

Data Science Project

Pharmaceutical Projections

Data Science Project (JA42 35)
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Abstract

This data science project explores pricing behaviour in the pharmaceutical industry by analysing prescription drug pricing data from 2019 to 2020. The aim was to identify trends in Wholesale Acquisition Cost (WAC) at drug launch compared to updated prices, and to highlight manufacturers or products exhibiting significant cost inflation. Using Power BI, I carried out end-to-end data transformation, modelling, and visualisation to extract meaningful insights from large and complex datasets.

The analysis involved merging multiple data sources, cleaning and standardising fields, and creating new calculated columns to quantify pricing changes, growth rates, and volatility. Measures such as WAC Ratio, WAC % Increase, and Volatility Score were developed to evaluate and compare drugs and manufacturers across a range of pricing behaviours. High-risk drugs were flagged based on their pricing profile, and a WAC Growth Category was introduced to classify drugs into stable, moderate, high, or extreme increase groups.

Interactive dashboards were created to display key metrics, trends, and outliers. Slicers and filters allowed users to dynamically explore the data by manufacturer, time period, and risk level. Notable findings included 21 high-risk drugs and an average WAC ratio of 6.00, indicating substantial price increases. Outliers, such as Lexicon Pharmaceuticals with a WAC of \$2.2 million, highlighted the potential need for greater oversight and transparency in drug pricing.

This project demonstrates how data science and visual analytics can be applied to real-world challenges in healthcare to support informed and ethical decision-making.

Team Role Allocation

This project was designed to be completed collaboratively within a small group; however, due to unforeseen circumstances, I undertook the entire project independently. While the original intention was to divide tasks across three to five team members, I assumed full responsibility for all aspects of the project from start to finish

Throughout the process, I fulfilled multiple roles typically shared among a project team:

- **Data Engineer:** Responsible for sourcing, cleaning, and preparing the datasets. This included merging multiple CSV files, resolving missing values, and ensuring data consistency.
- **Data Analyst:** Conducted all data exploration, transformation, and calculation of key performance indicators such as WAC Ratio, Volatility Score, and WAC Growth Category.
- **Visualisation Developer:** Designed and built all Power BI dashboards and reports, implementing slicers, conditional formatting, and interactive filters.
- **Project Manager:** Oversaw the entire project workflow, managed version control and backups (following data loss due to technical failure), and ensured timely completion of each phase.

Completing this project independently under time pressure required strong self-discipline, resilience, and critical thinking. The experience highlighted my ability to manage complex tasks across the data science pipeline without the support of a team, a skillset that will benefit future academic and professional work.

Power BI

Power BI was used as the primary tool for transforming, modelling, and visualising the pharmaceutical pricing data. After importing cleaned datasets into Power BI Desktop, I used Power Query to apply further transformations and create calculated columns that supported more advanced analysis. The Power BI environment enabled an end-to-end workflow, from ingestion and shaping of data to building fully interactive dashboards.

Power Query

Power Query was used to:

- Append multiple drug report files (e.g. 2019 and 2020 WAC datasets)
- Replace non-numeric characters (e.g. £ symbols, commas, and spaces)
- Convert WAC fields from text to decimal format
- Filter null or duplicate rows
- Create custom columns such as **WAC Difference, Years Since Introduction**, and cleaned versions of **WAC at Introduction**

The **Drug_Prices_Master_WAC** dataset was created using Power Query by merging, cleaning, and transforming multiple prescription drug pricing files. Below is a summary of the applied steps used to prepare the final analysis-ready table:

1. Source & Initial Data Types:
The initial datasets were loaded into Power BI and the data types for key columns were defined, such as converting text to decimal numbers or dates for fields like **WAC Amount** and **Effective Date**.
2. Merged Queries:
Data from different years and sources (e.g. Drug Report 19/20, WAC history files) were merged using common fields such as NDC Number to consolidate all relevant drug information into a single query.
3. Expanded Columns:
Nested fields or tables resulting from merges were expanded to expose detailed columns, such as **WAC at Introduction** and historical pricing records.
4. Removed Unnecessary Columns:
Columns not required for analysis were removed to reduce clutter and focus the dataset on key metrics like **WAC Increase, WAC Amount, WAC Ratio**, and **manufacturer identifiers**.

5. Removed Duplicates & Filtered Rows:

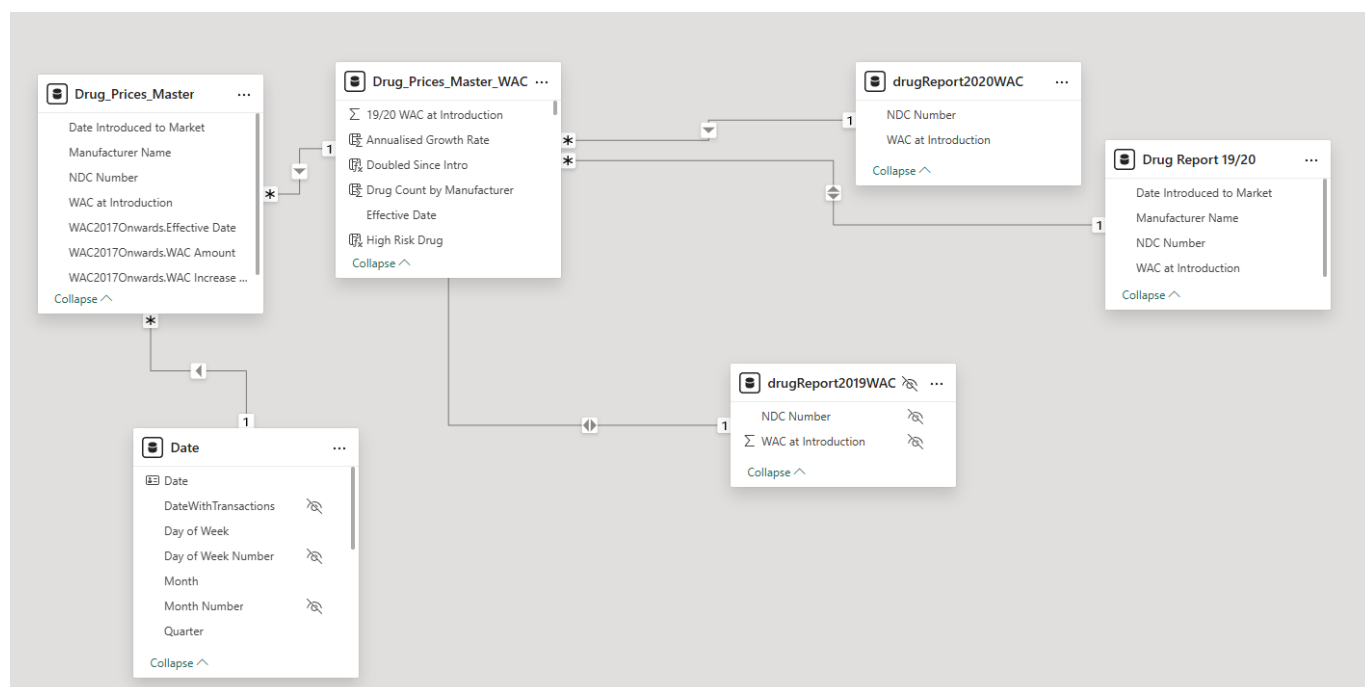
Duplicate rows were removed to avoid redundancy. Filters were applied to exclude null entries, non-numeric WAC values, and other irrelevant records such as **outliers or records with missing NDC Numbers**.

6. Renamed Columns for Consistency:

Column names were standardised (e.g. “Drug Report 19/20.WAC at Introduction” → “**19/20 WAC at Introduction**”) to ensure clarity and prevent errors during DAX calculation and visualisation. This column was created to standardise the columns WAC without create two separate columns.

Relationships

The data model consists of a central fact table (**Drug_Prices_Master_WAC**) linked to supporting dimension tables including a custom Date table and historic drug reports by NDC Number. **One-to-many** relationships were used to maintain integrity and support DAX-based measures. The structure follows a star schema design to optimise performance and visual interactivity across dashboards.



DAX Measures

Calculated Columns Created in Power BI

These custom columns were created using DAX to derive new insights from the base pricing data and to enhance interactivity within the dashboards.

WAC Difference = Drug_Prices_Master_WAC[WAC Amount] -
Drug_Prices_Master_WAC[19/20 WAC at Introduction]

WAC Ratio = DIVIDE(Drug_Prices_Master_WAC[WAC Amount],
Drug_Prices_Master_WAC[19/20 WAC at Introduction])

WAC % Increase = DIVIDE(Drug_Prices_Master_WAC[WAC Difference],
Drug_Prices_Master_WAC[19/20 WAC at Introduction])

Years Since Intro = DATEDIFF(Drug_Prices_Master_WAC[History Effective Date],
Drug_Prices_Master_WAC[Effective Date], YEAR)

Annualised Growth Rate = DIVIDE(Drug_Prices_Master_WAC[WAC % Increase],
Drug_Prices_Master_WAC[Years Since Intro])

Doubled Since Intro = IF(Drug_Prices_Master_WAC[WAC Ratio] >= 2, "Yes", "No")

WAC Growth Category = SWITCH(TRUE(), Drug_Prices_Master_WAC[WAC % Increase]
>= 4, "Extreme Increase", Drug_Prices_Master_WAC[WAC % Increase] >= 2, "High
Growth", Drug_Prices_Master_WAC[WAC % Increase] > 0, "Moderate Growth",
"Stable")

High Risk Drug = IF(AND(Drug_Prices_Master_WAC[WAC Ratio] >= 4,
Drug_Prices_Master_WAC[WAC % Increase] >= 4), "High Risk", "Normal")

DAX Measures Used in the Project

Total WAC Increase = SUM(Drug_Prices_Master_WAC[WAC Increase Amount])

Average WAC Ratio = AVERAGE(Drug_Prices_Master_WAC[WAC Ratio])

Median WAC at Introduction = MEDIAN(Drug_Prices_Master_WAC[19/20 WAC at Introduction])

Minimum WAC Amount = MIN(Drug_Prices_Master_WAC[WAC Amount])

Volatility Score = CALCULATE(STDEV.P(Drug_Prices_Master_WAC[WAC Increase Amount]), ALLEXCEPT(Drug_Prices_Master_WAC, Drug_Prices_Master_WAC[Manufacturer Name]))

Number of High Risk Drugs = CALCULATE(COUNTROWS(Drug_Prices_Master_WAC), Drug_Prices_Master_WAC[High Risk Drug] = "High Risk")

Avg % WAC Increase = AVERAGEX(Drug_Prices_Master_WAC, [WAC % Increase])

Avg Annual Growth = AVERAGEX(Drug_Prices_Master_WAC, DIVIDE([WAC % Increase], [Years Since Intro]))

DAX Implementation

This project made extensive use of Power BI's DAX (Data Analysis Expressions) language to create both calculated columns and measures that allowed for deeper analysis of pharmaceutical pricing trends. Through calculated columns, new variables were engineered to assess price behaviour over time.

For example, the **WAC Difference** column was created by subtracting a drug's WAC at introduction from its latest WAC, offering a direct measure of price change. Further columns such as **WAC Ratio**, **WAC % Increase**, and **Annualised Growth Rate** allowed for normalised comparisons across drugs introduced in different years.

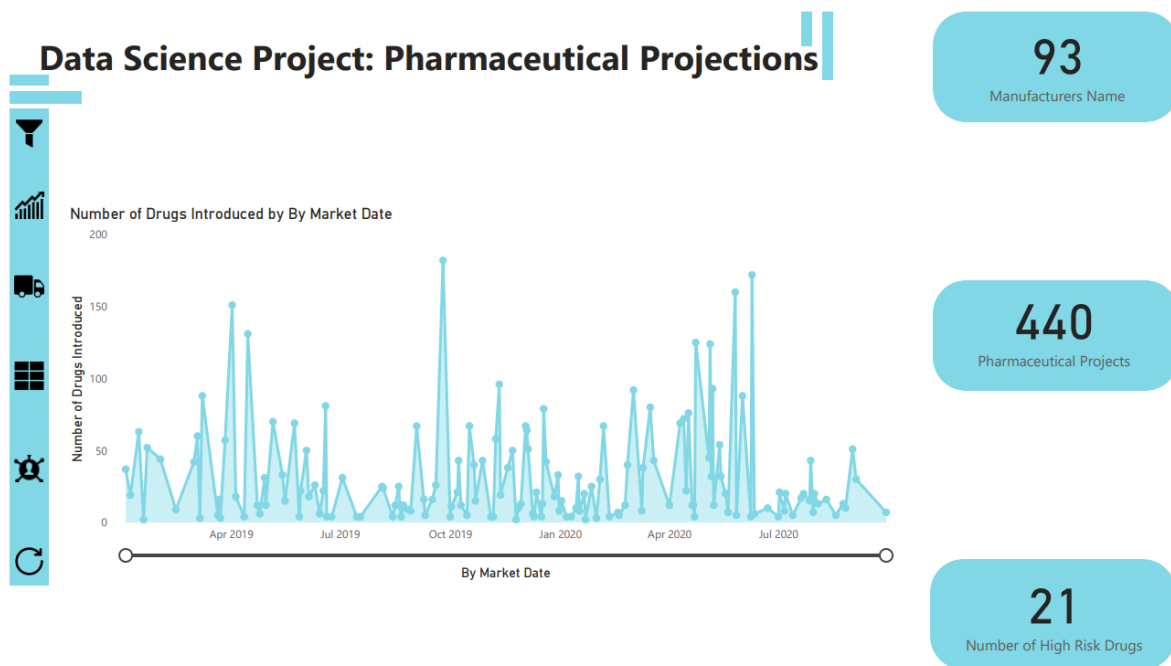
Categorisation fields such as **WAC Growth Category**, **Doubled Since Intro**, and **High Risk Drug** enabled filtering, conditional formatting, and segmentation in visual dashboards — greatly improving user interactivity and insight delivery.

In parallel, several DAX measures were defined to summarise pricing behaviour across manufacturers and timeframes. Key measures such as **Total WAC Increase**, **Average WAC Ratio**, **Volatility Score**, and **Median WAC at Introduction** offered macro-level perspectives, while contextual measures like **Number of High Risk Drugs** and **Avg Annual Growth** helped quantify and highlight risk patterns.

The **Volatility Score**, in particular, used **STDEV.P** in combination with **ALLEXCEPT** to isolate manufacturer-specific pricing fluctuation, a method that mirrors financial portfolio analysis.

Overall, the use of DAX and Power BI transformations ensured both analytical robustness and user-centred storytelling, supporting strong visual narrative across multiple dashboards.

Dashboards

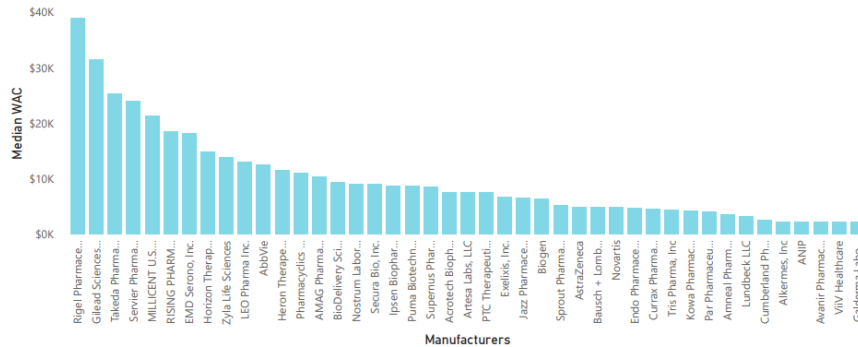


The Main dashboard provides a high-level overview of the dataset, focusing on the number of drugs introduced between 2019 and 2020, as well as a summary of high-risk entries. Key metrics displayed include the total number of drugs (440), the number of manufacturers (93), and the identification of 21 high-risk drugs. These high-risk drugs were flagged based on WAC ratios and extreme price increases. A time-series graph shows fluctuations in drug introductions over time, helping users identify any seasonal or policy-driven surges in new market entries.

Data Science Project: Pharmaceutical Projections



Median WAC by Manufacturers



\$17.14K
Mean WAC at Introduction

\$2.04K
Median WAC at Introduction

Manufacturer Name	Drug Creation by Manufacturer	Average of WAC Ratio	WAC Difference	High Risk Drug
AbbVie	11	0.25	(\$86,364.24)	Normal
ACADIA Pharmaceuticals Inc.	2	3.86	\$4,503.00	Normal
Acrotech Biopharma LLC	6	1.28	\$9,751.24	High Risk
Alkermes, Inc	4	0.87	(\$1,217.79)	Normal
Almirall LLC	11	1.85	(\$27,983.72)	Normal
AMAG Pharmaceuticals, Inc.	3	0.33	(\$13,330.56)	Normal
American Health Packaging	5	0.07	(\$7,133.67)	Normal
Total	440	6.00	(\$6,465,991.19)	High Risk

5.00
Avg % WAC Increase

The WAC dashboard breaks down pricing behaviour by manufacturer, using median WAC values to highlight variance in drug pricing strategies. Manufacturers are ranked by median WAC at introduction, and a card visual shows that the mean WAC at introduction was \$17,140 while the median was \$2,040 — indicating a skew due to pricing outliers. By plotting WAC growth and ratio data against manufacturer names, this dashboard helps identify both ethical pricing strategies (e.g. Bausch + Lomb, AMAG) and questionable trends (e.g. ACADIA, Chiesi USA). This analysis is especially useful for regulatory benchmarking.

Data Science Project: Pharmaceutical Projections



368.68
Volatility Score

440
Drug Creation by Manufacturer

21
Number of High Risk Drugs

Manufacturer Name	WAC Increase	WAC Amount	WAC at Introduction	Avg % WAC Increase	Doubled Since Introduction	High Risk Drug	WAC Growth Category
AbbVie	344.16	\$43.02	\$3,250	-0.75	No	Normal	Stable
ACADIA Pharmaceuticals Inc.	261.00	\$3,039	\$787.5	2.86	Yes	Normal	Extreme Increase
Acrotech Biopharma LLC	863.80	\$707	\$850	0.28	No	High Risk	Extreme Increase
Alkermes, Inc	108.52	\$1,140.26	\$2,295.97	-0.13	No	Normal	Moderate Growth
Almirall LLC	143.00	\$361.36	\$107.55	0.85	No	Normal	Extreme Increase
AMAG Pharmaceuticals, Inc.	280.70	\$185.5	\$899	-0.67	No	Normal	Stable
American Health Packaging	45.79	\$13	\$800	-0.93	No	Normal	Stable
American Regent	27.25	\$935.75	\$825	0.13	No	Normal	Moderate Growth
Amneal Pharmaceuticals	202.15	\$1,128.94	\$899	-0.09	No	Normal	High Growth
ANIP	2,652.66	\$70.95	\$845.55	0.00	No	Normal	Extreme Increase
Artesa Labs, LLC	41.00	\$460	\$7,574	-0.94	No	Normal	Stable
AstraZeneca	79.69	\$321.71	\$4,362	-0.93	No	Normal	Stable
Atland Pharmaceuticals	150.00	\$600	\$985	-0.39	No	Normal	Stable
Avanir Pharmaceuticals	43.80	\$756	\$2,295.97	-0.67	No	Normal	Stable
B. Braun Medical Inc.	-0.48	\$75.6	\$850	-0.91	No	Normal	Stable
Bausch + Lomb, Inc.	16.12	\$149.23	\$4,652.92	-0.96	No	Normal	Stable
BioDelivery Sciences International, Inc.	55.08	\$278.6	\$1,833.33	-0.81	No	Normal	Stable
Biogen	505.00	\$1,591.4	\$6,388.62	-0.20	No	Normal	Stable
Boehringer Ingelheim	604.06	\$430.51	\$694.43	-0.48	No	Normal	Moderate Growth
Cameron Pharmaceuticals, LLC	1,395.00	\$1,395	\$832.25	0.68	No	Normal	High Growth
Total	2,652.66	\$13	\$107.55	0.29	No	High Risk	Extreme Increase

This Information Lookup dashboard presents a detailed breakdown of pricing metrics at the individual drug level. Each row represents a drug-manufacturer pairing, with columns showing metrics such as WAC Difference, Average WAC Ratio, High Risk Drug flag, and WAC Growth Category. This dashboard enables quick filtering and pattern recognition — particularly useful for spotting drugs with extreme increases (e.g. over 4x the launch price). Slicers allow the user to dynamically explore the data by manufacturer or risk classification, making this dashboard interactive and insightful for decision-making.

Data Science Project: Pharmaceutical Projections

3.16

Avg Annual Growth (%)

Key Insights from WAC Analysis

Manufacturer Name	Doubled Since Introduction	Years Since Introduction	WAC Increase Amount	WAC Amount	WAC Difference	WAC at Introduction
Lexicon Pharmaceuticals	No	3	\$253.00	\$5,417	(\$2,119,583.00)	\$2,125,000
Total	No	3	\$253.00	\$5,417	(\$2,119,583.00)	\$2,125,000

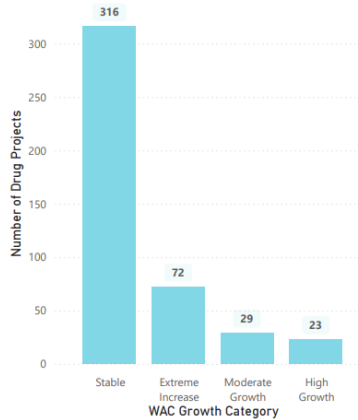
This project identified **21 high-risk drugs** that exhibit extreme price behaviour, as evidenced by disproportionately high WAC increases and WAC-to-introduction ratios. On average, the WAC ratio across all drugs was 6.00, indicating that many prescription medications are now priced at six times their original launch cost.

Lexicon Pharmaceuticals stands out as a significant outlier with a Wholesale Acquisition Cost (WAC) at introduction of \$2,215,000, far exceeding the range observed across the majority of manufacturers. While certain high-cost drugs may be justified by complex development processes, rare disease targeting, or advanced biologics, such a substantial price point demands closer scrutiny. The presence of such outliers not only skews the average cost metrics but also raises questions about pricing transparency, value-based justification, and the potential burden on healthcare systems. In analyses like this, outliers such as Lexicon highlight the urgent need for a standardised framework to assess whether extreme pricing correlates with clinical benefit or simply reflects unregulated market leverage.

Manufacturers such as **ACADIA Pharmaceuticals** and **Chiesi USA** demonstrated WAC increases exceeding 500%, contributing to the overall volatility observed in the dataset. However, not all companies followed this trend. Firms like Bausch + Lomb and AMAG Pharmaceuticals displayed stable or even decreasing pricing strategies, which could serve as reference benchmarks for ethical cost control. The calculated volatility score of 368.68 further highlights how inconsistent pricing practices are across the pharmaceutical landscape.

These findings suggest that while some level of price adjustment may be expected, the extent of increases in many cases appears unjustified. Greater transparency in pricing structures, along with regulatory oversight, may be necessary to prevent exploitative practices and ensure that essential medicines remain affordable to the public.

Number of Drug Projects by WAC Growth Category



6.00

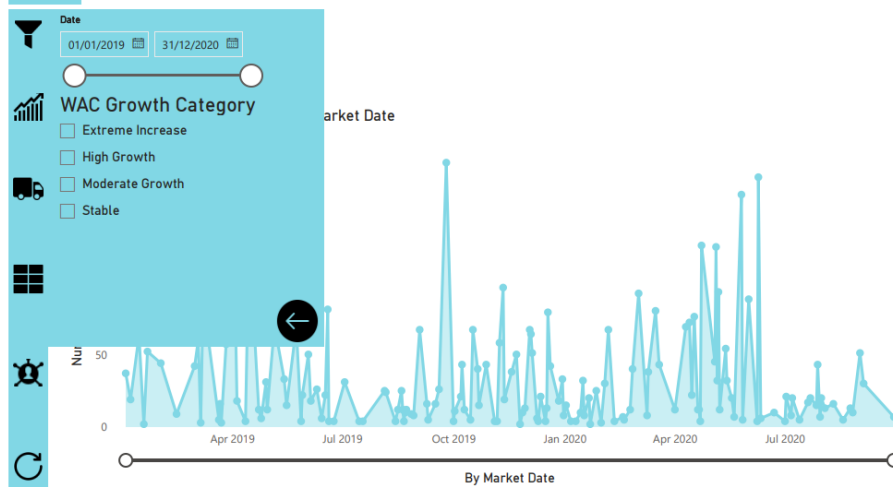
Average of WAC Ratio

(\$6.47M)

Sum of WAC Difference

The Insights dashboard zooms in on pricing volatility and outlier detection. With a volatility score of **368.68**, this view quantifies inconsistency across manufacturers, helping flag companies with erratic or unjustifiable pricing. A highlight on Lexicon Pharmaceuticals — with a WAC at introduction of \$2.2 million — draws attention to extreme pricing practices that may merit regulatory scrutiny. Additional visuals such as bar charts and category filters help isolate pricing strategies by growth rate. By combining WAC increase, doubling behaviour, and annual growth in a single view, this dashboard provides a risk profile.

Data Science Project: Pharmaceutical Projections



93

Manufacturers Name

440

Pharmaceutical Projects

21

Number of High Risk Drugs

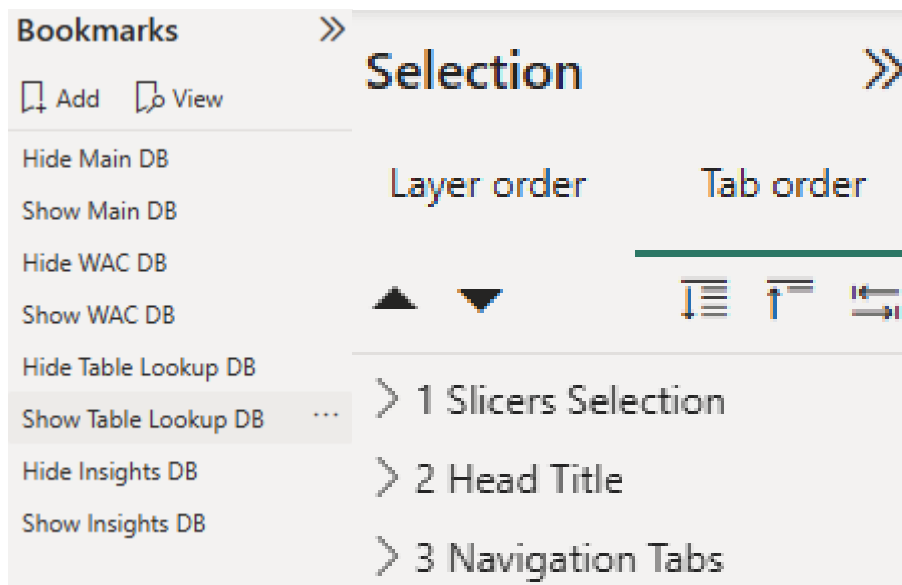
Date Slicer:

Positioned at the top of the slicer panel, the date range slider allows users to filter the dataset by the drug's market introduction date. This slicer dynamically adjusts the line chart visual below, enabling trend analysis over specific time periods between January 2019 and December 2020. It helps identify peaks in drug introductions and assess if any external events (e.g. policy changes or pandemics) correlate with changes in pharmaceutical activity.

WAC Growth Category Slicer:

Located below the date slicer, this categorical slicer allows users to filter the dataset based on the WAC (Wholesale Acquisition Cost) growth behaviour. Categories include "Stable," "Moderate Growth," "High Growth," and "Extreme Increase," based on custom DAX logic. This slicer enables users to isolate and compare pricing trends by growth severity, which is crucial for identifying outliers or unusually aggressive pricing strategies.

Slicer Filter Selection



I first designed the slicer pane on the side of the dashboard, placing the necessary filters (such as date, WAC growth category, and any other key slicers). I then created two bookmarks per dashboard section — one to show the slicers (Show Main DB, Show WAC DB, etc.) and one to hide them (Hide Main DB, Hide WAC DB, etc.). Each bookmark captures the visibility state of the slicer visuals and any grouped buttons or shapes used in the filter panel.

Using the Selection Pane, I organised the slicer visuals and background shapes into groups and toggled their visibility status (the eye icon) when saving each bookmark. Finally, I added buttons or icons that link to these bookmarks using the **Action** setting (set to “Bookmark”), enabling the slicer pane to slide in or out when clicked.

Conditional Formatting

Background color - Background color

×

Format style

Rules

Apply to

Values only

What field should we base this on?

Average of WAC Ratio

Summarization

Average

Rules

Reverse color order

+ New rule

If value	>=	0	Number	and	<	1	Number	then	Green	↑ ↓ ×
If value	>=	1	Number	and	<	2	Number	then	Light Green	↑ ↓ ×
If value	>=	2	Number	and	<	2.5	Number	then	Amber	↑ ↓ ×
If value	>=	2.5	Number	and	<	3.5	Number	then	Dark Red	↑ ↓ ×
If value	>=	3.5	Number	and	<=	100	Percent	then	Red	↑ ↓ ×

Manufacturer Name	Drug Creation by Manufacturer	Average of WAC Ratio	WAC Difference	High Risk Drug
American Regent	1	1.15	\$110.75	Normal
Amneal Pharmaceuticals	2	0.91	(\$4,685.14)	Normal
ANIP	7	1.00	(\$23,063.06)	Normal
Artesa Labs, LLC	1	0.06	(\$7,114.00)	Normal
Assertio Therapeutics, Inc.	2	278.07	\$1,235.71	Normal
AstraZeneca	9	0.07	(\$62,696.72)	Normal
Atland Pharmaceuticals	1	0.61	(\$385.00)	Normal
Avanir Pharmaceuticals	1	0.33	(\$1,539.97)	Normal
Total	440	6.00	(\$6,465,991.19)	High Risk

Conditional formatting was applied to the “Average of WAC Ratio” column to visually differentiate manufacturers based on their pricing behaviour. The WAC Ratio compares the current Wholesale Acquisition Cost (WAC) to the original introduction price, indicating how much the cost has changed over time. A ratio of 1 signifies no change, while higher values indicate price increases. This column was colour-coded to communicate these differences clearly, using a green-to-red gradient: green tones indicate stability or slight increase (0–1.5), amber tones denote moderate price jumps (2–2.5), and dark red highlights extreme increases (above 3.5), such as Asserto Therapeutics with a WAC ratio of 278.07.

The configuration for this formatting is defined through a rules-based system, shown in the second image. Ranges were manually segmented to reflect specific thresholds that

align with risk categories. For example, any value greater than or equal to 3.5 is flagged red, highlighting potentially unethical price inflation of the Manufacturers.

Tab Icons



“Filters”

This icon represents the control hub for all dashboard slicers. It allows users to toggle between filtering options such as date range and WAC growth categories, making it easier to explore subsets of the data interactively.



“Back”

Closes the Dashboard Slicers Selection.



“Information Analytics Tab”

This icon leads to a dashboard examining WAC distribution by manufacturer and the number of pharmaceutical products launched. It highlights pricing extremes and allows analysis of companies with consistent versus volatile practices.



“WAC Acquisition Tab”

This tab links to a dashboard visualising fluctuation in Wholesale Acquisition Cost over time. It helps stakeholders observe price spikes, market entry timelines, and seasonal pricing behaviours across manufacturers.



“Table Lookup Tab”

This icon opens a raw data-style view that supports deeper examination of drug records by manufacturer, ratio, and growth category. It's essential for validating figures behind the summary cards and visuals.



“Insights Tab”

This section provides data interpretation, commentary, and callouts. It’s where major outliers (e.g. Lexicon Pharmaceuticals) and trends (e.g. annualised growth volatility) are contextualised in paragraph format.



“Reset”

Remove all Selected Slicers from the visualisations.

Ethical and Policy Context: US Prescription Drug Pricing and WAC Transparency

To strengthen the real-world relevance of this project and achieve full alignment with Outcome 3, this section contextualises the findings within US healthcare policy, ethical frameworks, and ongoing legislative efforts aimed at improving transparency in prescription drug pricing.

US Pricing and Transparency Frameworks

The **Wholesale Acquisition Cost (WAC)** is a pricing metric used widely in the US pharmaceutical market, often representing the **baseline list price** set by manufacturers before rebates or discounts. However, the **lack of regulation around WAC increases** has led to public concern and legislative action [1].

Key US policy references:

- 21st Century Cures Act (2016) – introduced reporting obligations for drug manufacturers, including pricing transparency.
- Inflation Reduction Act (2022) – empowers Medicare to negotiate prices for select high-cost drugs and penalises price hikes above inflation rates [2].
- The identification of drugs with extreme WAC increases complements the CMS Medicare Drug Price Negotiation Program (2023), which targets high-cost medications for direct price negotiation, highlighting the potential for tools like WAC ratio and volatility scoring to help prioritise candidate drugs for review [3].

The findings of this project also resonate with the global discourse on medicine affordability, as highlighted in the **World Health Organization's Fair Pricing Forum** [4]. The forum underscored the need for greater transparency in how pharmaceutical prices are set, particularly in relation to research and development costs, market exclusivity, and patient access. Many of the price behaviours uncovered in this analysis—such as disproportionate **WAC increases** and **high WAC ratios**—reflect the same challenges identified by WHO, where opaque pricing models and limited oversight contribute to inequitable access to essential medicines.

Conclusion

This project provided a comprehensive examination of prescription drug pricing by analysing Wholesale Acquisition Cost (WAC) trends across multiple datasets, including historical and current drug reports. A robust Power Query data pipeline was created to merge, clean, and transform the data into a reliable format, fulfilling Outcome 1. Key operations included removing duplicates, filtering invalid entries, standardising column formats, and unifying multiple years of data via query merges. From this, a consolidated and structured model was established to support in-depth analysis and visualisation.

The data was further enriched with a range of custom DAX-calculated columns and measures, enabling more meaningful comparisons and trend evaluations. These included metrics such as WAC % Increase, Annualised Growth Rate, and WAC Ratio, as well as classifications for ‘High Risk’ drugs and ‘Growth Categories’. The results revealed critical insights: 21 drugs were flagged as high risk due to excessive price increases, with Lexicon Pharmaceuticals emerging as a key outlier, showing a WAC introduction price exceeding \$2.1M. Dashboards were designed to highlight trends by manufacturer, time, and volatility, supporting Outcome 2. Conditional formatting, slicers, and bookmarks enhanced interactivity, enabling dynamic exploration of the dataset.

While this project was anchored in data analytics, its implications extend into the domain of strategic healthcare insight. The analysis did more than surface pricing trends; it revealed patterns with direct relevance to decision-makers operating at the intersection of affordability, ethics, and policy. By examining WAC volatility across manufacturers and aligning the findings with recent legislative developments, including the Inflation Reduction Act, the project creates space for evidence-based dialogue around pricing accountability. Rather than prescribing solutions, the dashboards and risk classifications provide a framework for stakeholders to ask sharper questions—for example, which manufacturers warrant further scrutiny, and when does price escalation begin to exceed clinical value? This combination of analytical depth and broader contextual awareness reflects the increasing need for professionals who can translate data into policy-aligned, actionable intelligence. It represents a growing expectation of analysts working within healthcare and life sciences today.

References

1. American Medical Association (2020) *Code of Medical Ethics: Opinion 11.2.4 – Ethical prescription drug pricing*. Available at: <https://www.ama-assn.org> (Accessed: 3 August 2025).
2. U.S. Department of Health and Human Services (HHS) (2022) *Inflation Reduction Act – Lowering Prescription Drug Costs*. Available at: <https://www.hhs.gov/inflation-reduction-act> (Accessed: 3 August 2025).

3. Centers for Medicare & Medicaid Services (2023) *Medicare Drug Price Negotiation Program Guidance*. Available at: <https://www.cms.gov> (Accessed: 3 August 2025).
4. World Health Organization (2021) *Fair Pricing Forum: Outcome Report*. Geneva: WHO. Available at: <https://www.who.int> (Accessed: 3 August 2025).