How Drug Development Shapes Painkiller Abuse

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INTRODUCTION

While global physicians have decreased opioid prescriptions by 44% since 2011, an alarming trend has emerged: the overdose deaths and addiction rates have not declined. They are actually rising. This suggests that **over-prescribing is not the root cause of painkiller abuse.** So, what is the real issue?

This study aims to **explore how decisions made during drug development may shape real-world outcomes** like safety, accessibility, and potential for abuse. It focuses not only on opioids but also on other pain-management drugs that affect patients.

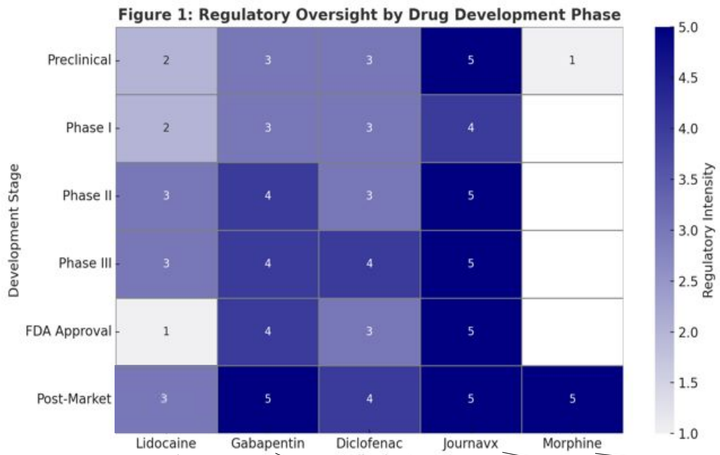
I am passionate about our rights as American citizens and have learned that these rights extend to every aspect of our lives, especially healthcare. Thus, I was drawn to health policy to help patients become better informed and have access to safer, more responsible prescription options.

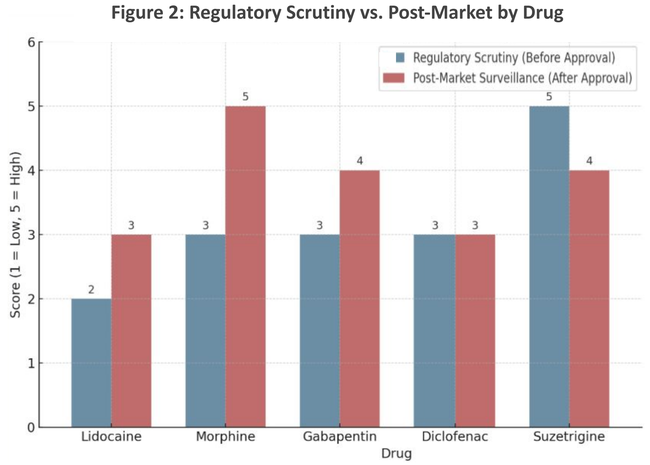
RESEARCH METHODOLOGIES

1. First, I chose five pain-management medications of varying drug class and scored each step of their development process on a 1-5 scale, called my "Relative Impact Score". To do this, I collected data from CDC Reports, ClinicalTrials.gov, PubMed, and the FDA Drug Approval Database.
2. Then, I created a graph to compare the overall intensity of each development process to its subsequent post-market commitments.
3. I created a radar chart to compare the qualitative aspects of each drug in context of their regulatory scrutiny. The factors included are Abuse Potential, Adverse Event Severity, Efficacy Score, and Regulatory scrutiny

Note: the scoring rubrics used for these graphs can be found by using the QR code!

DATA AND FINDINGS





DISCUSSION, ANALYSIS, AND EVALUATION

The scope of my study was limited by time and available resources. I chose to focus on **five medications that well-represented their drug class.**

This was so I could dive into their development and policy with enough nuance to draw true conclusions. That said, each drug is different and a larger scale study is required to make larger claims and recommendations

It is also important to note that **Journavx is newly approved** (1/30/25) and is part of a growing shift towards non-opioid treatments. Hence, **the scoring system had to be adjusted** when comparing it to older drugs.

If I had more time, I would have loved to include more of the emerging treatments and dig further into how new policies like the PAIN Act are supporting this change to how pain is treated at the systemic level.

CONCLUSIONS, IMPLICATIONS, AND NEXT STEPS

- **Thorough drug development often correlates to less need for post-market adaptations**
- Newer drugs (e.g., Journavx) show higher success rates so far, due to stricter regulatory oversight. This is linked to recent policies in response to the opioid crisis setting a higher bar for evidence and safety.
- Older drugs (Morphine, Lidocaine) **entered the market with minimal testing but now require heavy post-market control** due to known risks and misuse

Recommendations

- Increase transparency in post-market surveillance by publishing criteria for placing drugs under heightened monitoring.
  - Share how adverse events and regulatory decisions are handled to build public trust.
  - Also holds companies accountable for their research practices.

ACKNOWLEDGEMENTS / REFERENCES

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Full Research Paper: