ADVI

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Implications of the Inflation Reduction Act on Developing Treatments for Cancer Before It Spreads

Key Takeaways:

- Price-setting timelines under the IRA, particularly its "pill penalty" for small molecule cancer medicines, diminishes the ability of biopharmaceutical manufacturers to pursue new uses for cancer medicines, putting at risk the ability to treat cancer before it spreads. This is because post-approval research and development (R&D) on cancer medicine is an important source of new treatment options, especially for treating cancer in its earlier stages.
- A review of FDA approvals from 2006 to 2012 shows that **61% of cancer treatments approved to fight a solid tumor before it spreads were developed *after* a product's initial approval. Most of these treatments were small molecule cancer medicines.**
- **In fact, 68% of these post-approval treatments for non-metastatic cancer were approved 5 or more years after initial approval, approaching the 7-year price-setting timeline from the Inflation Reduction Act (IRA) that will disincentivize continued R&D.**
- **This research shows that more than 60% of oncology treatments approved from 2006 to 2012 to treat solid tumors before they spread may never have been developed had the IRA been in place at the time.**

Introduction

Previous work has shown that most medicines approved from 2006 to 2012 – 72% of biologic medicines and 52% of small molecule medicines – received an approval for at least one new use after their initial approval.[1,2]

This "post-approval R&D" is significantly disincentivized under the IRA Medicare Drug Price Negotiation Program, which requires the government to set the price of certain medicines before they otherwise would have faced generic or biosimilar competition. Consequently, this policy shortens the timeframe during which biopharmaceutical companies may feasibly invest in and earn returns on post-approval research.

Early evidence is already showing the negative impact of these reduced incentives under the IRA, with post-approval industry-funded clinical trials declining by 38% since the IRA became

[1] ADVI Health. Implications of the Inflation Reduction Act Price Setting Provisions on Post-approval New Uses for Biologics. Published online March 2025. Accessed April 21, 2025. https://advi.com/wp-content/uploads/2025/03/IRA-article-1.pdf
[2] ADVI Health. Implications of the Inflation Reduction Act Price Setting Provisions on Post-approval Indications for Small Molecule Medicines. Published online June 2023. Accessed April 21, 2025. https://advi.com/wp-content/uploads/2024/12/Implications-of-the-IRA-on-Post-Approval-Small-Molecules-2006-2012_Final.pdf

law.[3]

Of all diseases, cancer is expected to be disproportionately affected because continued development of cancer medicines after they are first approved is a hallmark of the way progress against cancer is achieved. Recent research showed that post-approval uses represent 70% of all cancer treatments approved between 2000 and 2014.[4]

Research Findings and Discussion

Of all drugs initially approved to treat solid tumors from 2006 through 2012, **61% of medicines to treat non-metastatic cancers were developed after a product's initial approval (Figure 1)**. **Notably, 68% of these subsequent approvals to treat earlier-stage cancer occurred 5 or more years after initial approval, illustrating how R&D post-approval continues to uncover treatment options for people with cancer. Troublingly, these 5+ year post-approval timelines may intersect with the price-setting timelines from the IRA, which will sharply reduce incentives for manufacturers to continue investing in R&D for subsequent approvals**.

Additionally, **the majority of post-approval uses for non-metastatic cancer occur in small molecule medicines (58%)**. The IRA's "pill penalty" creates the largest R&D disincentives for small molecule medicines due to the shorter price-setting timeline. This is particularly concerning because small molecule cancer medicines are integral for treating cancer inside cells where it originates.

See Appendix A for Data and Methods.

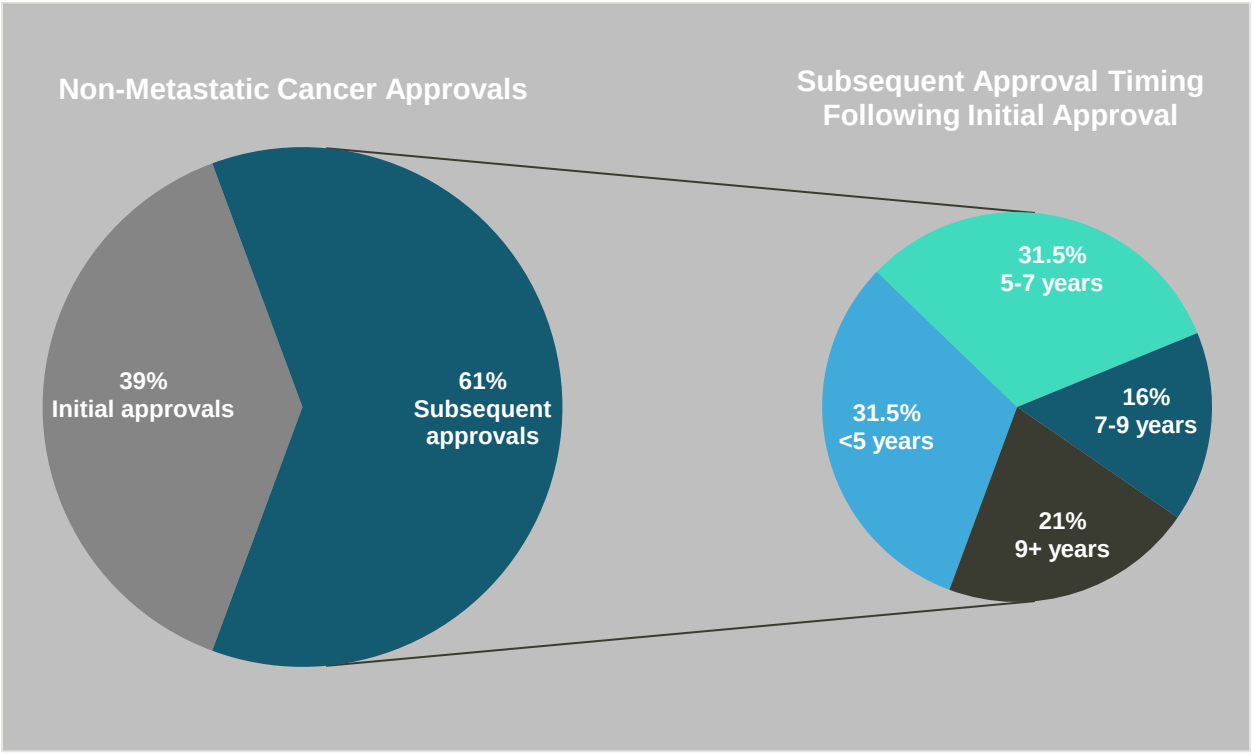
Post Approval R&D Plays a Central Role in Treatment of Cancer Before it Spreads

The IRA's disincentives for continued development of cancer medicines raise specific concerns about the development of new uses that target cancer before it metastasizes, or spreads in a patient's body. For ethical and practical reasons, clinical trial sponsors often initially test the safety and efficacy of a cancer medicine in patients with late-stage disease, for whom other treatments have proven unsuccessful, and for cancers that have spread to other parts of the body. This approach gives researchers early data to indicate whether larger, post-approval trials should include patients with earlier-stage disease that has yet to spread could fill an unmet need for patients. For patients whose cancer is detected at earlier stages, having effective treatment

[3] Zheng H, Patterson JA, Campbell JD. The Inflation Reduction Act and Drug Development: Potential Early Signals of Impact on Post-Approval Clinical Trials. *Ther Innov Regul Sci* (2025). https://doi.org/10.1007/s43441-025-00774-2
[4] Axelson K, Grabowski H, Long G. (2024) The IRA and Post-approval Clinical Research for Cancer Medicines. *Health Affairs Forefront.*Dec 12, 2024. DOI: 10.1377/forefront.20241209.282054

options is essential to improving patient survival and quality of life. At the same time, effective treatment options can reduce strain on the healthcare system associated with managing the care of cancer patients whose disease unfortunately has spread to other parts of the body.

Figure 1. Non-Metastatic Cancer Medicine Approvals (2006-2012) and Timing of Post-Approval New Uses



Conclusion

This analysis builds on a growing body of evidence showing how the IRA's price setting provisions hamper medicine developers' ability to pursue new uses of existing medicines, which often bring the lion's share of patient benefits in certain disease areas, as is the case in cancer. Specifically, it shows that the majority (61%) of cancer treatments approved to fight solid tumors before they spread were developed *after* a product's initial approval, and most of these were small molecule medicines, which are most impacted by the IRA.

Because of the approach researchers use to developing cancer therapies, the price-setting timelines of the IRA disincentivize R&D into treating cancer in its earlier stages. Further the IRA particularly disincentivizes research post-approval on small molecule cancer medicines, which are integral for treating cancer inside cells where it originates.

Appendix A. Data and Methods

For this analysis, we used data from the FDA to compile a list of small molecule and biologic prescription medicines that received an initial FDA approval for a non-metastatic solid tumor indication between January 1, 2006 to December 31, 2012.[5] We analyzed the product labeling, FDA approval supplement categories, and approval types on the Drugs@FDA webpage[6] for each medicine to determine whether new uses in non-metastatic solid tumors had been approved, and if so, the date when they were approved and included in the product labeling.

We defined a new use, for the simplicity of analysis, as a single FDA-approved change to a product's labeling. It is possible that a new use defined in this way can represent multiple advances.

We defined cancer before it spreads as any non-metastatic solid tumor, which includes advanced cancers.

[5] Center for Drug Evaluation and Research. Compilation of CDER New Molecular Entity (NME) Drug and New Biologic Approvals. FDA. Updated April 22, 2024. Accessed April 21. https://www.fda.gov/drugs/drugapprovals-and-databases/compilation-cder-new-molecular-entity-nme-drug-and-new-biologic-approvals

[6] U.S. Food and Drug Administration. Approval Date(s) and History, Letters, Labels, Reviews. Drugs@FDA: FDAApproved Drugs. https://www.accessdata.fda.gov/scripts/cder/daf/index.cfm