



Medicare Part D Prescription Drug Analysis — Final Summary

M o h a m e d M a k r a n i

**Streamlit Dashboard | Data analysis
Python Project**

Objective

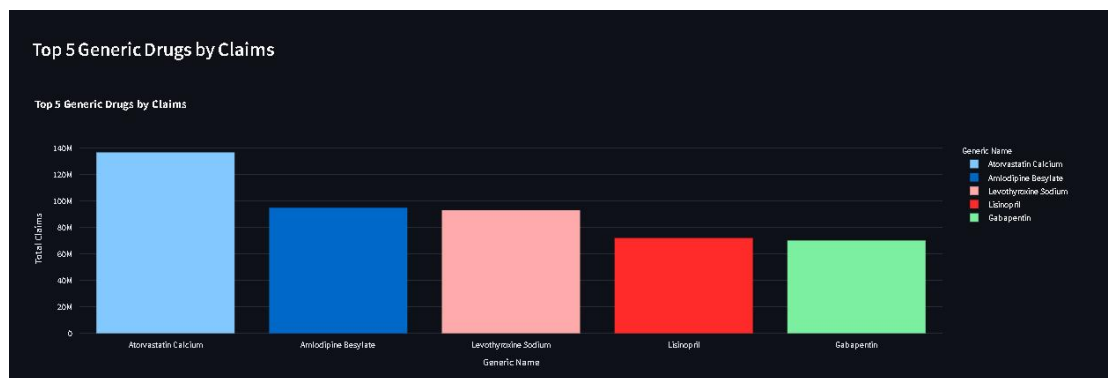
The goal of this project is to analyze Medicare Part D prescription data to:

- Identify the top prescribed generic and brand-name drugs.
- Highlight top cost contributors.
- Evaluate the relationship between claim counts and total cost.
- Provide actionable insights for stakeholders such as policymakers, pharmacy benefits managers, and healthcare administrators.

Results & Insights

Top Generic Drugs by Claims

- Atorvastatin Calcium (137M claims), Amlodipine Besylate (95M), and Levothyroxine Sodium (93M) dominate the claim counts.
- ✓ **Implication:** Generic medications form the backbone of Medicare Part D prescriptions, making their affordability and accessibility vital.

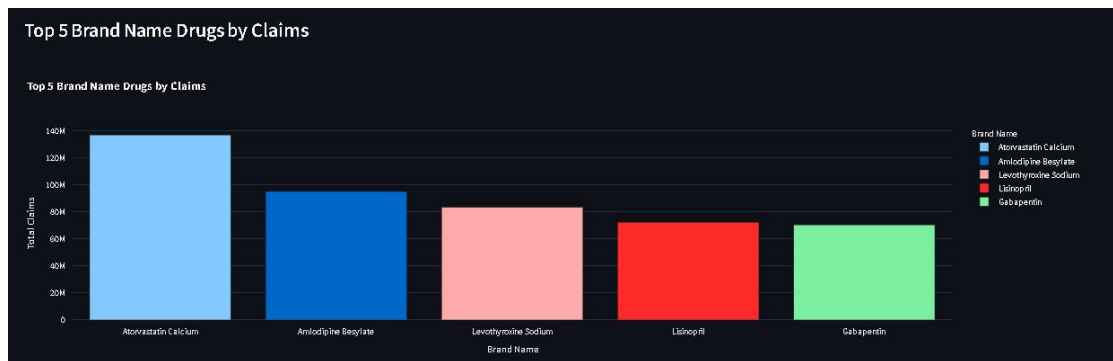


Top 5 Generic Drugs by Claims chart

Top Brand Name Drugs by Claims

- Atorvastatin Calcium, Amlodipine Besylate, and Levothyroxine Sodium lead, indicating that generic names dominate even in brand-name claim counts.

- ✓ **Implication:** Generic medications drive the program and should remain a focus for cost-containment policies.

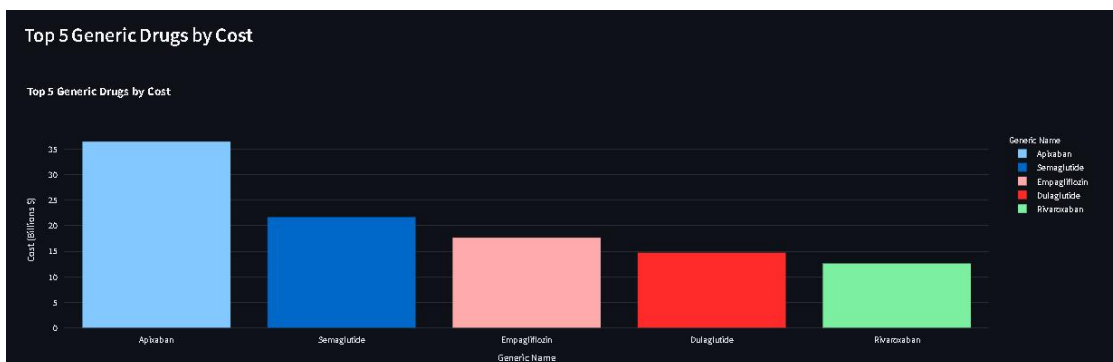


Top 5 Brand Name Drugs by Claims chart

Top Generic Drugs by Cost

Highest Cost:

- Apixaban (\$36.53B), Semaglutide (\$21.71B), Empagliflozin (\$17.67B), Dulaglutide (\$14.72B), Rivaroxaban (~\$12.61B).
- ✓ **Implication:** Certain high-cost medications drive total expenditures despite lower claim counts, making them prime targets for cost negotiation and policy focus.



Top 5 Generic Drugs by Cost chart)

Correlation Between Total Claims and Cost

- The correlation coefficient (~ 0.25) suggests that higher claim counts **do not necessarily** equate to higher total costs.
- ✓ **Implication:** High-cost medications with relatively low claim counts (e.g., Apixaban, Semaglutide) disproportionately affect total spend and warrant targeted review

Correlation Between Total Claims and Cost: 0.25

- ✓ This relatively low-to-moderate correlation suggests that cost is NOT directly proportional to the number of claims.
- ✓ High-cost medications with lower claim counts (e.g., Apixaban, Semaglutide) drive significant expense.

Correlation metric section

Summary for Stakeholders

✓ **Why it Matters:** Understanding both the claim volume and cost distribution allows Medicare and policymakers to:

- Focus cost-containment efforts effectively.
- Maintain patient access to commonly used generics.
- Negotiate pricing strategies for expensive treatments.

Future Directions

- Incorporate **regional data** for localized trend analyses.
- Evaluate **patient demographics and clinical outcomes** associated with high-cost medications.
- Identify opportunities for **targeted negotiations** and cost optimization.



Medicare Part D Prescription Analysis Dashboard

This interactive dashboard explores:

- Prescription claim counts (Generic & Brand).
- Cost distribution across top medications.
- Relationship between usage and total cost.

Total Claims

3,233,738,835

Total Cost

\$551.11B

Top Claimed Generic

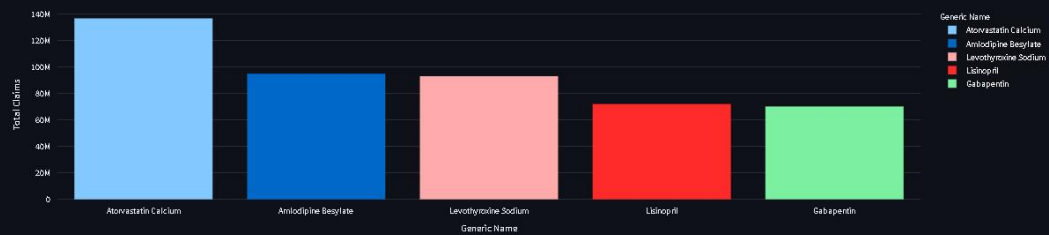
Atorvastatin Calcium...

Top Costly Generic

Apixaban (\$36.53B)

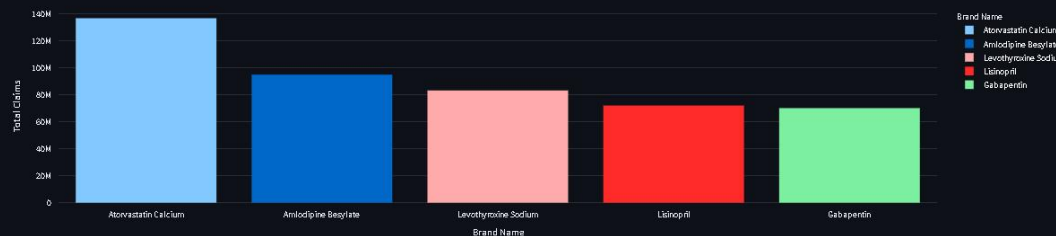
Top 5 Generic Drugs by Claims

Top 5 Generic Drugs by Claims



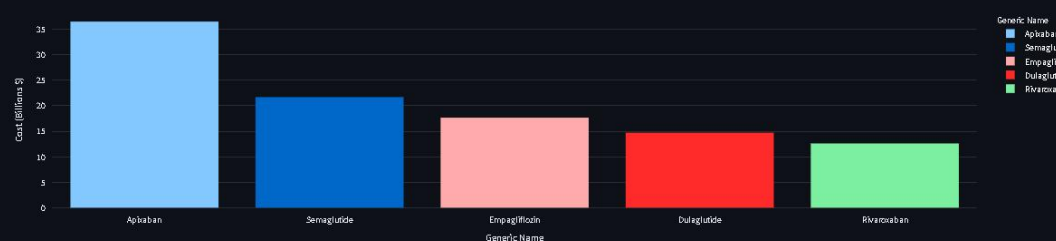
Top 5 Brand Name Drugs by Claims

Top 5 Brand Name Drugs by Claims



Top 5 Generic Drugs by Cost

Top 5 Generic Drugs by Cost



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