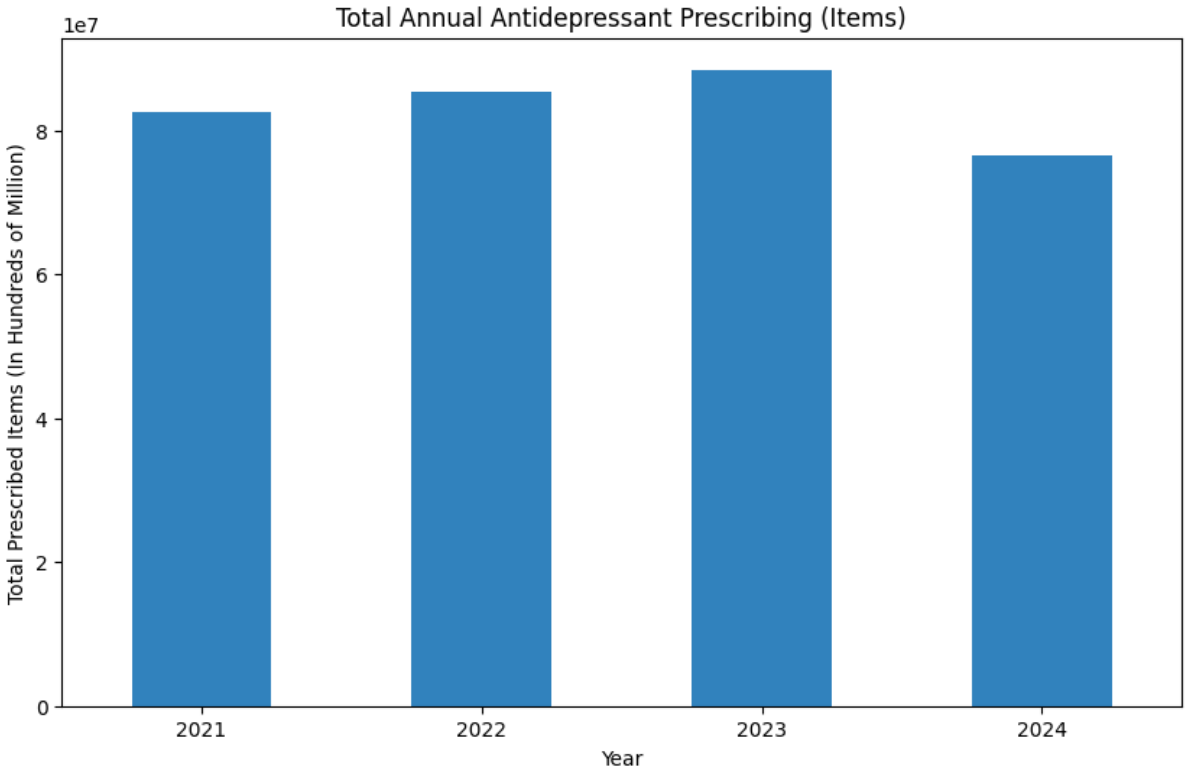
Longitudinal Analysis of Antidepressant Prescribing

National and Regional Overview

1. National Trends

Total Annual Antidepressant Prescribing (Items)

The bar chart below illustrates the total number of antidepressant items prescribed annually from 2021 to 2024 at the national level:

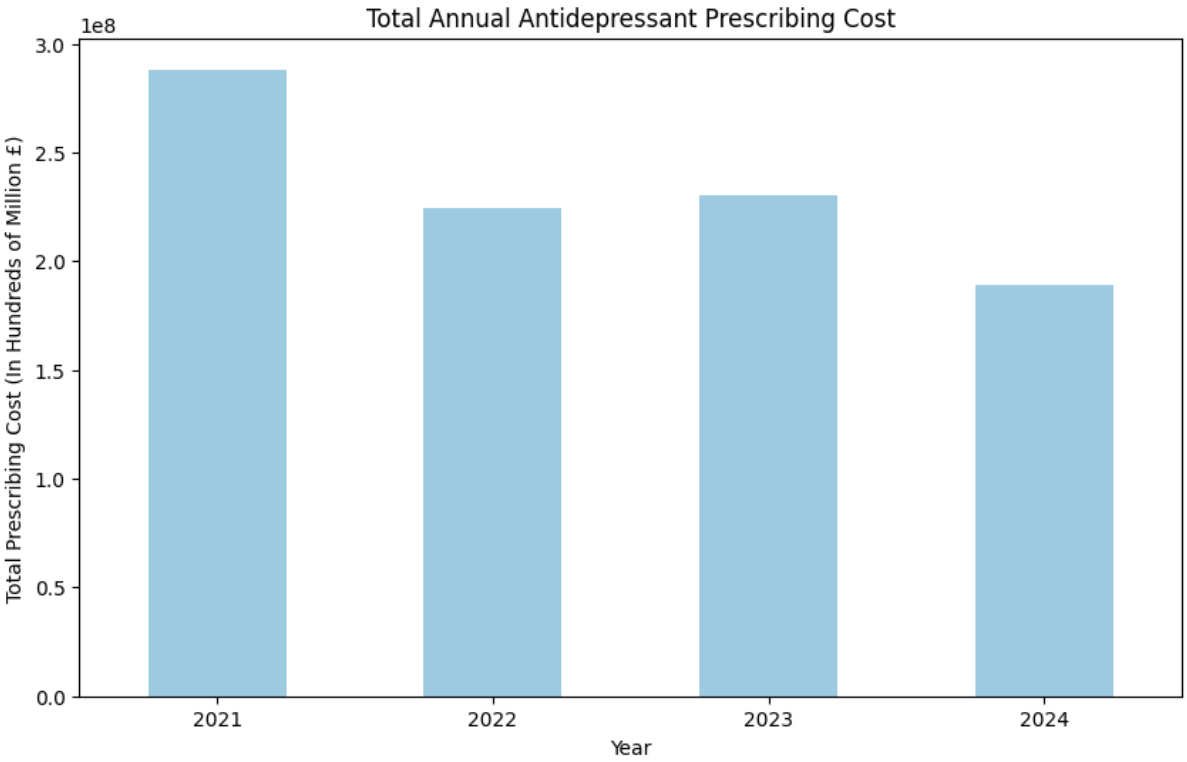


- 2021 – Approximately 83 million items were prescribed.
- 2022 – A slight increase to around 86 million items.
- 2023 – The highest prescribing volume over the period, peaking at around 89 million items.
- 2024 – A notable decrease to around 78 million items.

Trend Summary:
Prescribing volumes increased steadily from 2021 to 2023 before a noticeable drop in 2024.

Total Annual Antidepressant Prescribing Cost

The following bar chart shows the total annual prescribing cost over the same period:



- **2021** – The highest total cost at approximately **£290 million**.
- **2022** – A sharp decline to around **£220 million**.
- **2023** – A modest recovery to **£230 million**.
- **2024** – A further decline to around **£210 million**.

Trend Summary:
Total prescribing costs declined more sharply than prescribing volumes, suggesting a reduction in unit costs or shifts in prescribing behaviour.

2. Regional Trends

Total Prescribed Items by Region

Region	2021	2022	2023	2024
East of England	9,663,288	9,887,496	10,167,005	8,713,529
London	8,599,587	9,255,871	9,758,068	8,282,759
Midlands	15,375,576	16,066,881	16,751,001	14,476,095
North East and Yorkshire	17,676,819	18,255,050	19,026,635	17,131,959
North West	12,417,071	12,779,874	13,210,529	11,378,542
South East	10,596,746	10,804,393	11,045,891	9,420,102
South West	8,291,455	8,355,297	8,510,674	7,179,388

Key Insights:

- **North East and Yorkshire** consistently had the highest prescribing volume across the four years.
- All regions saw a reduction in prescribing volume in **2024** after steady increases in previous years.
- The **Midlands** and **North East and Yorkshire** regions had the highest prescribing volumes.

Total Prescribing Cost by Region

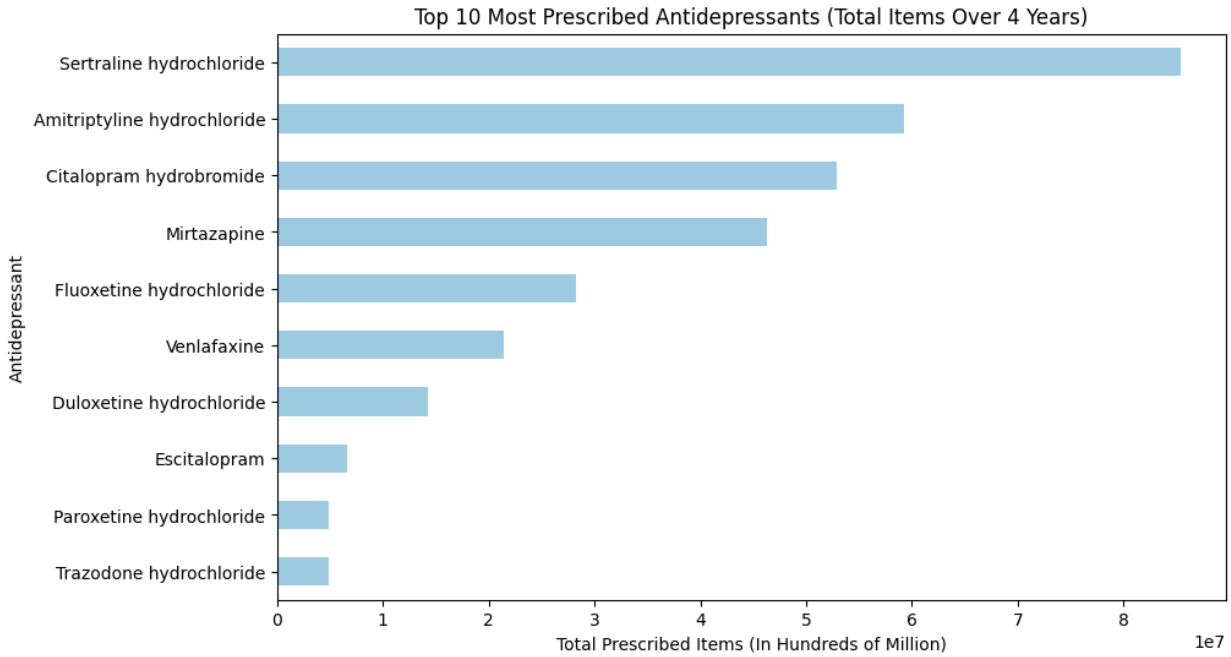
Region	2021	2022	2023	2024
East of England	£32.55M	£25.65M	£26.10M	£21.56M
London	£31.64M	£25.26M	£26.26M	£21.34M
Midlands	£54.01M	£42.22M	£43.73M	£36.14M
North East and Yorkshire	£54.22M	£41.63M	£43.12M	£36.54M
North West	£41.95M	£31.65M	£32.22M	£26.36M
South East	£44.23M	£35.26M	£35.32M	£28.69M
South West	£29.50M	£22.98M	£23.26M	£18.57M

Key Insights:

- **Midlands** and **North East and Yorkshire** had the highest total prescribing costs.
- Costs decreased sharply in **2022** and remained lower than **2021** levels across all regions.
- The **North West** experienced a significant cost reduction in **2024**.

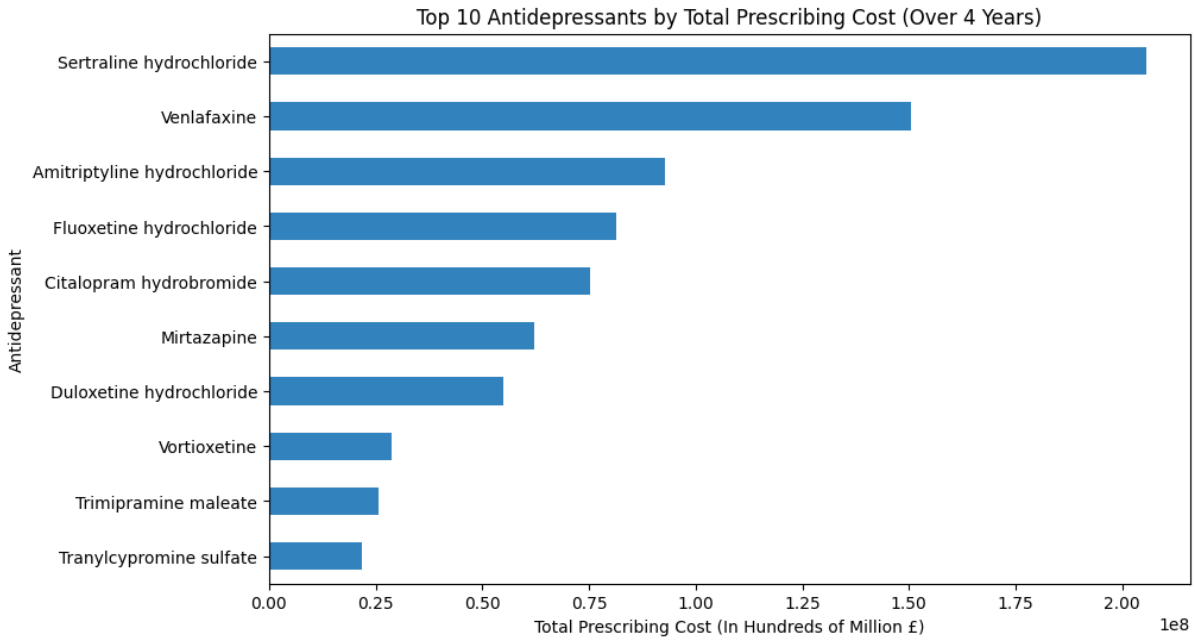
3. Top 10 Antidepressants (Prescribed Items vs Total Cost)

Top 10 Most Prescribed Antidepressants



- **Sertraline hydrochloride** was the most prescribed antidepressant over the period.
- Other highly prescribed drugs included **Amitriptyline hydrochloride**, **Citalopram hydrobromide**, and **Mirtazapine**.
- **Venlafaxine** was prescribed less frequently but appears among the top in total cost.

Top 10 Antidepressants by Total Prescribing Cost



- **Sertraline hydrochloride** was also the most expensive antidepressant, with total costs exceeding **£200 million** over 4 years.
- **Venlafaxine** ranked second in total cost but lower in volume, indicating a higher cost per item.
- **Amitriptyline hydrochloride** and **Fluoxetine hydrochloride** appear high on both lists, suggesting consistent prescribing and cost patterns.

Key Differences:

- Some drugs with high prescribing volume (e.g., **Citalopram hydrobromide**) did not have equally high costs.
- **Venlafaxine** had a relatively low prescribing volume but ranked second in total cost, indicating a higher unit price.

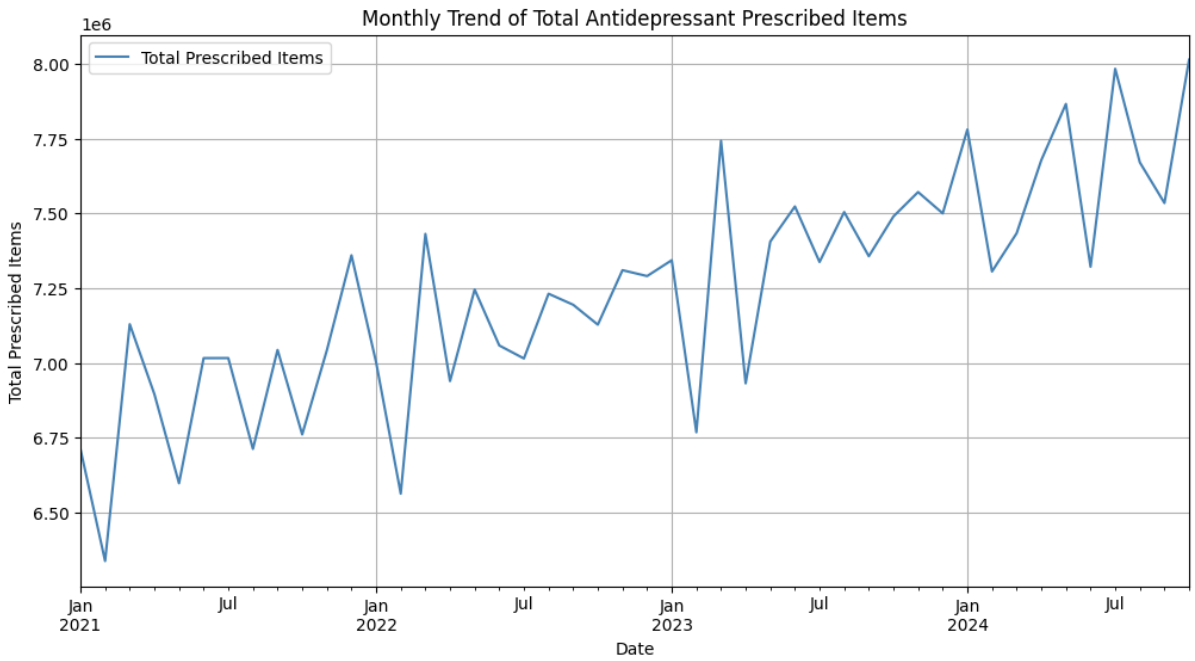
Summary – Part One

1. Prescribing volume increased steadily from 2021 to 2023, followed by a notable drop in 2024.
2. Total costs dropped sharply after 2021 and remained lower despite increased prescribing volume in 2023.
3. Regional variation showed the Midlands and North East and Yorkshire having the highest prescribing levels and costs.
4. Differences between prescribing volume and cost reflect differences in drug pricing and prescribing patterns — Venlafaxine stands out for its high cost despite lower prescribing volume.

Longitudinal Analysis

1. Monthly Trend for Total Antidepressant Items and Prescribing Cost

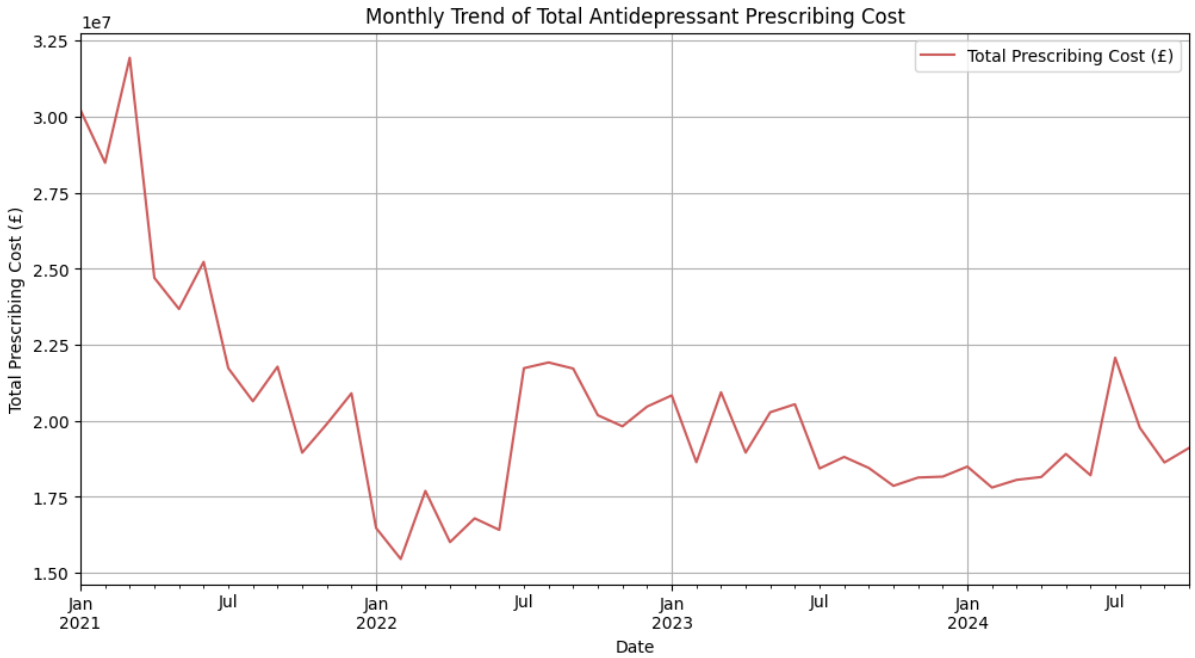
The monthly trends for total antidepressant prescribing volume and cost from January 2021 to July 2024 reveal contrasting patterns:



Prescribed Items Trend

- The total number of antidepressant items prescribed shows a steady upward trend over time.

- Monthly fluctuations are visible, but the overall trajectory indicates a rising demand for antidepressants.
- The increase is particularly noticeable toward the end of the period (2024), where prescribing volumes reach their highest levels.

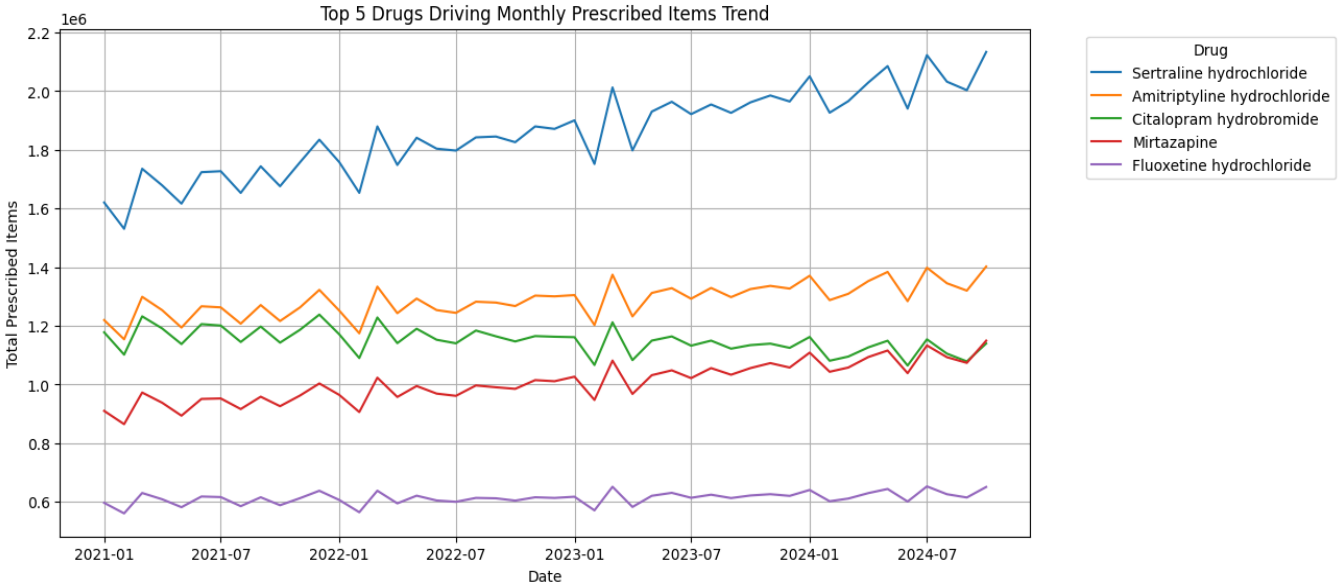


Prescribing Cost Trend

- In contrast to the rising volume, the total prescribing cost shows a sharp decline from early 2021 to mid-2022, falling from approximately £32.5 million to £17.5 million.
- From mid-2022 onwards, the cost stabilizes and fluctuates between £17.5 million and £20 million.
- The stability in costs despite increasing prescription volumes suggests that the unit price per prescription may have decreased, possibly due to:
    - Wider use of cheaper generic drugs
    - Cost-control measures
    - Price renegotiations with pharmaceutical companies

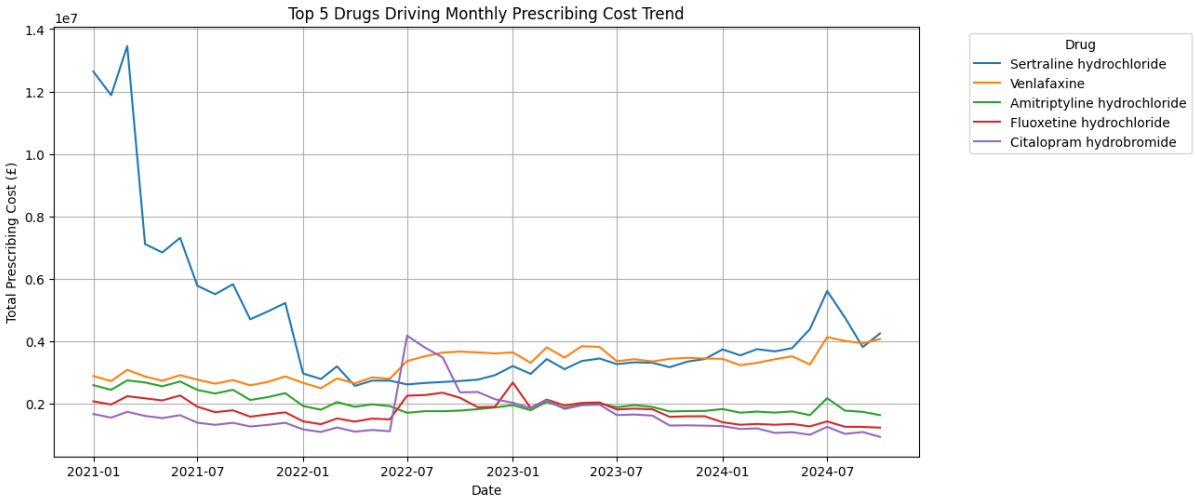
2. Antidepressant Drugs Driving Monthly Trends

Analysis of the top 5 antidepressant drugs provides further insights into the factors influencing these prescribing patterns:



Top 5 Drugs Driving Monthly Prescribed Items Trend:

- **Sertraline hydrochloride** consistently leads in prescribing volume, indicating its broad clinical use and high patient demand.
- **Amitriptyline hydrochloride** and **Citalopram hydrobromide** follow with relatively stable but upward trends.
- **Mirtazapine** and **Fluoxetine hydrochloride** show smaller but steady increases over time.
- Monthly fluctuations suggest that prescribing patterns may be influenced by seasonal trends, clinical guidelines, or patient preferences.



Top 5 Drugs Driving Monthly Prescribing Cost Trend:

- **Sertraline hydrochloride** is also the leading contributor to costs but shows a decline in mid-2021, followed by stabilization and slight upward movement in 2024.
- **Venlafaxine** maintains a stable cost trend, reflecting consistent usage and pricing.
- **Amitriptyline hydrochloride** and **Fluoxetine hydrochloride** exhibit minor fluctuations, with costs remaining relatively low.
- **Citalopram hydrobromide** shows low but stable costs, indicating consistent prescribing patterns without major price shifts.

3. Explanation of Volume-Cost Divergence

The divergence between rising prescribing volumes and declining/stable costs points to several possible factors:

- Increased use of **generic antidepressants** at lower costs.
- **Pricing negotiations** or policy changes aimed at reducing the cost per unit.
- Shifts in clinical guidelines leading to higher prescribing rates for specific, lower-cost drugs.
- Changes in drug availability or manufacturing costs.

Conclusion

The longitudinal analysis reveals a complex but insightful picture of antidepressant prescribing patterns:

- The increasing trend in prescription volumes highlights growing patient demand or wider recognition of mental health issues.
- The decline and stabilization in costs, despite higher volumes, suggest that cost-control measures and the use of generics are having a tangible effect.
- Sertraline hydrochloride emerges as the key driver behind both volume and cost trends, reinforcing its central role in antidepressant treatment strategies.