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NOTES

INCENTIVIZING DRUG AFFORDABILITY: WILDCARD EXCLUSIVITY VOUCHERS

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I. INTRODUCTION

The cost of medicine frustrates most of society—especially patients, lawmakers, and scientists—and will continue to frustrate far into the future. Inventing a chemical or biologic capable of improving or saving life is not cheap, to be sure. Risky private investment is incentivized by the windfall potential created by patents and monopoly prices. Monopoly prices, among other factors outside the scope of this Note, contribute to the inability of many patients to afford and access medically necessary treatments. When patents expire, generic substitutes drive down prices. However, generic access can be unnecessarily delayed when monopolies persist beyond patent expiration. When generic availability is inappropriately delayed, patients and society are left paying gratuitous multiples of the break-even cost of their medicine, long after inventors have recouped their initial investment and turned a profit.

II. BACKGROUND & OVERVIEW

To appreciate how reduced generic access translates to higher costs and poorer health outcomes, one must understand the relationship between innovators and generic manufacturers. This understanding can then be applied to examine price-lowering policies. Rather than “pushing” low prices with more expensive red tape, new policies should “pull” prices lower by incentivizing price-lowering behavior. The stick is exhausted, and modern policies should explore the carrot.

A. Innovative Versus Generic Medicine

Innovator pharmaceutical companies and generic pharmaceutical companies appear similar at first glance. Indeed, the Food and Drug Administration (“FDA”) requires generic medicine to be manufactured with the same (1) active/key ingredient, (2) strength, (3) dosage form (e.g., tablet, capsule, liquid), and (4)

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route of administration (e.g., oral, topical, injectable) as the brand-name.¹ The innovator/brand-name and generic sectors are differentiated less by the substance of their drugs and more by their business models, strategies, operations, goals, and challenges.

Innovators invent and patent medicines, which are marketed exclusively by the patent holder during the patent(s) life. Generic firms target weak patents or off-patent drugs, copy the formula, and sell a “generic” form of the innovator’s medicine at a discount. Thus, patent expiration or invalidation results in competition, lower prices, and higher access as generics and innovators market interchangeable products to the same patients. Although generics rely on innovators to invent the next product, short-term success can be mutually exclusive when the two share a market.

As innovators’ patents age, generic suitor(s) prepare to launch—which may be done “at-risk” (i.e., before the innovator’s patent expires) if the generic firm believes a patent is invalid—a discounted, interchangeable version of the original drug. At this stage, the Hatch-Waxman process (to be discussed) for generic entry draws the parties into negotiations. Sometimes, and particularly beneficial to patients struggling with affordability, the parties enter a settlement to allow generic entry *prior* to patent expiration.

In its study of generic entry prior to patent expiration, the Federal Trade Commission (“FTC”) identified that “in 7 of the 20 final settlements, the brand-name company granted a license to the generic applicant to use the patents that cover the brand-name drug product prior to patent expiration so that the generic applicant could market under its [abbreviated new drug application]” (“ANDA”).² Another FTC study showed opposite outcomes, where among 218 settlement agreements, “66 final agreements involved some form of compensation from the brand to the generic combined with a delay in generic entry.”³ While not in the majority, these 66 agreements represent “pay-for-delay”—a concerning tactic leveraged by some patent holders to delay generic competition and prop up monopolies.⁴ As a result, patients “miss out on generic prices that can be as much as 90% less than brand prices. For example, brand-name medication that costs \$300 per month might be sold as a generic for as little as \$30 per month.”⁵ Regardless of who (e.g., patient, insurer, taxpayer, public program) pays what “price” (e.g., copays, insurance premiums, list price), the difference between brand and generic price is not small.

1. U.S. FOOD & DRUG ADMIN., *GENERIC DRUGS: OVERVIEW AND BASICS* (2017), <https://www.fda.gov/drugs/generic-drugs/overview-basics> [<https://perma.cc/ZF5N-N948>].

2. U.S. Fed. Trade Comm’n, *Generic Drug Entry Prior to Patent Expiration: An FTC Study*, 25 (2002), <https://www.ftc.gov/reports/generic-drug-entry-prior-patent-expiration-ftc-study> [<https://perma.cc/J5V9-9X8R>].

3. U.S. Fed. Trade Comm’n, *Pay-for-Delay: How Drug Company Pay-Offs Cost Consumers Billions*, 4 (2010), <https://www.ftc.gov/reports/pay-delay-how-drug-company-pay-offs-cost-consumers-billions-federal-trade-commission-staff-study> [<https://perma.cc/MZ9E-DXR2>].

4. *Id.*

5. *Id.* at 1.

B. The Problem: Price & Health Outcomes

The consequence of poor generic access is not just monetary. In the U.S., 8% of adults report worsening health conditions correlated with their inability to afford prescriptions.⁶ According to the Kaiser Family Foundation, 29% of U.S. adults forego medicine because of the cost. Nearly 30% of Americans are skipping doses, cutting pills in half, or not filling prescriptions because of the cost.⁷ Approximately 8% of U.S. adults reported worsening health after skipping medication.⁸ The figure below illustrates where affordability concerns are especially potent.

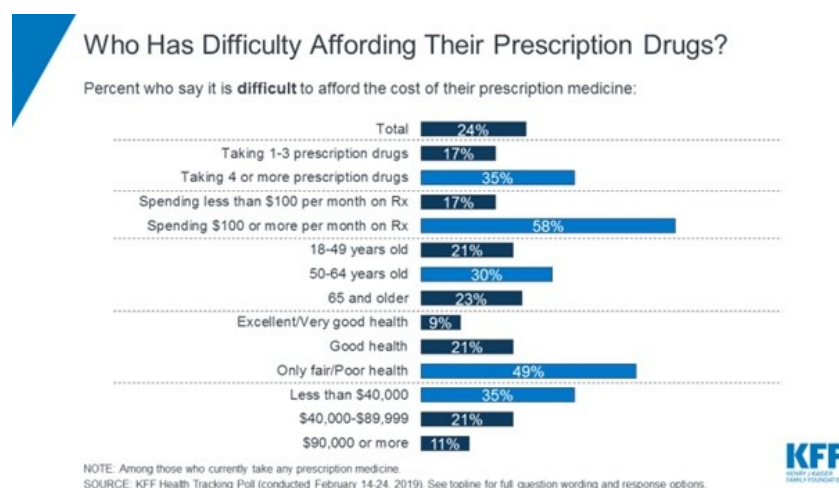


Figure 1⁹

C. Roadmap

Although approaches to delay generic entry vary in form, this Note uses “pay-for-delay” to refer to the various forms collectively. This Note explains the problem of pay-for-delay and the difficulty of solving it before proposing a low-friction incentive program as a solution. By presenting attractive alternatives to companies that would otherwise extend monopolies, a “wildcard exclusivity”

6. KAISER FAM. FOUND., *Poll: Nearly 1 in 4 Americans Taking Prescription Drugs Say It's Difficult to Afford Their Medicines, including Larger Shares Among Those with Health Issues, with Low Incomes and Nearing Medicare Age* (Mar. 2019), <https://www.kff.org/health-costs/press-release/poll-nearly-1-in-4-americans-taking-prescription-drugs-say-its-difficult-to-afford-medicines-including-larger-shares-with-low-incomes/> [https://perma.cc/BSU2-A3RB].

7. *Id.*

8. *Id.*

9. *Id.*

system would simultaneously reward companies that facilitate drug affordability, save patient and public dollars, and improve health outcomes. This Note embraces one promising incentive, but other incentives outside the scope of this Note—such as FDA user fee waivers and tax credits—could be incorporated into a more dynamic incentive package.

Each year, pay-for-delay saddles the U.S. healthcare system with billions of dollars in avoidable cost.¹⁰ The most conservative estimated annual burden is \$3.5 billion while more inclusive estimates exceed \$37 billion.¹¹ Based on six different methodologies, a study by Robin Feldman calculated an average burden of \$19.2 billion, or about 7% of average annual U.S. drug spending.¹² In deriving these empirical estimates, Feldman analyzed historical pay-for-delay settlements and determined the length of delay.¹³ Then, the eventual generic price—what consumers would have paid but for the pay-for-delay settlement—was subtracted from the former monopoly price.¹⁴ “This revealed the cost incurred by consumers as a result of the improper extension of the brand’s monopoly.”¹⁵ Essentially, the “burden” refers to the difference between an inappropriately preserved monopoly price and the discounted generic price that society would enjoy but for pay-for-delay.

The portfolio of attempts—historic and proposed—to reach the pay-for-delay angle of drug affordability consists largely of nominal progress and defeat. In part, this is due to a plethora of legally defensible practices that, with the right spin, circumvent existing policy. Owing to this environment and respecting the objectives of all stakeholders, this Note explores two low-friction, nonpunitive incentive structures: (1) the FDA’s priority review voucher program (“PRV”), and (2) wildcard exclusivity vouchers (“wildcard”). The proposed PRV incentive would reward innovator companies that choose to facilitate price reductions rather than delay generic entry. Specifically, the FDA would issue PRVs to firms that facilitate generic entry or otherwise facilitate price reductions. Such a program would reduce drug prices, improve patient access to medicine, and catalyze competition within the pharmaceutical industry, all while respecting the economic and capitalistic interests of innovator companies. Unfortunately, the PRV proposal gives way to economic and efficiency concerns. Fortunately, the wildcard proposal is unthreatened by those concerns affecting the PRV proposal. Offering a transferable market exclusivity voucher—a wildcard—to firms that invite generic competition or unilaterally decrease prices can induce lower, pro-patient pricing and grow generic competition while rewarding innovators. This Note proposes that Congress, through an amendment to the Food Drug and

10. Robin C. Feldman, *The Price Tag of “Pay-for-Delay”*, 23 COLUM. SCI. & TECH. L. REV. 1, 32-33 (2022), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3846484 [<https://perma.cc/5FTM-JDZQ>].

11. *Id.*

12. *Id.*

13. *Id.* at 17.

14. *Id.*

15. *Id.*

Cosmetic Act (“FDCA”), introduce a carefully tempered wildcard exclusivity incentive program.

This Note first describes the characteristics and differences between two important industry participants, generic companies and innovator companies, to reveal the fundamental conflict between the two groups. Next, the Hatch-Waxman Act is discussed to illustrate the process of bringing a generic drug to market and to introduce the issue of delaying generic entry, or “pay-for-delay.” The classic form of pay-for-delay—the reverse payment settlement agreement—is described and later expounded upon by a discussion of *FTC v. Actavis*, wherein the Supreme Court addressed reverse payment settlement agreements. The increasingly nuanced forms of delaying generic entry which emerged in the wake of *Actavis* are then described, leading into analysis of existing and proposed enforcement mechanisms and why these often fail. The novel incentive program at the heart of this Note is then introduced and analyzed with a discussion of why it is advantageous relative to other proposals. This Note concludes by summarizing the advantages of the proposed wildcard incentive, and how patients and the U.S. healthcare system can benefit through its adoption.

III. INDUSTRY PARTICIPANTS

For the purposes of this Note, drug industry participants can be divided into innovator companies and generic companies. Both create value for patients and the healthcare system in different ways. Despite sharing a market and selling an interchangeable product, they lack operational and strategic similarities and face different challenges. In the high-stakes world of pharmaceuticals, generics and innovators often clash and become distracted from their societal value propositions (the value proposition of an innovator could be inventing medicine, while that of a generic could be lowering the price medicine). When innovators and generics clash and stray far from their purposes, patients and payors are caught in the crossfire and suffer from higher prices and stifled access.

A. Innovator Companies

The first group to discuss is innovator companies, or companies that invest in research and development to invent, patent, and bring to market new medicines under the company’s brand name. Familiar names falling into this “innovator” category include Abbvie, Merck & Co., Bristol Myers Squibb, and a host of others.

Although this Note concerns private innovators, the indispensable role of public contributions cannot go uncredited. The National Institutes of Health (“NIH”) contributed over \$100 billion dollars in grant funding to research associated with all 210 drugs approved by the FDA between 2010–2016.¹⁶ By building the early foundations in various treatment areas, publicly funded

16. Ekaterina Galkina Cleary et al., *Contribution of NIH Funding to new drug approvals 2010-2016*, PROCEEDINGS OF THE NAT’L ACAD. OF SCI. (2018), <https://pubmed.ncbi.nlm.nih.gov/29440428/> [<https://perma.cc/6LPS-RRX3>].

discoveries often precede and inspire eventual private sponsorship of related drug development programs.¹⁷

In the private sector's quest for new medicine, innovators attempt to invent, patent, and steer new medicines from labs to patients. With FDA approval, innovators can market their invention as a prescription drug under its brand name. Because new drugs are protected by patents, their inventors are entitled to a legal monopoly on the drug.¹⁸ Patents are usually filed early in the development process, allowing much of the patent's exclusivity period to lapse while the drug is still in the lab, clinical trials, or FDA review processes. Therefore, despite patents entitling the inventor to twenty years of protection, most drugs reach the market with only seven to ten years of patent life remaining.¹⁹ Factoring in capital costs and expenditures on drugs that fail to reach the market—only 12% of drugs entering clinical trials ultimately reach the market—the cost of successfully developing one new drug can eclipse one or two billion dollars.²⁰ Once costs and risks are overcome and a new drug is marketed, its inventors benefit from a monopoly for the remainder of the patent life. As patents approach expiration, the other group of industry participants relevant to this Note enters the equation—generic companies.

B. Generic Companies

Rather than inventing medicine, generic companies serve a different function—price control through competition. Examples of popular generic companies include Teva, Viatris, Dr. Reddy's, and Fresenius Kabi. When patents on the innovator's medicine expire, generic companies replicate the formula, seek FDA approval, and sell approved generic versions of brand-name drugs at significant discounts. Unburdened by the level of research and development expense shouldered by innovator companies, generic companies can survive on small profit margins—this dynamic allows generic companies to sell drugs at large discounts.

The first generic usually enters the brand name product's market at a discount of approximately 20%.²¹ As more competitors enter the post-patent market, the generic discount against the brand price grows to 85%, on average.²² By offering

17. *Id.*

18. *F.T.C. v. Actavis, Inc.*, 570 U.S. 136, 148 (2013).

19. Jan Berger et al., *How Drug Life-Cycle Management Patent Strategies May Impact Formulary Management*, 22 AM. J. MANAG. CARE S487, S489 (2016), <https://pubmed.ncbi.nlm.nih.gov/28719222/> [<https://perma.cc/2DBV-256P>].

20. Cong. Budget Off., 57025, RESEARCH AND DEVELOPMENT IN THE PHARMACEUTICAL INDUSTRY 2, 14, 17 (Apr. 2021), <https://www.cbo.gov/publication/57126> [<https://perma.cc/M4T3-LT72>].

21. Robin Feldman & Evan Frondorf, *Drug Wars: A New Generation of Generic Pharmaceutical Delay*, 53 HARV. J. LEGIS. 499, 500-501 (2016), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2659308# [<https://perma.cc/5D83-AGTH>].

22. U.S. FOOD & DRUG ADMIN., *Generic Drug Facts*, <https://www.fda.gov/drugs/generic->

lower prices and making medicine more affordable, generic drug makers create savings and increase access to medicine.

More than 10,000 generic drugs have been approved, accounting for 90% of prescriptions filled in the United States.²³ Despite nine out of ten prescriptions being filled by generic drugs, generics are only responsible for 18% of drug spending—a testament to the ability of generics to save money (i.e., 90% of volume, but only 18% of cost).²⁴ In 2020, generics were responsible for \$338 billion in savings.²⁵ By avoiding the risk and cost of developing new medicine, generics offer the same benefit at a reduced price, saving the healthcare system billions of dollars annually.

C. Recap: Innovators & Generics

Innovator and generic companies each create essential value in different ways. Innovators create new medicines, while generic companies make those medicines cheaper and more accessible. When generics enter the market, innovators lose pricing power and sales volume. Therefore, it is often in the innovator's best interest to delay generic competition. Delaying generic entry is a way to maximize profits and fund new inventions. Sometimes delaying generic entry is the difference between solvency and bankruptcy for a firm with one or few marketable products. However, if financial health is achievable through more certain means, the utility of pay-for-delay as a business strategy is reduced. Much like a bird in the hand that is worth more than two in the bush, the certainty of a valuable wildcard on the balance sheet can outweigh the pursuit of future monopoly sales, the value of which must be discounted by the uncertainty, cost of litigation, and potential for antitrust liability.

IV. HATCH-WAXMAN & PAY-FOR-DELAY

In 1984, Congress enacted the Drug Price Competition and Patent Term Restoration Act, better known as the Hatch-Waxman Act.²⁶ Hatch-Waxman increased drug affordability by adding efficiency to the process by which generic drugs enter the market.²⁷ Prior to Hatch-Waxman, 19% of prescriptions were filled with generic drugs and 35% of top-selling drugs faced generic competition following patent expirations.²⁸ Today, 90% of prescriptions are filled with generic

drugs/generic-drug-facts [<https://perma.cc/2XNA-7WTZ>] (last updated Nov. 2021).

23. U.S. FOOD & DRUG ADMIN., OFFICE OF GENERIC DRUGS: 2021 ANNUAL REPORT 2, 9 (2022), <https://www.fda.gov/drugs/generic-drugs/office-generic-drugs-2021-annual-report> [<https://perma.cc/7WKG-4BYC>].

24. *Id.* at 2.

25. *Id.*

26. 21 U.S.C. § 355 (2022).

27. *What is Hatch-Waxman*, PHRMA (2018), <https://phrma.org/resource-center/Topics/Cost-and-Value/What-is-Hatch-Waxman> [<https://perma.cc/U7LH-5GSJ>].

28. *Id.*

drugs and over 80% of brand drugs face generic competition.²⁹ Hatch-Waxman achieved these improvements by increasing the efficiency and profitability of bringing a generic to market.

Previously, the use of patented inventions to develop drugs, even if not marketed, constituted infringement.³⁰ Because generic development and approval processes require years of work, this outdated treatment of generic development effectively extended patent protections. Hatch-Waxman changed this, stating “it shall not be an act of infringement” to use a patented invention in the development and submission of information under Federal drug law.³¹ This efficiency, with others including the Abbreviated New Drug Application,³² ease and expedite generic competition.

Regarding profitability, Hatch-Waxman incentivizes generic competition by rewarding the first company to offer a generic alternative to an existing drug with a 180-day exclusivity period.³³ This exclusivity period increases generic profitability by allowing the generic to compete with the brand company alone for 180 days, rather than competing with other generic competitors in addition to the brand company. In other words, the fastest generic company gets to go one-on-one with the brand company for six months before more generic competition enters the market.

Acutely designed to affect pressure points within the market, Hatch-Waxman brought about greater savings and greater access for patients. Competition increased while prices fell.³⁴ Between 2009 and 2019, generic drugs were estimated to save the U.S. healthcare system over two *trillion* dollars.³⁵

Nevertheless, billions in would-be Hatch-Waxman savings go unrealized as some companies avoid generic pressure and maintain monopoly-level prices.³⁶ Patentees (patent holders) may anticipate the impending consequences of patent expiration and stall generic entry with a variety of legal maneuvers. The “reverse payment settlement agreement”—under anti-competitive circumstances—is the original form of pay-for-delay and an unintended byproduct of the Hatch-Waxman model. Anti-competitive reverse payment settlement agreements remain emblematic of “pay-for-delay,” but the phrase has evolved into a more general reference to the tactical delay of competition.

A. Hatch-Waxman’s Abbreviated New Drug Application Pathway

Hatch-Waxman promotes competition by helping generic manufacturers reach the market faster through Abbreviated New Drug Applications

29. *Id.*

30. *Roche Prod., Inc. v. Bolar Pharm. Co.*, 733 F.2d 858 (Fed. Cir. 1984).

31. 35 U.S.C. § 271(e)(1).

32. 21 U.S.C. § 355(j) (2022).

33. *Id.*

34. Feldman & Frondorf, *supra* note 21, at 500-03.

35. *Generic Drug Facts*, *supra* note 22.

36. Feldman, *supra* note 10, at 32.

(“ANDA”).³⁷ ANDAs may be submitted by a generic regardless of an innovator’s patent protection through a “paragraph IV certification” in which the generic asserts that existing patents are either invalid or would not be infringed by the generic product.³⁸ This allows generic companies to begin developing generic alternatives before the innovator’s patents expire.

When a paragraph IV certification is filed, the certifying generic company must notify the implicated brand-name company within 20 days of filing the certification.³⁹ After receiving notice of the paragraph IV certification asserting the invalidity or non-infringement of the patent-holding, brand-name company’s patent(s), the brand-name company initiates a lawsuit against the generic company for patent infringement. This infringement right of action is preemptive in nature, granted to brand-name companies even though the alleged infringement is yet to occur, and damages are still prospective.⁴⁰ By allowing the generic firm to provoke the brand firm into litigation before the generic actually commits any alleged infringement, both parties benefit from greater efficiency and predictability.

The filing of the lawsuit by the plaintiff-innovator against the defendant-generic in response to the paragraph IV certification triggers a “stay period,” during which time the FDA will suspend review of the ANDA for 30 months or until litigation is resolved.⁴¹ At this juncture, the innovator can either (1) litigate and attempt to uphold the patent in court, or (2) settle the lawsuit by paying (or otherwise compensating) the generic to delay launching its product until a later specified date. The second option is a “reverse payment settlement agreement.” Many reverse payment settlements are entered in good faith and produce positive effects (e.g., a date certain for generic entry, eliminated litigation costs, reduced uncertainty). Unfortunately, reverse payment settlements are also ripe for anti-competitive abuse. The complicated nature of pay-for-delay and the diversity of approaches make it difficult for the FTC—the agency tasked with rooting out anti-competitive conduct—to identify, let alone prove, true pay-for-delay schemes.

B. Secondary Patents

Secondary patents rather than primary patents are the usual subject of paragraph IV certifications. Further, many pharmaceuticals are protected by multiple patents. When multiple patents concern the same drug, the patents are often differentiated as “primary” or “secondary.”

Primary patents protect the “active ingredient,” or the invented chemical that is primarily responsible for a medication’s effect.⁴² Primary patents are usually

37. 21 U.S.C. § 355 (j) (2022).

38. *Id.* §§ 355(j)(2)(A)(vii)(IV).

39. *Id.* §§ 355(j)(2)(B)(ii).

40. *Id.* §§ 355 (j)(5)(B)(iii).

41. Feldman & Frondorf, *supra* note 21, at 509.

42. Kevin T. Richards et al., CONG. RSCH. SERV., R46221, DRUG PRICING AND

stronger and therefore not implicated in paragraph IV certifications. Secondary patents do not protect the main invention but protect other aspects of the medicine including dosage (e.g., five milligrams per kilogram of body weight), form of administration (e.g., intravenous or “IV,” pill form, capsule), method of use (e.g., used to treat a specific form of cancer), manufacturing processes, or other non-primary characteristics.

For example, assume chemical X is the active ingredient in drug A, which effectively treats breast cancer when administered intravenously at five mg/kg. The inventor invented chemical X, but also discovered that chemical X has a therapeutic effect on breast cancer, can be administered effectively through an intravenous solution, and is effective therapeutically at a five mg/kg dose. Chemical X is protected by a primary patent, while drug A’s application to breast cancer, intravenous administration technique, and effective dosage of five mg/kg are protected by secondary patents. The primary and secondary patents protect different features of the same drug and are usually filed at different times, creating multiple, staggered layers of patent protection. According to an FTC study, generic challengers win 73% of paragraph IV cases that are litigated to completion.⁴³ However, the majority of paragraph IV cases settle with no conclusion regarding the patent’s true validity.⁴⁴

Patents implicated by paragraph IV certifications tend to be secondary patents,⁴⁵ often vulnerable to invalidation.⁴⁶ Innovators/patentees recognize this risk and prospective loss of monopoly power. As a solution, patentees defending a weak secondary patent may wish to settle. By settling, the inventor seals off the dispute and saves its patent from potential invalidation.

C. Reverse Payment Settlement Agreements

Rather than engage in drawn-out, expensive litigation with a fair chance of patent invalidation and loss of market exclusivity, the plaintiff-innovator/patentee may propose a mutually beneficial settlement in the form of a reverse payment settlement agreement. As previously mentioned, a reverse payment settlement essentially involves the plaintiff-innovator offering the defendant-generic some value greater than the generic company’s prospective profits, but less than the innovator company’s prospective loss. In exchange for the value received, the generic company foregoes or delays market entry, and thus the innovator

PHARMACEUTICAL PATENTING PRACTICES 8 (2020), <https://crsreports.congress.gov/product/pdf/R/R46679> [<https://perma.cc/YFD8-P5Z3>].

43. U.S. Fed. Trade Comm’n, *Generic Drug Entry Prior to Patent Expiration: An FTC Study*, 13 (2002), <https://www.ftc.gov/reports/generic-drug-entry-prior-patent-expiration-ftc-study> [<https://perma.cc/J5V9-9X8R>].

44. Brian C. Howard, *Hatch-Waxman / ANDA Litigation Report 2017*, Global Patent Group, iii (April 2017), https://pages.lexmachina.com/Email_ANDAReport2017_LPRequests.html [<https://perma.cc/L9ZG-8W4M>].

45. Feldman & Frondorf, *supra* note 21, at 511.

46. Feldman, *supra* note 10, at 22, 25.

preserves its monopoly.⁴⁷ The reverse payment settlement results in mutual economic benefit, and mutual avoidance of the risk of losing at trial.

“Reverse payment settlement agreement” reflects the counterintuitive nature of these agreements. “Reverse” communicates that in the paragraph IV context, the plaintiff (patent-holding innovator) actually compensates the defendant, rather than the defendant settling the dispute by compensating the plaintiff. This is the *reverse* of the usual dynamic, in which a plaintiff suffers damages caused by a defendant, and the defendant settles the case by compensating the plaintiff. As the name suggests, the roles are reversed, with the plaintiff ironically compensating the defendant to resolve the dispute. While this is somewhat suspicious, the reversed flow of the settlement payment can somewhat be attributed to the unique nature of the paragraph IV proves. While the patent-holder is indeed the plaintiff, the generic challenger is the true provocateur via its paragraph IV certification stating that the innovator’s patent is invalid or would not be infringed.

The substance of modern pay-for-delay agreements exhibit an impressive level of complexity, as a straight-forward quid pro quo—cash for exiting, or not entering, the market—would be considered antitrust on its face following the 2013 case of *FTC v. Actavis* (as discussed later in this Note).⁴⁸ Contemporary reverse payment settlements often avoid cash payments but include non-cash consideration to achieve the same result. The modern complexity is illustrated by the FTC’s analysis of these agreements, in which the agency may label an agreement as involving “possible compensation.”⁴⁹ Regardless of the complexity and specific terms of a reverse payment settlement, an anti-competitive reverse payment settlement boils down to a patentee compensating a would-be competitor to stay out of its market.

Although this Note focuses on instances of abuse, many reverse payment settlements are pro-competitive and accelerate competition. When a patent is strong and likely to be upheld in court, a reverse payment settlement may actually bring the generic to market before the patent expires. Even though the patent is probably valid and if so would be infringed, a risk-averse innovator might pursue a reverse payment settlement to eliminate the threat of an unlikely but extremely damaging trial outcome. In such situations, the parties compromise for a date of generic entry later than the generic company would prefer, but earlier than the date of the valid patent’s expiration.⁵⁰ Most reverse payment settlements are of this pro-competitive character and induce generic entry and associated discounts before the disputed patent would otherwise allow.⁵¹

47. Feldman & Frondorf, *supra* note 21, at 511.

48. *Id.* at 516.

49. Jamie Towey & Brad Albert, *Then, Now, and Down the Road: Trends in Pharmaceutical Patent Settlements After FTC v. Actavis*, COMPETITION MATTERS (May 28, 2019), <https://www.ftc.gov/enforcement/competition-matters/2019/05/then-now-down-road-trends-pharmaceutical-patent-settlements-after-ftc-v-actavis> [https://perma.cc/G5LG-AEN8].

50. *Impax Labs., Inc. v. FTC*, 994 F.3d 484, 493 (5th Cir. 2021).

51. Laura Karas et al., *Pharmaceutical “Pay-for-Delay” Reexamined: A Dwindling Practice or a Persistent Problem?*, 71 HASTINGS L.J. 959, 967-68 (May 2020), <https://papers.ssrn.com/sol3/>

Even if they do not produce the pro-competitive effects of the previous example, reverse payment settlement agreements can be commercially reasonable and legally justifiable. Consider that the 180-day generic exclusivity period begins running the day the first generic filer markets the drug. In the race to file first and win the 180-day exclusivity period as the first generic filer, the generic company's challenge may be weak, or the innovator's patent strong. Further, and not uncommon for small innovators with one or few drugs, the innovator's survival might depend upon the revenues currently protected by the challenged patent—the innovator's risk tolerance might require the innovator to leave nothing to chance, even if a patent is strong. Both parties want to avoid the binary risk of litigation for reasons beyond minimizing legal fees; the innovator expects to win but cannot afford to lose, and the generic expects to lose. To protect its patent, the innovator may offer to license marketing rights to the generic firm or commit to not launching its own authorized generic during the 180-day exclusivity period, which does not prohibit a company from selling its own FDA-approved product, repackaged and sold at a lower price. In exchange, the generic firm agrees not to launch its competing drug until the disputed patent expires. Because losing at trial would negate the 180-day exclusivity right, the generic firm accepts these terms. The innovator is satisfied with the preservation of its likely-valid but life-giving patent, and the generic firm is satisfied with the preservation of its 180-day exclusivity right. However, the patient remains the source of inelastic demand in this market made less competitive by the reverse payment settlement.

As illustrated, reverse payment settlement agreements can be pro-competitive and beneficial to patients, or simply within the boundaries of capitalism and antitrust and intellectual property law. While the good-faith nature of many reverse payment settlements must be recognized, this does not make anti-competitive reverse payment settlements any less expensive or any less detrimental to patients. Originally characterized by undisguised quid pro quos, the classic version of anti-competitive reverse payment settlements eventually earned Supreme Court disapproval.⁵² Before discussing the Court's decision, however, an analysis of other pay-for-delay strategies is warranted.

V. ANALYSIS: DIVERSIFYING DELAY

The variation and depth of pay-for-delay—including well-disguised anti-competitive reverse payment settlements—is indefinite. Although Congress periodically attempts to define and outlaw specific manifestations of pay-for-delay, the menu of substitutes greatly mutes the intended effect of Congressional efforts. “Anti-competitive conduct can come in too many different forms, and is too dependent upon context, for any court or commentator ever to have enumerated all the varieties.”⁵³ Notwithstanding, this Note attempts to describe

papers.cfm?abstract_id=3458552 [https://perma.cc/PQ2J-LQNA].

52. *FTC v. Actavis, Inc.*, 570 U.S. 136, 141 (2013).

53. *In re Suboxone (Buprenorphine Hydrochloride & Naloxone) Antitrust Litig.*, 64 F. Supp.

several variations of pay-for-delay beyond reverse payment settlement agreements.

A. Citizen Petitions

The Code of Federal Regulations—21 CFR §10.20-30—allows interested persons to submit “citizen petitions” to the FDA whereby the interested person advises the agency to take, or refrain from taking, an action.⁵⁴ Sometimes these concerned citizens are pharmaceutical companies advising the agency to reject generic drug applications poised to compete with the brand name product. Logically, the inventor of a drug is in an ideal position to identify risks or deficiencies associated with copying the invention. Thus, it is understandable that petitions to block generics are frequently sourced by innovators with much to lose. Nevertheless, the conflict of interest is obvious.

Citizen petitions raise various concerns with a drug’s safety profile, and are usually found immaterial. From 2008 to 2013, 124 petitions to delay generic approvals were filed, with only eight granted; a mere 6% of petitions opposing generic approvals raised credible issues.⁵⁵ However, a citizen petition can delay generic competition without being granted.

After the FDA receives a citizen petition advising against an ANDA approval, the FDA has 150 days to review the petition. During that 150-day period, the review of the ANDA for the respective generic drug is placed on hold.⁵⁶ Extending brand exclusivity—and therefore monopoly price—for 150 days can translate to hundreds of millions of dollars in sales for the company, and consequently hundreds of millions of dollars in cost to the healthcare system.⁵⁷

Exacerbating the problem, citizen petitions can be creatively deployed to maximize anti-competitive effect. For example, innovators can file numerous petitions targeted at a single generic applicant to amplify the redirection of FDA resources. In 2018, a Delaware district court dismissed an FTC complaint against Shire ViroPharma.⁵⁸ The FTC’s complaint alleged that ViroPharma “inundated the FDA” with numerous filings, including 24 citizen petitions, intended to “maintain its monopoly on Vancocin Capsules.”⁵⁹ Another way to maximize delay is to wait until the 11th hour to file a petition. In 2015, Bayer Healthcare

3d 665, 679 (E.D. Pa. 2014) (quoting *West Penn Allegheny Health Sys., Inc. v. UPMC*, 627 F.3d 85, 109 (3rd Cir. 2010)).

54. 21 C.F.R. §§ 10.20, 10.30 (2022).

55. Feldman & Frondorf, *supra* note 21, at 546-47.

56. 21 C.F.R. § 10.30 (2022).

57. Robin Feldman & Connie Wang, *A Citizen’s Pathway Gone Astray — Delaying Competition from Generic Drugs*, 376 NEW ENG. J. MED. 1499, 1501 (Apr. 20, 2017), https://repository.uclawsf.edu/cgi/viewcontent.cgi?article=2557&context=faculty_scholarship [<https://perma.cc/7KQY-YYCJ>].

58. *FTC v. Shire ViroPharma Inc.*, No. CV 17-131-RGA, 2018 WL 1401329, at *1 (D. Del. Mar. 20, 2018), *aff’d*, 917 F.3d 147 (3d Cir. 2019).

59. *Id.*

filed its citizen petition one day before the expiration of its patent.⁶⁰ Such timing effectively extends a patent by 150 days.

Antitrust recourse exists for severe abuse of citizen petitions but, as is thematic of all attempts to reign in pay-for-delay, high burdens of proof and vast grey areas allow careful players to leverage citizen petitions without becoming realistic targets for the FTC.⁶¹ Citizen petitions remain a highly effective means of delaying generic competition. With additional planning and attention to detail, patentees can maximize the impact of a citizen petition by filing several petitions or by waiting until the eve of patent expiration to submit the petition.

B. Evergreening & Product Hopping

“Evergreening” informally refers to the practice of insulating a brand-name drug from competition by tacking on secondary patents for slight modifications made to the drug.⁶² These secondary patents extend market exclusivity beyond the life of the primary patent.⁶³ When litigated to completion, the secondary patents are invalidated—68% of the time according to one study—more than upheld.⁶⁴ Evergreening is sometimes interchangeable with “product hopping” due to the appearance of “hopping” to a slightly different product with a later patent expiration.⁶⁵ However, product hopping usually includes a marketing pivot.

Although not consistently defined, product hopping is generally “the switching of the market in order to stifle generic competition.”⁶⁶ In practice, product hopping is often achieved by reformulating a drug to the point where a pending generic is no longer substitutable, and then encouraging doctors to prescribe the reformulated version instead of the original version which is the focus of generic developers.⁶⁷ If effective, there will be no market for the generic drug because doctors and patients have “hopped” to the reformulated version.

AstraZeneca’s handling of Prilosec—a multi-billion dollar per year earner for the company—is often cited as a product hopping example.⁶⁸ As Prilosec’s primary patent approached expiration, AstraZeneca introduced Nexium—a

60. Michael A. Carrier & Carl Minniti, *Citizen Petitions: Long, Late-Filed, and At-Last Denied*, 66 AM. U. L. REV. 305, 309, 346-47 (2017), <https://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1956&context=aulr> [<https://perma.cc/8CER-GU6A>].

61. Feldman & Wang, *supra* note 56, at 1501; Feldman & Frondorf, *supra* note 21, at 547.

62. Richards et al., *supra* note 41.

63. *Id.*

64. Feldman, *supra* note 10, at 21.

65. Richards et al., *supra* note 41.

66. Michael A. Carrier & Steve D. Shadowen, *Product Hopping: A New Framework*, 92 NOTRE DAME L. REV. 167, 169 (2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2747526 [<https://perma.cc/EKV8-AGKA>].

67. *Id.* at 168-69.

68. Alex Brill, *The Cost of Brand Drug Product Hopping*, MATRIX GLOBAL ADVISORS, at 4 (Sep. 2020), <https://www.affordableprescriptiondrugs.org/app/uploads/2020/09/CostofProductHoppingSept2020-1.pdf> [<https://perma.cc/2YEU-37JC>].

slightly modified version of Prilosec with a largely equivalent therapeutic effect.⁶⁹ Unlike Prilosec, Nexium boasted 13 remaining years of patent protection.⁷⁰ The launch of Nexium was accompanied by a marketing campaign to switch prescribers from Prilosec to Nexium.⁷¹ Beyond Prilosec, product hopping strategies often leverage secondary patents to extend exclusivity. For example, an innovator can switch a product nearing patent expiration from a tablet to a capsule and enjoy fresh exclusivity afforded by the secondary patent associated with the capsule form.⁷²

By product hopping, brand companies make subtle changes or improvements to existing drugs and encourage prescribers and patients to adopt this new and improved version. If successful, a company that developed a generic to the now outdated product is left with no market. The result is a sustained monopoly for the innovator's branded product.

While somewhat interchangeable, evergreening refers to layering patents onto an existing drug to prolong the monopoly environment, while product hopping usually suggests a marketing effort aimed at reducing demand for a previous iteration of a new but largely interchangeable product. Firms evergreen a specific drug by layering on secondary patents, while product hoppers are less concerned with a specific drug's primary patent expiration because demand has hopped to a new product. Overcoming the numerous secondary patents guarding an evergreened product demands time and resources from generic challengers, which may ultimately gain approval only to enter a dead market due to product hopping.⁷³ In either case, generic competition is delayed.

C. Constricting Supply

In addition to patent-based methods of delaying generic competition, the drug supply chain can be leveraged against generic suitors. In 2015, pharmaceutical executive Martin Shkreli gained notoriety when he increased the price of Daraprim—a drug used to treat toxoplasmosis, a rare parasitic infection—from \$17.60 to \$750.00.⁷⁴ The price hike, aided by Shkreli's candid personality and unapologetic response, drew criticism from politicians, the public, and of consequence, regulators. The FTC filed an antitrust lawsuit against Shkreli which revealed an impressive pay-for-delay strategy.⁷⁵

In *FTC v. Shkreli*, Shkreli's company, Vyera, lacked patent protection for Daraprim, but successfully delayed generic competition for eighteen months (the drug was actually over 60 years old, but the low price and small patient population made Daraprim commercially unattractive to generic companies

69. *Id.*

70. *Id.*

71. *Id.*

72. *Id.*

73. Richards et al., *supra* note 41.

74. *FTC v. Shkreli*, 581 F. Supp. 3d 579, 601 (S.D.N.Y. 2022).

75. *Id.*

which did not pursue generic Daraprim until this development).⁷⁶ The 18-month delay was responsible for almost \$65 million in continued monopoly sales.⁷⁷ Vyera executives failed to disguise a series of tactics and agreements that prevented prospective generic entrants from obtaining the supplies necessary to receive FDA approval.⁷⁸

To earn FDA approval of an ANDA, the generic ANDA filer must demonstrate its ability to produce the reference product (the “reference product” is the brand drug the generic seeks to emulate) and comply with certain production standards.⁷⁹ In this process, the generic company must acquire the reference product—Daraprim—as well as the primary ingredient responsible for the therapeutic effect—pyrimethamine.⁸⁰ Through a series of agreements, Vyera positioned itself as the gatekeeper of the supplies necessary to develop a generic, including the active ingredient—pyrimethamine—and Daraprim itself.⁸¹

By placing Daraprim in a closed, or “specialty,” distribution network, Daraprim’s generic suitors could not obtain the drug without Vyera’s approval, which Vyera refused to provide.⁸² Vyera then negotiated exclusive supplier agreements with the few authorized sellers of pyrimethamine, cutting off generic companies from Daraprim’s essential ingredient.⁸³ This case notably lacked any serious pro-competitive evidence to justify the actions, and thus the court held Shkreli liable with an unusual degree of ease and punitive wrath.⁸⁴

D. Recap: Diversifying Delay

While reverse payment settlements are the classic examples of delaying generic entry, methodology has evolved. Today, citizen petitions, evergreening, product hopping, and exclusive supplier agreements are responsible for delayed generic entry in addition to some reverse payment settlements. Citizen petitions allow firms to prolong market exclusivity by raising artificial concerns about pending generic products. Firms evergreen existing drugs by tacking on secondary patents to extend monopoly protection beyond expiration of the primary patent.⁸⁵ Product hopping occurs when an innovator firm deploys marketing resources to redirect demand for a drug facing imminent generic competition to a new market for a slightly amended version of the same drug. If a drug has no patent protection, innovators can still protect a monopoly market by contractually prohibiting suppliers from supplying necessary ingredients to

76. *Id.* at 590.

77. *Id.* at 591.

78. *Id.* at 633-34.

79. *Id.* at 595-96.

80. *Id.* at 605.

81. Fed. Trade Comm’n v. Shkreli, 581 F. Supp. 3d 579, 605 (S.D.N.Y. 2022).

82. *Id.* at 602.

83. *Id.* at 602-03.

84. *Id.* at 636-38.

85. Richards et al., *supra* note 41, at 1.

generic developers. Also without patent protection, an innovator can restrict distribution of the drug itself to strain generic developers that require the reference product as a prerequisite to FDA approval. Each strategy burdens patients and the healthcare system at large with higher prices and lower access.

VI. ANALYSIS: CURRENT APPROACHES FALL SHORT

Pay-for-delay is recognized by policymakers as a problem. However, the private firms engaging in the practice are nimbler than the institutions seeking to reign in drug prices. The judiciary and the federal legislature have implemented and proposed solutions and there has been some effective enforcement, but no current or proposed approach is dynamic enough to attack the broad practice of pay-for-delay at its core.

A. Existing Law: *FTC v. Actavis*

The classic iteration of pay-for-delay—reverse payment settlement agreements—was confronted by the Supreme Court in 2013.⁸⁶ In *FTC v. Actavis*, the FTC urged the Supreme Court to hold all reverse payment settlements presumptively unlawful.⁸⁷ Actavis recommended an opposite stance, asserting that reverse payment settlements should be immune from antitrust liability as long as the settlement’s anti-competitive effects fell within the exclusionary scope of the patent.⁸⁸ The Court declined to adopt either position and instead established a “rule of reason” test.⁸⁹ When applying the test, courts weigh the anti-competitive effects of a reverse payment settlement against any pro-competitive justifications, evaluating the agreements on a case-by-case basis.⁹⁰ Thus, reverse payment settlements in patent infringement suits are neither immune from antitrust attack, nor presumptively unlawful.⁹¹

The 5-3 decision stated considerations relevant to the determination of an agreement’s antitrust character while also navigating considerations of patent law. Factors indicative of a pay-for-delay character importantly include the size of the payment, as a larger payment may suggest a weaker patent.⁹² Attempting to reconcile patent rights with antitrust considerations, the Court stated “the size of the unexplained reverse payment can provide a workable surrogate for a patent’s weakness, all without forcing a court to conduct a detailed exploration of the validity of the patent itself.”⁹³ Another factor is the absence of an exchanged service for which a large payment may be compensation.⁹⁴ By applying this fact-

86. See *FTC v. Actavis, Inc.*, 570 U.S. 136, 141 (2013).

87. *Id.* at 158-59.

88. *Id.*

89. *Id.*

90. *Id.* at 159.

91. *Id.* at 146-54.

92. *Id.* at 158.

93. *Id.* at 158.

94. Karas et al., *supra* note 50, at 963.

specific approach, there is a viable avenue to attack egregious reverse payment settlements. Of course, the analysis also presents boxes to check for parties wishing to disguise an anti-competitive reverse payment settlement. Commentators have characterized applications of the rule of reason test in pay-for-delay contexts as “notoriously convoluted.”⁹⁵ This characterization draws support from the dissenting Chief Justice Roberts, who wished “good luck to the district courts that must, when faced with a patent settlement, weigh the likely anti-competitive effects, redeeming virtues, market power, and potentially offsetting legal considerations present in the circumstances.”⁹⁶

By leaving room for antitrust liability despite an existing patent, the 5-3 *FTC v. Actavis* opinion was a step in the direction of deterring pay-for-delay. Indeed, the prevalence of reverse payment settlements decreased following the decision.⁹⁷ Ultimately, however, the decision accelerated a shift to alternatives like citizen petitions, evergreening, product hopping, and supply constraints. Further, the decision caused parties to increase the complexity of their agreements and therefore the burden of proving illegality.⁹⁸ Since 1997 (the rule of reason standard has applied to other antitrust issues longer than it has applied to reverse payment settlements), plaintiffs litigating against a rule of reason standard fail to show a substantial anti-competitive effect 90% of the time.⁹⁹

B. Proposed Law

Many proposed legislative solutions, while perhaps effectively striking at a specific means of pay-for-delay, are unlikely more than band-aid solutions. The Preserve Access to Affordable Generics and Biosimilars Act (“PAAGBA”) is one such proposal that is emblematic of the disadvantage associated with current legislative approaches to the problem. While pay-for-delay parties can nimbly adjust tactics and employ new strategies to disguise and sustain anti-competitive action, policymakers laboriously piece together bills aimed at small targets and which rarely graduate from legislative committees.

The PAAGBA, if enacted, would attack reverse payment settlement agreements by presuming an antitrust violation when infringement suits settle with an exchange of value resulting in an ANDA filer agreeing to “limit or forgo research, development, manufacturing, marketing, or sales of the ANDA product or biosimilar biological product, as applicable, for any period of time.”¹⁰⁰ Essentially, the PAAGBA would skirt the burden imposed by the Supreme Court in *FTC v. Actavis* of proving anti-competitive conduct under the rule of reason

95. Feldman, *supra* note 10, at 13.

96. *Actavis, Inc.*, 570 U.S. at 173.

97. Karas et al., *supra* note 50, at 964.

98. Feldman, *supra* note 10, at 15.

99. *NCAA v. Alston*, 141 S. Ct. 2141, 2161 (2021).

100. Preserve Access to Affordable Generics and Biosimilars Act, S. 1428, 117th Cong. § 27(a)(2)(A)(ii) (as reported in the Senate, Dec. 9, 2021).

test.¹⁰¹ Defendants would then be tasked with rebutting the anti-competitive presumption by clear and convincing evidence.

A legal, and in effect political obstacle to the proposed PAAGBA arises in the necessary juxtaposition of patent law with antitrust law. In contrast to *FTC v. Actavis*, which struck a balance between patent and antitrust considerations, the PAAGBA would value antitrust risk above patent rights. Patents essentially confer antitrust immunity to their holder by granting a temporary, legal monopoly,¹⁰² and patents “shall be presumed valid” with the burden of establishing invalidity “on the party asserting such invalidity.”¹⁰³ Because a patent may constructively immunize its holder against antitrust liability, the PAAGBA’s presumption of antitrust behavior necessarily requires a simultaneous presumption of the patent’s invalidity. Due to the suspicious nature of reverse payment settlements, the Supreme Court in *Actavis* allowed antitrust claims to proceed through a rule of reason test notwithstanding presumed patent validity but rejected the FTC’s position that illegality of reverse payment settlements should be presumed.¹⁰⁴ While *Actavis* sought an equilibrium between patent and antitrust considerations, the PAAGBA would summarily override patent rights in cases of reverse payment settlements. Such a departure from established treatment of intellectual property—presuming antitrust behavior, effectively presuming patent invalidity, and placing the initial burden of proof on the patent holder—has struggled to gain traction, perhaps because of the reasonable proposition that the presumption of validity is “rightly based on the expertise of patent examiners presumed to have done their job.”¹⁰⁵

Even if the PAAGBA overcame political and interest group opposition, it offers minimal benefit because it addresses one of many techniques used to prolong market exclusivity. If the risk of liability associated with reverse settlement payments increases, brands will take another angle. For instance, instead of reverse payment settlements, brands would increase the number of patents filed on the drug and create a “patent thicket.”¹⁰⁶ Over the course of years, Congress could theoretically legislate pressure on different methods of delaying generics, only to be front-run by offenders leveraging new tactics to achieve the same result—minimal competition and high prices.

Dozens of bills akin to the PAAGBA have been considered in the wake of *Actavis*, producing little material progress. Rather than focusing efforts on futile attempts to tighten the regulatory grip on innovators and generics, policymakers should examine the bigger picture. Instead of trying and failing to punish anti-competitive conduct after the fact, Congress should implement a non-punitive

101. Richards et al., *supra* note 41.

102. *Actavis, Inc.*, 570 U.S. at 136.

103. 35 U.S.C. § 282(a) (2022).

104. *Actavis, Inc.*, 570 U.S. at 138.

105. *In re Humira (Adalimumab) Antitrust Litig.*, 465 F. Supp. 3d 811, 834 (N.D. Ill. 2020), *aff’d sub nom.* See also, *Mayor of Baltimore v. AbbVie, Inc.*, 42 F.4th 709 (7th Cir. 2022) (quoting *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1574 (Fed. Cir. 1992)).

106. Richards et al., *supra* note 41.

solution by incentivizing firms away from pay-for-delay strategies.

VII. INCENTIVIZING AFFORDABILITY: PRIORITY REVIEW & WILDCARD EXCLUSIVITY

Because the push of penalty-based approaches rarely materializes, the pull of two incentive-based approaches should be explored: (1) FDA priority review vouchers (“PRVs” are not uncommonly valued in the hundreds of millions),¹⁰⁷ and (2) transferable wildcard exclusivity vouchers (“wildcards”). With built-in safeguards against abuse, issuing these assets to firms in exchange for unilateral price decreases or facilitation of generic entry could reduce the appeal of pay-for-delay and thereby improve affordability and access.

A. Priority Review Vouchers

Priority review vouchers reduce the FDA review period of any new drug application (“NDA”) by four months (ten months shortened to six months).¹⁰⁸ PRVs are currently used to incentivize low profitability, high-need research and development in the areas of tropical disease, rare pediatric disease, and illnesses related to public health emergencies.¹⁰⁹ Companies sponsoring development in these areas are awarded PRVs, which are ultimately redeemed by the awardee, or by another company that purchased the PRV from the awardee, for accelerated review of any NDA. Bringing a patented drug to market four months faster through a PRV translates to four additional months of monopoly pricing—without having to delay generic entry. Factoring in the cost of delaying generic entry (e.g., litigation, document preparation, filing fees, reverse payment settlements), it is fully possible that obtaining a PRV would outweigh delaying generic entry. Even without factoring in the cost of delay efforts, in some situations, the market value or sale price of a PRV would ideally exceed the value of prolonged monopoly pricing achievable through pay-for-delay. Further, using PRVs increases the likelihood that profits will be reinvested in research and development because after all, the voucher is used to review a *new drug* application. Allowing the FDA to flex the pace of accelerated approval based on the quality of the company’s pro-competitive, price-lowering conduct would also add to the effectiveness of this approach.

The marketability of PRVs is essential to their appeal.¹¹⁰ Since the FDA began awarding PRVs in 2007, the Government Accountability Office has used

107. U.S. GOV’T ACCOUNTABILITY OFF., GAO-20-251, DRUG DEVELOPMENT: FDA’S PRIORITY REVIEW VOUCHER PROGRAMS (Jan. 2020), <https://www.gao.gov/assets/gao-20-251.pdf> [<https://perma.cc/CNQ8-FKU6>].

108. U.S. GOV’T ACCOUNTABILITY OFF., *supra* note 105, at 2.

109. Food and Drug Administration Amendments Act of 2007, Pub. L. No. 110-85, § 1102, 121 Stat. 823, 972 (2007); Food and Drug Administration Safety and Innovation Act, Pub. L. No. 112-144, § 908, 126 Stat. 993, 1094 (2012); 21st Century Cures Act, Pub. L. No. 114-255, § 3086, 130 Stat. 1033, 1145 (2016); U.S. GOV’T ACCOUNTABILITY OFF., *supra* note 105.

110. *Id.* at 13-14.

available data to report PRV sale prices ranging from \$67.5 million to \$350 million.¹¹¹ If appropriately implemented, this program could bring both innovative and generic drugs to market faster. The effect is a positive-sum game, where all stakeholders—brand-name companies, generic companies, patients, taxpayers—can make and save money together.

An expanded PRV program is not without drawbacks. One major hindrance to PRV expansion is the inflationary effect of introducing more PRVs to the market. However, if the FDA has the latitude to tailor the value of the PRVs by varying the timeframes and setting expiration dates, the agency could ensure the PRVs retain value regardless of how many are issued. This solution in turn requires more bandwidth from the FDA, which is a drawback in its own right. If adopted, this expansion requires a complementary increase in FDA funding to make sure the agency is appropriately staffed to administer the program. A PRV incentive program could also be improved upon by designing a larger menu of incentives outside the scope of this Note, such as tax credits and FDA user fee waivers. However, introducing more incentives would do little, if anything, to mitigate PRV-specific drawbacks, and additional incentives would again implicate FDA bandwidth.

Futility risks ultimately counsel against PRV expansion. From the 2009 inception of the PRV program through 2019, thirty-one PRVs had been issued—seventeen have been sold, and sixteen have been redeemed (some PRVs have been both sold and redeemed, hence the combined amount sold and redeemed exceeds the total number of PRVs issued).¹¹² For an illustration of PRV issuances and redemptions, see *Figure 2*.



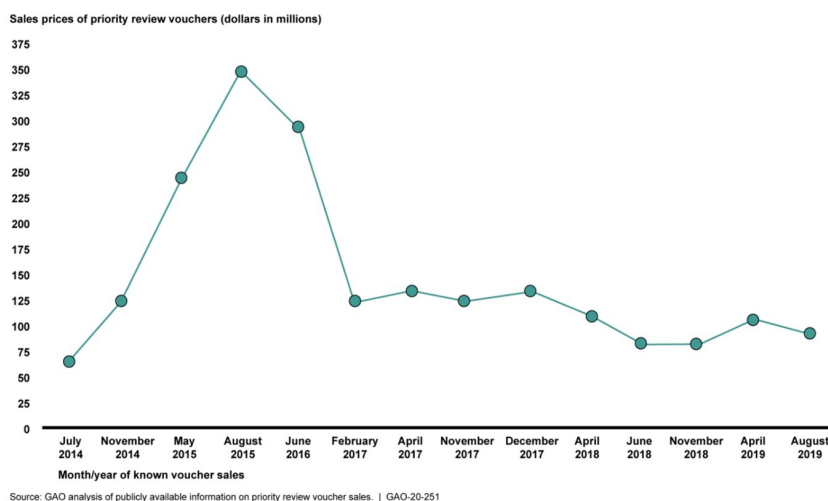
*Figure 2*¹¹³

111. *Id.*

112. U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 105.

113. *Id.*

The PRV program—in its fourteenth year of existence in 2023—is already experiencing inflation which would be exacerbated by a major expansion of the program. The program has already expanded to incentivize three distinct areas of drug development, and the marginal utility of obtaining a PRV shrinks with each additional PRV entering circulation. The steady decrease in PRV sale prices is depicted by *Figure 3*, below.



*Figure 3*¹¹⁴

If PRVs were effective incentives in the context explored by this Note, many would be issued and drug prices would decrease. However, increasing the prevalence of PRVs would eventually saturate the PRV market to a point where the value of earning a PRV would seldom rival the opportunity cost of delaying generic entry. Although only some PRV sale prices have been publicized, it is difficult to dispute the economic reasoning that higher PRV supply causes lower PRV demand, and thus lower PRV sale prices. In other words, the program's success in lowering drug prices would be unlikely to last. This is not to say the PRVs would ever be valueless, but as more PRVs are issued it becomes less and less likely that the PRVs value would outweigh the value of longer market exclusivity. The PRV program has already expanded to include three areas, and expanding it once again to encourage indefinite PRV issuances could quickly exhaust the program's value. Not only would this render PRVs moot as an incentive to price reduction, but the inflationary harm would metastasize to existing targets of the PRV incentive program, namely tropical disease, rare pediatric disease, and public health emergency countermeasures.

Furthermore, FDA bandwidth is finite. The program's success and more PRV issuances would strain FDA resources. Eventually, it would be impossible for the

114. *Id.* at 15.

FDA to meet the shorter timeframes of priority review. There are already examples where the FDA had to extend PRV deadlines, thereby muting the advantage of using a PRV. In November 2022, Argenyx spent \$102 million acquiring a PRV from Bluebird Bio, which Argenyx submitted to shorten FDA review of Vygart—used to treat generalized Myasthenia Gravis in adults—by four months.¹¹⁵ In January 2023, the FDA informed Argenyx that the PDUFA date (Prescription Drug User Fee Act date; the date by which FDA must respond to new drug applications) would be extended from March 20, 2023 to June 20, 2023 “to allow sufficient time to review.”¹¹⁶ Another recent example of the FDA’s bounded capacity impacted Japan-based Astellas Pharma and the company’s menopause drug candidate, Fezolinetant. In a high-stakes push to be the first to market, Astellas used a PRV—valued at \$97 million on Astellas’ books—to trim four months off the FDA’s review of Fezolinetant, establishing a PDUFA date of February 22, 2023.¹¹⁷ On February, 17—just five days before the deadline—Astellas was notified “that the FDA is extending the PDUFA goal date by three months, to May 22, 2023, to allow more time to complete their review.”¹¹⁸ The Institute for Clinical and Economic Review (ICER)—a nonprofit dedicated to studying the cost-effectiveness of medicine—estimated that 3,340,000 patients would begin Fezolinetant treatment each year, and recommended a price between \$2,000 and \$2,500 per year.¹¹⁹ Assuming approval and a highly efficient launch, the three-month delay could directly reduce Astellas’ Fezolinetant sales by hundreds of millions of dollars. The pertinent point here, however, is that the PRV failed to materialize into any competitive advantage. The setbacks befalling Argenyx and Astellas highlight the boundaries of FDA capacity in the priority review context and suggest that the effect of PRV expansion explored in this Note, even if authorized by Congress, would struggle to materialize at scale.

115. Nicole DeFeudis, *Argenx Purchases \$100M+ FDA Priority Review Voucher from Bluebird Bio*, ENDPOINTS NEWS (Nov. 30, 2022), <https://endpts.com/argenx-purchases-100m-fda-priority-review-voucher-from-bluebird-bio/> [<https://perma.cc/TF3Q-NNMS>].

116. *Argenyx Receives Notification of PDUFA Date Extension for SC Efgartigimod*, GLOBENEWSWIRE (Jan. 27, 2023), <https://www.globenewswire.com/news-release/2023/01/27/2596602/0/en/argenx-Receives-Notification-of-PDUFA-Date-Extension-for-SC-Efgartigimod.html> [<https://perma.cc/DK7B-KA8B>].

117. Katherine Lewin, *Astellas’ Menopause Drug Hit by FDA Delay After Spending \$97M On a Priority Review Voucher*, ENDPOINTS NEWS (Feb. 21, 2023), <https://endpts.com/astellas-menopause-drug-hit-by-fda-delay-after-spending-97m-on-a-priority-review-voucher/> [<https://perma.cc/5EAU-2BJR>].

118. *Astellas Provides Update on Fezolinetant New Drug Application in U.S.*, PRNEWSWIRE (Feb. 19, 2023), <https://www.prnewswire.com/news-releases/astellas-provides-update-on-fezolinetant-new-drug-application-in-us-301750449.html> [<https://perma.cc/6D9M-SVFQ>].

119. Francesca L. Beaudoin et al., *Fezolinetant for Moderate to Severe Vasomotor Symptoms Associated with Menopause: Effectiveness and Value*, INST. CLINICAL & ECON. REV. at 58 (Dec. 1, 2022), https://icer.org/wp-content/uploads/2022/06/ICER_Menopause_Evidence-Report_12012022.pdf [<https://perma.cc/U8AA-UU4S>].

Fortunately, there may be another low-friction avenue to lower drug spending. In a GAO study, the existing PRV program was evaluated, and potential alternatives explored.¹²⁰ Stakeholders interviewed by the GAO suggested alternative incentives which, among industry participants, were viewed as superior to PRVs.¹²¹ GAO interviewees and literature specifically identified incentives related to market exclusivity.¹²² Not only was exclusivity more attractive to stakeholders than PRVs, but the major drawbacks of an expanded PRV incentive—inflationary effect on PRV value, FDA bandwidth, overall exhaustion of PRV system—are less applicable to an appropriately tailored market exclusivity incentive.

B. Wildcard Exclusivity Vouchers

The preferred solution recommended by this Note is a transferable, wildcard exclusivity voucher (“wildcard”). Drug developers that facilitate generic entry or unilaterally reduce price would be awarded a wildcard exclusivity voucher, to be redeemed for extended market exclusivity for another drug, or sale to another drug developer. This wildcard incentive, appropriately limited, would offer innovators a lawful, transparent, predictable path to value without sacrificing competition and affordability in the process. Unadopted in any form in the U.S., wildcard exclusivity has been explored by some industry stakeholders and U.S. policymakers as a means to incentivize antibiotic development.¹²³ However, leveraging wildcard exclusivity to induce lower drug expenditures is novel.

(a) Outlining the Wildcard Exclusivity Program

A wildcard exclusivity program would reward price reductions and faster generic competition with wildcard exclusivity vouchers. A firm seeking to qualify should file an application with the FDA, or other government body, forecasting the future savings of a price-reduction. The estimated figure might reasonably be derived by multiplying the difference between previous brand price and expected generic price by volume, with volume calculated based on average prescription volume per year multiplied by the number of years before patent expiration that the price reduction occurs. If the projected savings resemble those typically created by generic entry—discount of 20% in first 180 days and incrementally increasing thereafter—the firm is rewarded with a wildcard exclusivity voucher.¹²⁴ To ensure material savings, the discount must reach the typical peak

120. U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 105.

121. *Id.* at 29.

122. *Id.*

123. Kurt Karst, “*Wildcard Exclusivity*” Returns: PCAST Recommends Consideration of a Tradable Voucher to Reward Successful Antibiotic Development, FDA LAW BLOG (Sep. 29, 2014), <https://www.thefdalawblog.com/2014/09/wildcard-exclusivity-returns-pcast-recommends-consideration-of-a-tradable-voucher-to-reward-successful/> [https://perma.cc/7BWV-PDU4].

124. Feldman & Frondorf, *supra* note 21, at 500-01.

generic discount—75-80%—at least 180 days prior to primary patent expiration.¹²⁵ Once price drops occur, they may not be undone without repaying a sum equal to projected savings. If actual savings fall short of forecasted savings, the firm may be forced to pay a rebate equal to the difference between estimated and actual savings. Thus, the savings number is essentially “locked in” and may be relied upon by FDA/HHS in awarding the wildcard voucher.

Like a PRV, the wildcard would be transferable (sellable), and this transferability component would help increase R&D in addition to increasing the value of the wildcard. If the firm that earns the wildcard has no product that foreseeably stands to benefit from extended market exclusivity, obtaining a wildcard remains valuable because the firm can sell the wildcard to another manufacturer standing to benefit from its use. Thus, the value of transferability is responsible for an indispensable portion of the wildcard’s ability to function as an incentive. Because transferability is a significant flexibility advantageous to brands and because wildcards indeed work to extend monopolies, several limitations on wildcard usage would prohibit unreasonable extensions—often attributable to pay-for-delay in the current environment—and ensure the wildcard provides consumers with a net gain.

(b) Risks and Mitigants

Several vulnerabilities must be addressed to ensure the program results in net savings. The first important limitation to set on wildcard usage should be to establish a maximum monopoly length that wildcard redemption can result in. The feasibility of three sub-approaches to this limitation should be explored further. The first sub-approach: prohibit wildcard use where it would result in exclusivity greater than 14 years. The second: prohibit wildcard use where it would result in an exclusivity period exceeding the average small-molecule or biologic exclusivity period, as applicable. The average exclusivity period could be calculated based on industry-wide inputs available in the FDA Orange Book. The third and perhaps most straight forward sub-approach is to allow wildcard redemption where it would result in “extended monopolies,” but prohibit usage if it would result in a “long-monopoly.” Extended-monopoly drugs are drugs “for which at least 12 years, but fewer than 16 years, have elapsed since the date of approval of such drug.”¹²⁶ Long-monopoly drugs are drugs for which greater than 16 years have elapsed since approval.¹²⁷ One of these sub-approaches could be adopted, or all three could be utilized on a case-by-case basis. Fact-specific, case-by-case utilization of all three may be appropriate given significant differences between biologics and small-molecule drugs (and between biosimilars and generics for that matter)¹²⁸ as far as R&D cost, value creation, and approval

125. *Id.*

126. 42 U.S.C. § 1320f-3(c)(4) (2022).

127. 42 U.S.C. § 1320f-3(c)(5) (2022).

128. Biologics are derived from living organisms, while small-molecule drugs are derived from chemicals. Biosimilars are to biologics as generics are to small-molecule drugs. There are

pathways. Regardless of which method governs the cap on monopoly extension, wildcards should never contribute to exceptional delays in competition and unjustified prolonging of monopoly prices, which is the problem it seeks to address.

Regarding another limitation, wildcards should not operate to create uncertainty for generic firms. Wildcard redemption for a specific drug should occur no later than two years after a drug's initial FDA approval (or an alternative deadline determined with input from generic subject matter experts or a notice and comment period). Requiring the wildcard to be redeemed early in a product's market lifecycle provides visibility regarding the legal conclusion of brand name monopolies. Generic firms must be able to reliably invest in the years-long generic drug development process, without risk of being "blindsided" by a late wildcard redemption.¹²⁹ Allowing brands to bolt on exclusivity late in their product's exclusivity period would add uncertainty to the generic business model that would disincentivize investment. Therefore, brand companies should be estopped from redeeming wildcards after generic makers have materially invested in the generic development process. Requiring prompt redemption of wildcards protects the predictability essential to generic development.

(c) Preventing Abuse

The surface irony of addressing the problem with additional market exclusivity must be overcome by eliminating the risk of abuse. Consider circumstances where a firm facilitates generic competition or unilateral price reduction, generates \$5 in savings (derived by multiplying the difference between the former brand price minus generic price by volume. Volume determined using average prescription volume/year multiplied by the years prior to patent expiration that the price reduction occurs.), and then sells the wildcard to a firm which uses it to prolong monopoly sales, and thus cost, that exceed the savings (\$5) originally generated. If unaddressed, this dynamic would completely undermine the program.

To eliminate potential for abuse, the FDA or other HHS agency must be armed with broad discretion regarding acceptance of wildcard redemption. Specifically, the government must be allowed to reject or otherwise block wildcard redemption on the basis that wildcard attributable cost (the future extended monopoly sales protected by wildcard redemption) exceeds wildcard attributable savings (or forecasted wildcard attributable savings). Thus, a wildcard should not be redeemable in situations where the cost of wildcard exclusivity

very meaningful differences between biosimilars and generics – for instance, biosimilars are not covered by Hatch-Waxman. The substance of this Note is limited to generics and small-molecule drugs, but a parallel application of the wildcard concept to biologics and biosimilars is worthy of exploration.

129. *The Science of Biosimilars: Let's See how Biosimilars are Developed*, PFIZER (Aug. 2021)(comparing biosimilar development to generic development), <https://www.pfizerbiosimilars.com/biosimilars-development> [<https://perma.cc/KY6R-MURP>].

exceeds the savings that earned the wildcard in the first place. The wildcard program would create savings up front when the wildcard is awarded, before creating costs later when the wildcard is redeemed to prolong market exclusivity (i.e., monopoly prices), but the savings would exceed the cost—the program must be qualified by a requirement that savings outweigh costs.

Bound by the condition that wildcard savings exceed wildcard costs, parties will navigate a process that safeguards this principle. To redeem a wildcard and reap the benefits of monopoly extension, the redeemer should undergo a process similar to that undertaken by the original wildcard awardee, whether it be the same firm or a firm that purchased the wildcard from the original awardee. Records of the savings generated or forecasted would exist on record as part of the original wildcard voucher application. The party seeking to redeem the wildcard should submit to the FDA or other designated federal body a wildcard redemption application that forecasts wildcard attributable revenue. If the redeemer's forecasted wildcard attributable revenue exceeds the awardee-generated wildcard attributable savings, the wildcard may not be redeemed because the result would be higher net drug spending.

Also in tandem with the front-end wildcard awardee application, the redeemer on the back-end must attest that savings will outweigh costs. If savings do not outweigh cost, the redeemer must be liable for any balance by which actual wildcard costs exceed actual wildcard savings.

(d) Wildcards as the Optimal Incentive

Although novel and untested, wildcard exclusivity offers superiority over the expansion of an already twice-expanded PRV program with onerous administrative burdens and whose incentive value shrinks with each PRV issued. Between the first and second drafts of this Note, the FDA has twice been unable to satisfy priority review deadlines.¹³⁰ Advocating for an indefinite number of additional PRV issuances would be naïve in this climate, even if such a proposal might achieve savings in optimal conditions. The wildcard, on the other hand, requires no scientific review and spreads administrative burdens and costs among parties. Regarding application information and forecasting data, synergies exist on the applicant side as many firms will have sales projections and the estimated impact of generic competition baked into an existing strategic plan or, with respect to historical data, otherwise readily available in order to comply with SEC reporting requirements. In short, the “ask” is lower for the FDA, and the value of a wildcard on the balance sheet far outweighs the administrative cost absorbed by the hopeful awardee or party seeking to redeem the wildcard.

Not only does the wildcard program not ask the FDA to condense a ten-month process into six months, but the wildcard also fits the “transferable exclusivity” profile which the pharmaceutical industry has a great appetite for and

130. *Argenx Receives Notification of PDUFA Date Extension for SC Efgartigimod*, *supra* note 114; Lewin, *supra* note 115.

expressly favors over PRVs.¹³¹ As proposed in this Note, the wildcard system avoids a “ready-fire-aim” approach to granting monopoly extensions and is tempered by limitations that define: (1) prerequisites for earning a wildcard, (2) prerequisites for redeeming a wildcard, and (3) consequences of repayment, to be imposed on awardees and redeemers who fail to consummate the savings forecasted in wildcard award or wildcard redemption applications. Wildcards have a dual effect—first a spending reduction, and then a spending increase—but because the saving occurs and is recorded first, it can be ensured that the later spending does not exceed the earlier amount saved, and thus that each wildcard results in net savings. The goal of the program, and that of each wildcard issued, is clear—accelerate price reduction and grow access. The obligation of awardees and redeemers to fulfill the savings goal of each wildcard amounts to an insurance policy against situations where, but for the drug maker’s obligation to pay off any negative balance between projected and actual savings, wildcard attributable spending would exceed wildcard attributable saving.

VIII. CONCLUSION

Delayed generic entry caused by the anti-competitive actions of players in the pharmaceutical industry annually adds billions of dollars in cost to the U.S. healthcare system.¹³² Attempts to quantify the annual burden have estimated a range from \$3.5 billion to \$37 billion.¹³³ The unnecessary cost of pay-for-delay contributes to high prescription drug spending, which translates to poor health outcomes for patients who avoid medication due to price.¹³⁴ Attributable in part to the complexity of the pharmaceutical industry (including positive use cases for reverse payment settlements, citizen petitions, and other conduct described in a negative light in this Note) and in spite of the dollar and personal health costs, historic approaches to combatting pay-for-delay are limited and difficult to enforce. This Note described two low-friction approaches—attractive to all stakeholders and unlikely to encounter serious resistance—and ultimately endorses a wildcard incentive program offering extended market exclusivity for one drug, in exchange for shortened exclusivity for another drug, as long as “wildcard attributable savings” exceed “wildcard attributable spending.” If the incentive program proposed in this Note prevents just a quarter of the annual cost of delayed generic competition from accumulating, billions of patient and public dollars would be saved and more Americans could afford their prescriptions. While appropriately limited to avoid unintended cost increases, transferable wildcard exclusivity vouchers would remain highly valuable and therefore successfully induce lower drug prices, either directly through unilateral price reductions or indirectly through earlier generic entry.

The American public, and especially patients, collectively share the cost of

131. U.S. GOV'T ACCOUNTABILITY OFF., *supra* note 105.

132. Feldman, *supra* note 10, at 32-33.

133. *Id.*

134. KAISER FAM. FOUND., *supra* note 6.

pay-for-delay either directly or indirectly. Despite the practice's notoriety, victories in reducing pay-for-delay are few and far between. Of the examples of progress discussed in this Note, most can be circumvented. Thus, instead of attempting and failing to identify and punish wrong, lawmakers should reward right. Rewarding innovators with a marketable asset, in exchange for facilitating generic competition in monopoly markets, will bring cheaper drugs to patients faster without deterring private investment in innovation. As a viable, positive-sum solution, the proposed wildcard exclusivity program should be discussed and expanded upon by policymakers, generic firms, innovator firms, and other stakeholders. Refined with stakeholder input, a carefully implemented wildcard exclusivity program may blaze a new trail on the pay-for-delay frontier and produce an unprecedented symbiosis among generic and innovator companies.