The Hudson Institute Memo Draws the Wrong Conclusions from Discrepancies in I-MAK's Data

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"For years, there has been a chorus of voices lamenting that brand pharmaceutical companies are delaying entry of lower-cost generic drugs with patents that do not, in fact, embody years of expensive R&D. Getting the data right is therefore just as important as getting the conclusions right about what that data actually means."

The debate around whether patents are unnecessarily propping up drug prices has been simmering for years. A recent policy memo from the Hudson Institute has thoughtfully raised concerns about the data underlying this debate, and the memo made its way up to the U.S. Senate Judiciary Subcommittee on Intellectual Property. While the memo may have successfully poked holes in some of the data, it draws questionable conclusions regarding what those holes might mean. Unpacking this debate is therefore necessary to guide the correct policy on the intersection of patents and drug prices.

The Hudson Institute Memo

In January 2022, Adam Mossoff published a policy memo on behalf the Hudson Institute, titled, *Unreliable Data Have Infected the Policy Debates Over Drug Prices*. Adam Mossoff is a Professor of Law at Antonin Scalia Law School, George Mason University, as well as Chair, Forum for Intellectual Property and Senior Fellow at the Hudson Institute. Mossoff's memo identifies purported discrepancies in the data underlying conclusions by Initiative for Medicines, Access & Knowledge (I-MAK).

Mossoff's memo argues that it is important for lawmakers to engage in "evidenced-based policymaking" to properly incentivize the billions invested in research-and-development for life-saving pharmaceutical drugs. Yet, hindering those incentives is a lingering debate over whether pharmaceutical companies engage in improper "evergreening" of patents. Unfortunately, the presumed authority on the number of patents covering pharmaceutical drugs, namely

the Initiative for Medicines, Access & Knowledge (I-MAK), appears to have significant, unexplained discrepancies in its data.

Mossoff focuses on one of I-MAK's signature reports, *Overpatented, Overpriced: How Excessive Pharmaceutical Patenting is Extending Monopolies and Driving Up Drug Prices*. He focuses in particular on two drugs discussed in that report, Lyrica and Eliquis, and purports to show that the existing number of patents covering those drugs is far fewer than the number identified by I-MAK in its report. Mossoff concludes that, if evidenced-based policy making is going to adequately guide incentives for research, then the presumed authority for that evidence has to get its data right. And right now, according to Mossoff, much of the data appears to be wrong.

Mossoff's memo was picked up by Senate Judiciary Subcommittee on Intellectual Property. In a letter from Senator Thom Tillis (R-NC) to Tahir Amin, Co-Founder and Co-Executive Director of I-MAK, Senator Tillis lamented that Mossoff's memo indicated that I-MAK's conclusions regarding the number of patents covering specific pharmaceutical drugs may be based upon inaccurate data. Senator Tillis therefore requested that I-MAK "provide a detailed explanation of [I-MAK's] methodology for calculating the number of patents on a drug that could be replicable by other researchers."

I-MAK responded to Mossoff's memo. I-MAK defended its conclusions regarding the number of patents covering specific drugs, while also explaining that there is always a degree of variance when counting patents and patent applications that may cover a particular drug. I-MAK specifically pointed to its methodology that was explained in its *Overpriced, Overpatented* report, but it stopped short of specifically disclosing how it counted up the patents for Lyrica, Eliquis or any other specific drugs.

In a rebuttal to I-MAK's letter, Mossoff stated, "I-MAK clearly has a dataset and a methodology to produce its conclusions in its public reports. Why not just answer Senator Tillis' straightforward request?"

Unpacking the Meaning of the Discrepancies

Unpacking this tangled debate is undoubtedly necessary to formulate correct policy regarding the intersection of patents and pharmaceutical drugs. Starting with I-MAK, the discrepancies identified by Mossoff result from comparing I-MAK's stated number of patents purportedly covering two drugs in particular, Lyrica and Eliquis, with the number of patents listed for these drugs within the Orange Book. To be fair to I-MAK, it does provide explanations for some of those discrepancies. First, in addition to counting existing patents, which would be listed in the Orange Book, I-MAK also purports to have counted pending patent applications and expired patents, neither of which would be listed in the Orange Book (expired patents are typically removed from recent editions of the Orange Book each year).

Second, I-MAK explains that patents covering a particular drug are not always listed in the Orange Book, even though they are nevertheless asserted in litigation against prospective generics. Indeed, I-MAK provides two examples where both Gilead and Celgene did just

that. Nevertheless, to be fair to Mossoff, without transparency into I-MAK's actual dataset and its methodology for counting the patents covered by Lyrica and Eliquis, the purported discrepancies identified by Mossoff that are hanging over I-MAK's data cannot be fully explained away.

On the other hand, the conclusions that Mossoff draws from these discrepancies are also questionable. Mossoff's principal conclusion is that if I-MAK is overstating the number of patents covering pharmaceutical drugs, then that directly undermines the key piece of evidence supporting the contention that brand pharmaceutical companies are "evergreening" patents to delay generic competition. Mossoff states that, according to the "evergreening" theory, "the sole reason for a drug innovator to obtain numerous patents covering a single drug is to swamp a generic drug company with excessively high business expenses in its efforts to avoid liability or even higher legal costs in defending itself in court if formally accused of patent infringement."

Yet, Mossoff's characterization of the problem is not necessarily accurate. The sole premise of the "evergreening" theory is not that only through gathering lots and lots of patents can brands drive up generic litigation and business costs, and thereby, stifle generic attempts to introduce lower-cost alternatives. Mossoff's characterization of the problem is flawed for at least two reasons.

First, generic competition is not stifled by patents only because of increased litigation costs. Generic pharmaceutical companies are essentially in the litigation business. Their business plans are predicated upon being sued for patent infringement and overcoming those suits to achieve the earliest entry date possible. There exist entire statutory schemes, including the Hatch-Waxman Act for small-molecule drugs, and the Biologics Price Competition and Innovation Act for biologic drugs, that set forth how and when brand pharmaceutical companies can sue prospective generics and biosimilars for patent infringement before they enter the market. These lawsuits are, somewhat counter-intuitively, triggered by the generics themselves, namely through filing abbreviated new drug applications (ANDAs) and Paragraph IV certification letters. Indeed, generics and biosimilars are one of the few types of defendants in patent litigation—or any litigation for that matter—who know they are going to be sued, and when, even before the plaintiff does.

The "evergreening" strategy would therefore be a particularly weak one deployed by brand pharmaceutical companies if it was based "solely" upon increasing litigation costs for generics. Those litigation costs are one of the primary business costs for generics, and they are already priced into the development of a generic drug. Further, adding patents to a lawsuit can, but does not necessarily, lead to exponentially increased costs. The added patents for a typical Hatch-Waxman suit nevertheless govern the same drug, and thus, the same general field of technology. That results in economies of scale for both experts and discovery—two of the major cost-drivers for litigation. Claim construction hearings and trials often accommodate all asserted patents at once, yielding more economies of scale. Courts typically pressure plaintiffs to limit their asserted claims, and it is not uncommon for the number of asserted patents to be winnowed down by the time of trial.

To be sure, there are undoubtedly cases of pharmaceutical companies rolling out a boulder of patents to mollify generics into agreeing to later entry dates. Humira, one of the biggest selling drugs of all time, is the key example. After waving around approximately 100 patents during the "patent dance" in advance of biosimilar litigations, nearly all the biosimilars agreed to an entry date in 2023—which was seven years after expiration of the patent covering Humira's antibody. Why did all of the biosimilars agree to this date? Part of the reason may be that it would have taken five to seven years just to litigate through all of those patents, which would have put them in the same place as agreeing to a 2023 entry.

Mossoff's suggestion that the "evergreening" strategy is predicated solely on increasing business and litigation costs is faulty for another reason. Importantly, it can take only a single patent to unnecessarily delay lower-cost generic alternatives from entering the market. In other words, Mossoff suggests that "evergreening" uses lots of patents to increase the monetary costs borne by generics. But the real cost of evergreening is time—namely, the delay for entry of lower-cost drugs. To be sure, that delay is borne by the generics, but more importantly, it is also borne by the people paying for medications. Those people, the actual consumers of pharmaceuticals, rarely have a seat the table when patents are asserted, litigations are settled, and entry dates for lower-cost generics are negotiated. Nor are the interests of generics and drug purchasers always aligned. Thus, to suggest that the evergreening strategy is only a matter of driving up the litigation costs of generics amounts to minimizing the problem for what it is.

It is important that this debate does not devolve into one over the definition of "evergreening." In other words, even if Mossoff is technically correct that the "evergreening" theory is limited to stockpiling patents to drive up generics' litigation costs, then the discrepancies identified in I-MAK's data may be pertinent to that theory. Yet, that nevertheless fails to address separate, but nevertheless major concerns associated with life-cycle management of patents by brand pharmaceutical companies.

Indeed, a problem exists when the bulk of the R&D behind a drug is finished and the brand pharmaceutical companies nevertheless squeeze out an additional patent with a far off expiration date that permits the brand to continue litigating against generic entry. There are numerous examples of this. Novartis is currently asserting a patent covering its blockbuster Gilenya that purports to cover taking the chicken pox vaccine to immunize against chicken pox. Amarin Pharmaceuticals recently asserted a handful of patents, which were invalidated during litigation, even though Amarin allegedly previously characterized the prior art to both the FDA and investors as seemingly anticipatory of the very patents it subsequently sought to defend in court. Teva asserted four patents covering its blockbuster Copaxone directed to taking the drug less than once-a-day that were invalidated upon the district court finding that the very idea for that patent germinated, in part, from a suggestion by the Food and Drug Administration (FDA). Corcept Pharmaceuticals has successfully delayed a generic's launch for its drug Korlym through assertion of only a few patents that, according to the generic, did not even come close to reading on Korlym's label.

Debunking the Myth of the Evergreening Myth

Mossoff's memo begins by suggesting that numerous critics of the "evergreening" theory have already "strongly contested" its rhetoric in both law and policy. The most relevant citation is to a paper by the CATO Institute, titled, *The Evergreen Myth* by Erika Lietzan, who is a Professor of Law, Center for Intellectual Property and Entrepreneurship, University of Missouri School of Law. Lietzan's paper also purports to debunk the evergreening theory, but unfortunately, attacks several strawmen.

Lietzan suggests that, apart from compound patents, which often cover a drug's active pharmaceutical ingredient, other types of pharmaceutical patents do not create veritable obstacles to generic entry. Lietzan states that, within the context of Hatch-Waxman lawsuits, generics "tend to lose . . . when the active ingredient patent is at issue, but they tend to win if a formulation patent is at issue." If that were true, that would be a significant and bold statement. Unfortunately, Lietzan provides no citation or support for this proposition. In one high-profile counter-example, Celgene managed to delay entry of generics for its blockbuster Revlimid until March 2022 in large part through assertion of method-of-use patents (as well as years of litigation related to REMS patents).

The Lietzan paper also discounts the fact that *most* Hatch-Waxman lawsuits are primarily litigating patents other than compound patents. Indeed, most drugs are covered by a single compound patent, but several other types of patents—formulation, dosage, method-of-use, diagnostic, and often in the case of biosimilars, manufacturing patents. And because the compound patents are typically the first to expire, it is these other types of patents—which typically have much farther-out expiration dates—that are the ones most often litigated.

Lietzan also suggests that generics do not have to be exact copies of brand drugs, and generics are free to design around the non-compound patents. That is true, but it discounts the fact that generics are often obliged by the FDA to copy the brand drug's label. Indeed, considerable Hatch-Waxman litigation revolves around allegations of induced infringement for method-of-use or dosage patents that evolve directly from the fact that generics must copy, and cannot rewrite, the brand's FDA-approved label.

Lietzan's paper downplays concerns with non-compound patents by suggesting that, if generics fear they will infringe a non-compound patent, then they can simply take a license. Yet, when Hatch-Waxman lawsuits settle, they settle either after years of litigation or they settle when the generic simply capitulates to delaying their entry until the near expiration of the patents. Given that generics sell for a significant price discount compared to monopoly brand pricing, it is nearly impossible for a brand to enter a royalty-bearing license with generics that will mirror the profits it can earn by keeping the generic off the market altogether.

Getting it Right

What all of these papers show—the I-MAK report, Mossoff's memo, Lietzan's paper, among others—is that both the law and practice around drugs and patents is complicated and tangled. It involves the intersection of two different regulatory agencies—the U.S. Patent and Trademark Office and the FDA—both of which are comparatively esoteric. That means that walking through the evidence, and deciding how that evidence should guide policy, is rarely intuitive.

For years, there has been a chorus of voices lamenting that brand pharmaceutical companies are delaying entry of lower-cost generic drugs with patents that do not, in fact, embody years of expensive R&D. Getting the data right is therefore just as important as getting the conclusions right about what that data actually means. Only then can the evidence successfully guide the correct policy to address overpriced pharmaceuticals, something for which there might actually exist bipartisan consensus within our country.