approvals

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& the Agency,” advocates for reforms to user fee legislation as a solution to both delays in post-approval confirmatory trials for drugs approved under the Accelerated Approval Program and the overly “cooperative relationship between” industry and the US Food and Drug Administration (FDA).¹ As an alternative, he suggests delegating post-approval drug monitoring and withdrawal of approvals to independent external experts.²

Delays in completion of confirmatory trials for drugs approved under the Accelerated Approval Program is an important, multidimensional problem.³ In a cross-sectional study examining the timeliness of all post-approval confirmatory studies for drugs granted accelerate approval between 2012-22, 54% of drugs were not completed by the initial agreed-upon deadline.⁴ Most strikingly, the amount of time FDA projects a study to be completed varies by therapeutic area (mean 3.5 to 8.7 years).⁵ Many FDA leaders, scholars, prescribers, and patients call for reforms to the Accelerated Approval Program to address these problems.⁶ Dr. Herder's concerns about the scope of agency discretion are part of these broader questions, but solutions should be connected to comprehensive data and within constitutional limits.

In Consideration of Connection

Dr. Herder's three cases illustrates external and internal problems affecting FDA's drug approval and withdrawal decisions, highlighting difficulties in obtaining and acting on post approval clinical trial data and real-world evidence. He attributes confirmatory trial delays and limitations in post-approval drug monitoring programs to Congressionally mandated user fee legislation timelines, leading to improper distribu-

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tion of resources within the agency.⁷ The Prescription Drug User Fee Agreements (PDUFA) is a law renewed every five years that collects large fees from pharmaceutical companies and mandates FDA review drugs designated Priority Review within specified timelines⁸ These fees constitute a meaningful portion of the Agencies budget. Originally addressing concerns over inadequate staffing contributing to regulatory delays during the AIDS crisis, PDUFA has evolved over 30 years to address numerous issues such as post-approval monitoring, review cycles number, and transparency amongst others.⁹ Despite some success, the program remains highly criticized.¹⁰ In addition to

Solutions should be driven by comprehensive data and awareness of potential unintended impacts.

Agencies, External Experts, and Constitutional Limits

Dr. Herder proposes a second “more radical” alternative, suggesting FDA should no longer be responsible for post-approval regulation of drugs granted accelerated approval. Instead, he suggests that responsibility should be delegated to a new congressionally created outside body of experts independent from the Agency, industry, and patients.¹⁶ When an agency falters, many turn to outside sources like courts and Congress to

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concerns over potentially rushed decisions in attempts to meet mandatory review timelines echoed by Dr. Herder,¹¹ scholars worry about budgetary insufficiency creating agency dependence on user fees, unfulfilled FDA staffing needs, improper political oversight, and inappropriate industry influence.¹²

Although many scholars agree that PDUFA’s user fee scheme may create a structural risk of agency capture, it is less clear PDUFA’s timelines are the primary driver of delays in post-approval confirmatory trials and Agency priorities.¹³ Additional research is needed to confirm Dr. Herder’s theory that FDA intentionally does not prioritize post-confirmatory trials.¹⁴ It would be helpful to understand why differential prioritization occurs, how often, relevant circumstances, and if they are related to PDUFA timeline pressures alone or in conjunction with the concerns raised by other scholars. Solutions based on limited evidence merit caution as revising PDUFA timelines may affect other regulatory concerns and have unintended impacts.¹⁵

reign in an inefficient or captured agency. Others like Dr. Herder envision outside experts as an efficient, scientifically sound replacement.¹⁷ Yet such solutions may run afoul of the Constitutional.

Withdrawal of government benefits must comply with the Due Process clause of the Constitution, which requires reasonable notice, an opportunity to be heard, and decision by a neutral decision maker.¹⁸ Revoking a license by external experts, without these features, would be unconstitutional. Due Process concerns are also intertwined with liberty objections. Accountability requires that citizens displeased with agency actions should be able to identify who took that action and express displeasure through their vote. While cooperation between public and private actors to achieve public policy goals is widespread, delegation to external experts without agency oversight lacks accountability.¹⁹

When private delegations were attempted at other agencies in the 1930s, the Supreme Court held reli-

ance on outside experts without oversight, political accountability, and protections for minority views of regulated competitors to be problematic encroachments on liberty.²⁰ More recently, Justice Alito wrote “[i]f the arbitrator [of a government power] can be a private person, this law is unconstitutional. Even the United States accepts that Congress ‘cannot delegate regulatory authority to a private entity.’ [] It would dash the whole scheme if Congress could give its power away to an entity that is not constrained by those checkpoints.”²¹ While courts have not ruled on the legality of a statute authorizing a private party or

and objectivity to exercise authority amongst industry competitors.²⁹

Comparative Advantages Deserve Consideration

Finally, it is worth considering if external experts are better able to design and review post-approval for Accelerated Approval Program drugs compared to agency staff. Resources should be directed towards institutions most capable of providing high-quality, consistent, and fair determinations for post-approval drug reviews. As a federal agency, FDA has delegated

Further data collection will illustrate if these new polices leads to improved outcomes in post-approval confirmatory trial timeliness or whether additional authority is needed to assure that confirmatory trials are completed in a timely manner for the benefit of patients. While Dr. Herder highlights important problems with timeliness of accelerated approval regulations and proffers creative solutions, reforms must identify and address root causes of problems in both a data informed and constitutionally sound manner.

independent experts to withdraw a license without agency participation, this line of cases suggest it may be unconstitutional.

The 1966 Drug Efficacy Study Implementation (DESI) cited by Dr. Herder included agency oversight.²² There, FDA and experts at the National Academy of Sciences collaborated to evaluate the efficacy of over 16,000 therapeutic indications approved before the 1962 amendments to the Federal Food, Drugs, and Cosmetics Act required evidence of efficacy.²³ External experts reviewed data and presented a recommendation subject to FDA authorization.²⁴ As confirmed by the Supreme Court in 1973 in a quartet of cases,²⁵ the private nondelegation doctrine allows private participation in the regulatory process in a wide variety of supervised roles. It has never completely banned private party involvement in regulation.²⁶ Altogether, part of the distinction between unconstitutional delegation to private parties and expert collaboration with an administrative agency, who is subject to Congressional, executive, and judicial oversight.²⁷ External experts unquestionably add value to agencies, but as Dr. Herder highlights, drug approvals and withdrawals from market are scientific decisions with political consequences.²⁸ They benefit from accountability and Due Process. Agencies can provide accountability

legislative authority, political accountability through executive and judicial oversight, relatively independent internal experts vetted for financial conflicts, access to proprietary data, investigative authority, and the ability to consult with external advisors. While far from perfect,³⁰ these are institutional advantages. While I do not offer a conclusion on the preferability of investing scarce public resources in FDA’s post-approval drug monitoring Office of Surveillance and Epidemiology within the agency, subdelegating to supervised external experts, or creating a new independent agency, institutional advantages merit examination.

Conclusion

Reforms to the Accelerated Approval Program have a near universal goal: implementable policy solutions that will ensure patients benefit from accessible, safe, and effective medications. Dr. Herder insightfully connects broader concerns around accelerated approval and withdrawals to issues of regulatory capture, funding for post approval monitoring, and the impact of patient advocacy groups both influencing and being influenced by FDA. While he sees promise in the Food and Drug Omnibus Reform Act³¹ reforms, he raises fears of unfettered agency discretion. Further data collection will illustrate if these new polices will lead

to improved outcomes in post-approval confirmatory trial timeliness or whether additional authority is needed to ensure only safe and effective drugs are sold to patients. While Dr. Herder highlights important problems with the accelerated approval program, reforms should address the root of the problems in both a data informed and constitutionally sound manner.

Note

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References

1. M. Herder, "Missing the Forest Through the Trees: Aduhelm, Accelerated Approval, and the Agency," *Journal of Law, Medicine & Ethics* 51, no. 4 (2023).
2. Herder, *supra* note 1.
3. See U.S. Dep't of Health & Hum. Servs., Off. of Inspector Gen., OEI-01-21-00401, *Delays in Confirmatory Trials for Drug Applications Granted FDA's Accelerated Approval Raise Concerns* (2022), available at <<https://oig.hhs.gov/oei/reports/OEI-01-21-00401.asp>> (last visited Dec. 6, 2023).
4. A. D. Deshmukh, A. S. Kesselheim, and B. N. Rome, "Timing of Confirmatory Trials for Drugs Granted Accelerated Approval Based on Surrogate Measures From 2012 to 2021," *JAMA Health Forum* 4, no. 3 (2023): e230217.
5. *Id.*
6. S. Gottlieb, "Changing the FDA's Culture," *National Affairs*, Summer 2012, available at <<https://www.nationalaffairs.com/publications/detail/changing-the-fdas-culture>> ("Former FDA commissioner Scott Gottlieb has aggressively criticized the 'increasingly unreasonable hunger for statistical certainty on the part of the FDA.'"); M. McCaughan, "Expedited Approval Pathways," *Health Affairs*, July 21, 2017, available at <<https://www.healthaffairs.org/doi/10.1377/hpb20170721.962821/>> (last visited August 27, 2022); A. S. Kesselheim, S. Woloshin, Z. Lu, F. A. Tessema, K. M. Ross, and L. M. Schwartz, "Physicians' Perspectives on FDA Approval Standards and Off-Label Drug Marketing," *JAMA Internal Medicine* 179, no. 5 (2022): 707-709; B. Gyawali, B. N. Rome, and A. S. Kesselheim, "Regulatory and Clinical Consequences of Negative Confirmatory Trials of Accelerated Approval Cancer Drugs: Retrospective Observational Study," *BMJ*, no. 1959 (2021), available at <<https://www.bmj.com/content/374/bmj.n1959>> (last visited Dec. 6, 2023); see also K. Omae, A. Onishi, E. Sakher et al., "US Food and Drug Administration Accelerated Approval Program for Nononcology Drug Indications Between 1992 and 2018," *JAMA Network Open* 5, no. 9 (2022): e2230973, available at <<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2796049>> (last visited Dec. 6, 2023) (finding nine post-approval confirmatory trials failed to verify clinical efficacy, but only 1 indication was withdrawn due to a failed confirmatory trial 136 months after approval).
7. Herder, *supra* note 1, at 28.
8. S. Thaul, Cong. Research Serv., R42366, Prescription Drug User Fee Act (PDUFA): 2012 Reauthorization as PDUFA V 1 (2013), available at <<https://sgp.fas.org/crs/misc/R42366.pdf>> (last visited Dec. 6, 2023) at 10-11 ("At the core of PDUFA's history is FDA's commitment to completing review within a specified timeframe in exchange for an industry source of revenue to support that activity. Although subsequent PDUFA laws have added other kinds of commitments, the review time goals continue to be a focus of PDUFA Agreement negotiations. [] The urgency to pass PDUFA reauthorization stems from PDUFA revenue's accounting for more than half the FDA Human Drugs Program budget."); see also A. N. Monge, D. W. Sigelman, R. J. Temple et al., "Use of US Food and Drug Administration Expedited Drug Development and Review Programs by Orphan and Nonorphan Novel Drugs Approved From 2008 to 2021," *JAMA Network Open* 5, no. 11 (2022), available at <<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2798005>> ("In October 1992, Congress passed the Prescription Drug User Fee Act, which established Priority Review designation for drugs that may provide a 'significant improvement in the safety or effectiveness of the treatment, prevention, or diagnosis of a serious condition.' The FDA's goal is to complete the review of drug applications meeting Priority Review requirements within 6 months instead of the standard 10 months.").
9. J. J. Darrow, J. Avorn, and A. S. Kesselheim, "Speed, Safety, and Industry Funding — From PDUFA I to PDUFA VI," *New England Journal of Medicine* 377 (2017): 2278-2286, available at <https://www.nejm.org/doi/10.1056/NEJMhle1710706?url_ver=Z39.88-2003&rft_id=ori:rid:crossref.org&rft_dat=crpub%20%20pubmed> (last visited Dec. 6, 2023).
10. See, e.g., A. P. Mitchell, N. U. Trivedi, and P. B. Bach, "The Prescription Drug User Fee Act: Much More than User Fees," *Medical Care*, 60, no. 4 (2022): 287-293, available at <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8917050/>> (last visited Dec. 6, 2023) ("By relying on user fees rather than appropriations to fund the FDA, and requiring their renewal every five years, Congress created a recurring, must-pass legislative vehicle that has fundamentally changed how the FDA interacts with the industry it is charged with regulating."); C. Jewett, "F.D.A.'s Drug Industry Fees Fuel Concerns Over Influence," *New York Times*, September 15, 2022, available at <<https://www.nytimes.com/2022/09/15/health/fda-drug-industry-fees.html>> (citing multiple scholars concerns on evidence, efficacy and noting "[a]dvocates for patients and doctors say the [required negotiations with drug, device, and biotech companies] have enabled the industry to weaken the approval process meant to ensure that drugs are safe and effective.").
11. D. Carpenter, J. Chattopadhyay, S. Moffitt, and C. Nall, "The Complications of Controlling Agency Time Discretion: FDA Review Deadlines and Postmarket Drug Safety," *American Journal of Political Science*, 56, no. 1 (2012): 98-114, available at <<https://onlinelibrary.wiley.com/doi/10.1111/j.1540-5907.2011.00544.x>> (last visited Dec. 6, 2023) (finding administrative deadlines in timing of drug approvals "induces a piling of decisions before deadlines, and that these 'just-before-deadline' approvals are linked with higher rates of postmarket safety problems [and interviews] that the deadlines may impede quality by impairing late-stage deliberation and agency risk communication."); G. A. Van Norman, "Update to Drugs, Devices, and the FDA," *JACC: Basic to Translational Science*, 5, no. 8 (2020): 831-839, available at <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7444905/>> (last visited Dec. 6 2023) ("Most of the provisions in these laws do not change the basic steps in drug development reviewed previously, but concentrate on FDA funding and staffing to facilitate FDA review; establish programs in which the FDA works more closely with the DAB development entity to reduce reiterative reviews and delays; and encourage reinterpretation of existing FDA rules to allow more innovative clinical trial design and use of biomarkers and 'real-world' data in evaluating efficacy.").
12. See Jewett, *supra* note 10; J. J. Darrow, J. Avorn, and A. S. Kesselheim, "Speed, Safety, and Industry Funding — From PDUFA I to PDUFA VI," *New England Journal of Medicine* 377 (2017): 2278-2286, available at <https://www.nejm.org/doi/10.1056/NEJMhle1710706?url_ver=Z39.88-2003&rft_

- id=ori.rid:crossref.org&fr_dat=cr_pub%20%20pubmed> (last visited Dec. 6, 2023) (“Because of these regulatory changes and the continuing reluctance of Congress to fund FDA staff directly, user fees have risen far faster than the FDA budget. [] As industry funding has risen, the extent of statutorily required industry input in the drug-regulation and reauthorization processes has also increased.”); C. Piller and J. You, “Hidden Conflicts? Pharma Payments to FDA Advisers after Drug Approvals Spark Ethical Concerns,” *Science*, July 5, 2018, available at <<https://www.science.org/content/article/hidden-conflicts-pharma-payments-fda-advisers-after-drug-approvals-spark-ethical>> (last visited Dec. 6, 2023); see also G. A. Van Norman, *supra* note 11 (“The FDA’s dependence on industry funding has put pressure on Congress to maintain the FDARA to avoid substantial FDA layoffs (estimated as up to 5,000 full-time positions)”).
13. Herder *supra* note 1.
 14. Herder, *supra* note 1.
 15. U.S. Dep’t of Health & Hum. Servs., Off. of Inspector Gen., *supra* note 3; see also T. B. Ribeiro, C. L. Bennet, L. E. Colunga-Lozano, A. P. V. Araujo, I. Hozo, and B. Djulbegovic, “Increasing FDA-accelerated Approval of Single-Arm Trials in Oncology (1992 to 2020),” *Journal of Clinical Epidemiology*, 159, (2023): 151-158, available at <<https://pubmed.ncbi.nlm.nih.gov/37037322/>> (last visited Dec. 6, 2023) (finding 47% of accelerated approvals for oncology indications were based on a single arm study between 1992-2000, with a large increase in approval between 2017-2020. Also found median sample size of patients enrolled in confirmatory clinical trials decreased over time); B. Gyawali, S. P. Hey, and A. S. Kesselheim, “Evaluating the Evidence Behind the Surrogate Measures Included in the FDA’s Table of Surrogate Endpoints as Supporting Approval of Cancer Drugs,” *EClinicalMedicine* 21, no. 10032 (2020), available at <<https://www.thelancet.com/action/showPdf?pii=S2589-5370%2820%2930076-6>> (last visited Dec. 6, 2023); Bishal Gyawali, Joseph S. Ross, and Aaron S. Kesselheim, “Fulfilling the Mandate of the US Food and Drug Administration’s Accelerated Approval Pathway,” *JAMA Internal Medicine* 181, no. 10 (2021): 1275-1276 (“The oncology drugs that failed their confirmatory trials and the approval of aducanumab highlight 3 key concerns about the accelerated approval pathway [including] a lack of consistency about what it means for a surrogate measure to be ‘reasonably likely’ to predict clinical benefit[, minimal] enforcement of the mandate for sponsors to complete confirmatory trials [and.] the issue of what constitutes ‘verified benefit.’”); Z. S. Morris, S. Wooding, and J. Grant, “The Answer is 17 Years, What is the Question: Understanding Time Lags in Translational Research,” *Journal of the Royal Society of Medicine*, 104, no. 12 (2011): 510-20; see also D.G. Julian, “Translation of Clinical Trials into Clinical Practice,” 255, no. 3 (2004): 309-316, available at <<https://onlinelibrary.wiley.com/doi/full/10.1046/j.1365-2796.2003.01282.X>> (last visited Dec. 6, 2023); M. Fralick, E. Bartsch, J. J. Darrow, and A. S. Kesselheim, “Understanding When Real World Data Can Be Used to Replicate a Clinical Trial: A Cross-Sectional Study of Medications Approved in 2011,” *Pharmacoepidemiology & Drug Safety* 29, no. 10 (2020): 1273-1278, available at <<https://onlinelibrary.wiley.com/doi/full/10.1002/pds.5086>> (last visited Dec. 6, 2023) (finding 7% of preapproval trials can be replicated in an insurance claims database).
 16. Herder, *supra* note 1 (“Congress should convene a new body with suitable scientific expertise and independence from FDA, industry, and patients, to assist in decision making [on requirements for] post-approval study designs to confirm the efficacy of accelerated approval [and act swiftly] when post-approval studies fail to confirm a drugs clinical benefit.”); *id.*
 17. See, e.g., *Mistretta v. United States*, 488 U.S. 361, 422 (1989) (Scalia, J., dissenting) (“How tempting to create an expert Medical Commission (mostly M.D.s, with perhaps a few Ph.D.s in moral philosophy) to dispose of such thorny, ‘no win’ political issues as the withholding of life-support systems in federally funded hospitals, or the use of fetal tissue for research.”).
 18. See *Mathews v. Eldridge*, 424 U.S. 319 (1976).
 19. *Ass’n of Am. R.R.s v. U.S. Dept of Transp.* [Amtrak I], 721 F.3d 666, 671 (D.C. Cir. 2013 (“Congress may formalize the role of private parties in proposing regulations so long as that role is merely ‘as an aid’ to a government agency that retains the discretion to ‘approve[, disapprove[, or modif[y] them.’”)
 20. *Carter v. Carter Coal Co.*, 298 U.S. 238, 311 (1936) (“This is legislative delegation in its most obnoxious form; for it is not even delegation to an official or an official body presumptively disinterested, but to private persons whose interests may be and often are adverse to the interests of others in the same business.”); J. M. Rice, “The Private Nondelegation Doctrine: Preventing the Delegation of Regulatory Authority to Private Parties and International Organizations,” *California Law Review* 105, no. 2, (2017): 539-572, available at <<http://www.jstor.org/stable/24915721>> (last visited Dec. 6, 2023).
 21. *Dept of Transp. v. Ass’n of Am. R.R.s*, 575 U.S. 43, 60-61 (2015) (Alito, S. concurring); see also *A. L. A. Schechter Poultry Corp. v. United States*, 295 U.S. 495, 537 (“But would it be seriously contended that Congress could delegate its legislative authority to trade or industrial associations or groups so as to empower them to enact the laws they deem to be wise and beneficent for the rehabilitation and expansion of their trade or industries? ... The answer is obvious. Such a delegation of legislative power is unknown to our law, and is utterly inconsistent with the constitutional prerogatives and duties of Congress.”).
 22. See, e.g., *Dept of Transp.*, 575 U.S. at 61 (“[T]he principle that Congress cannot delegate away its vested [constitutional] powers exists to protect liberty.”); See also *Gundy v. United States*, 139 S. Ct. 2116, 2121 (2019) (plurality opinion) (“The nondelegation doctrine bars Congress from transferring its legislative power to another branch of Government.”)
 23. U.S. Food & Drug Admin., Drug Efficacy Study Implementation (DESI) (2022), available at <<https://www.fda.gov/drugs/enforcement-activities-fda/drug-efficacy-study-implementation-desi>> (last visited Dec. 6, 2023).
 24. Final Resolution of Drug Efficacy Study Implementation, 87 Fed. Reg. 24311 (proposed April 25, 2022), available at <<https://www.federalregister.gov/documents/2022/04/25/2022-08740/drugs-for-human-use-drug-efficacy-study-implementation-oral-prescription-drugs-containing-an>> (last visited Dec. 6, 2023) (“The Agency reviewed and reevaluated the reports and published its findings in Federal Register notices.”).
 25. *Weinberger v. Bentex Pharms., Inc.*, 412 U.S. 645, 653 (1973); *Weinberger v. Hynson, Westcott & Dunning, Inc.*, 412 U.S. 609 (1973) (“The heart of the new procedures designed by Congress is the grant of primary jurisdiction to FDA, the expert agency it created. FDA does not have the final say, for review may be had [] in a court of appeals. FDA does not have unbridled discretion to do what it pleases. Its procedures must satisfy the rudiments of fair play.”); *USV Pharm. Corp. v. Weinberger*, 412 U.S. 655, 665 (1973); *CIBA Corp. v. Weinberger*, 412 U.S. 640, 640 (1973).
 26. *Mistretta v. United States*, 488 U.S. 361, 372 (1989) (“So long as Congress shall lay down by legislative act an intelligible principle to which the person or body authorized to exercise the delegated authority is directed to conform, such legislative action is not a forbidden delegation of legislative power.”) (Citations omitted).
 27. H. J. Krent, “Fragmenting the Unitary Executive: Congressional Delegations of Administrative Authority Outside the Federal Government,” *Northwestern University Law Review*, 85, no. 1 (1990): 62-112, available at <<http://northwesternlawreview.org/wp-content/uploads/2020/02/85NwULRev621990-1991.pdf>> (last visited Dec. 6, 2023); see also J. M. Rice, “The Private Nondelegation Doctrine: Preventing the Delegation of Regulatory Authority to Private Parties and International Organizations,” *California Law Review* 105, no.

- 2 (2017): 539-572, available at <https://www.jstor.org/stable/pdf/24915721.pdf?refreqid=excelsior%3Ab8e9db007513cb2ed18f5579d11bb31b&ab_segments=&origin=&initiator=&acceptTC=1> (last visited Dec. 6, 2023).
28. H. F. Lynch, S. Joffe, and M. S. McCoy, "The Limits of Acceptable Political Influence over the FDA," *Nature Medicine* 27 (2021): 188-190, available at <<https://www.nature.com/articles/s41591-020-01200-w>> (last visited Jan. 2, 2024) ("The dual nature of the FDA's decision-making means that it cannot avoid political considerations, by which we mean governmental value judgments about competing goods and interests. A critical question, then, is whether these value judgments should be left to the FDA's career scientists or whether – and if so, to what extent – they legitimately may be influenced by the president's administration.").
29. *Ass'n of Am. R.R.s. v. U.S. Dep't of Transp.*, 721 F.3d 666, 675 (D.C. Cir. 2013), vacated and remanded sub nom. *Dep't of Transp. v. Ass'n of Am. R.R.s.*, 575 U.S. 43 (2015) (holding governmental accountability faces a "particularly dangerous [threat] where both Congress and the Executive can deflect blame for unpopular policies by attributing them to the choices of a private entity.").
30. R. M. Califf, "The FDA and the Clinical Community," *JAMA* 328, no. 11 (2022): 1043-1044, available at <<https://jamanetwork.com/journals/jama/fullarticle/2795742>> (last visited Dec. 6, 2023)(FDA Commissioner Califf reviewing FDA priorities, successes, and challenges).
31. See Consolidated Appropriations Act, 2023, Pub. L. No. 117-328, Div. FF Title III, available at <<https://www.congress.gov/117/bills/hr2617/BILLS-117hr2617enr.pdf>> (last visited Jan 2, 2024).