

Determine Trend In Hospital Component Wastage and Issues

Victor Omoboye
Data Analyst | Data Scientist

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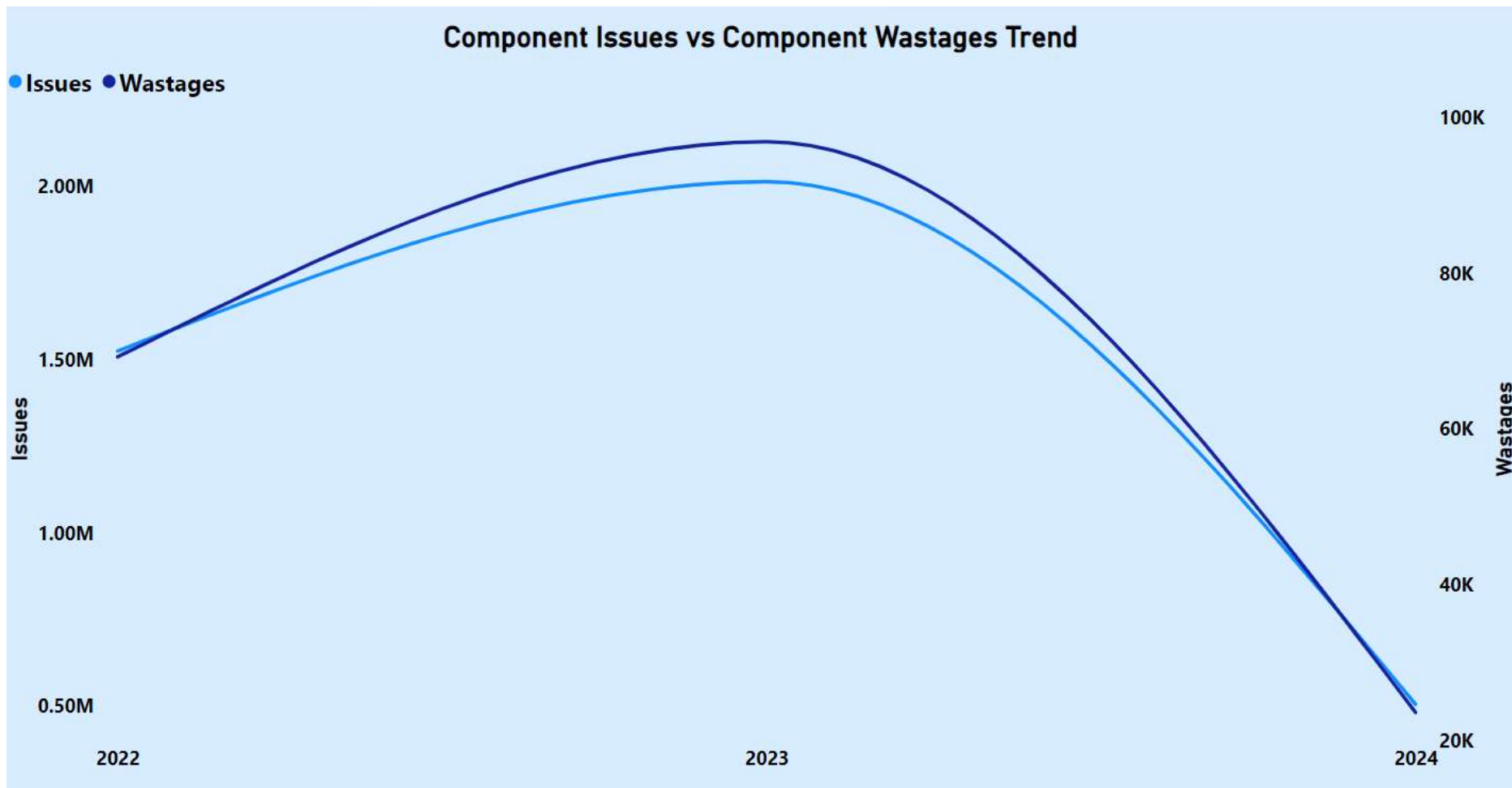
Introduction

- The NHS Blood Stocks Management Scheme (BSMS) focuses on improving blood inventory management across the blood supply chain.



- Data analyzed includes component issues and wastage for **RBC, Platelets, and Frozen Plasma**.
- **Objective:** To identify trends and correlations to optimize inventory management and reduce wastage.

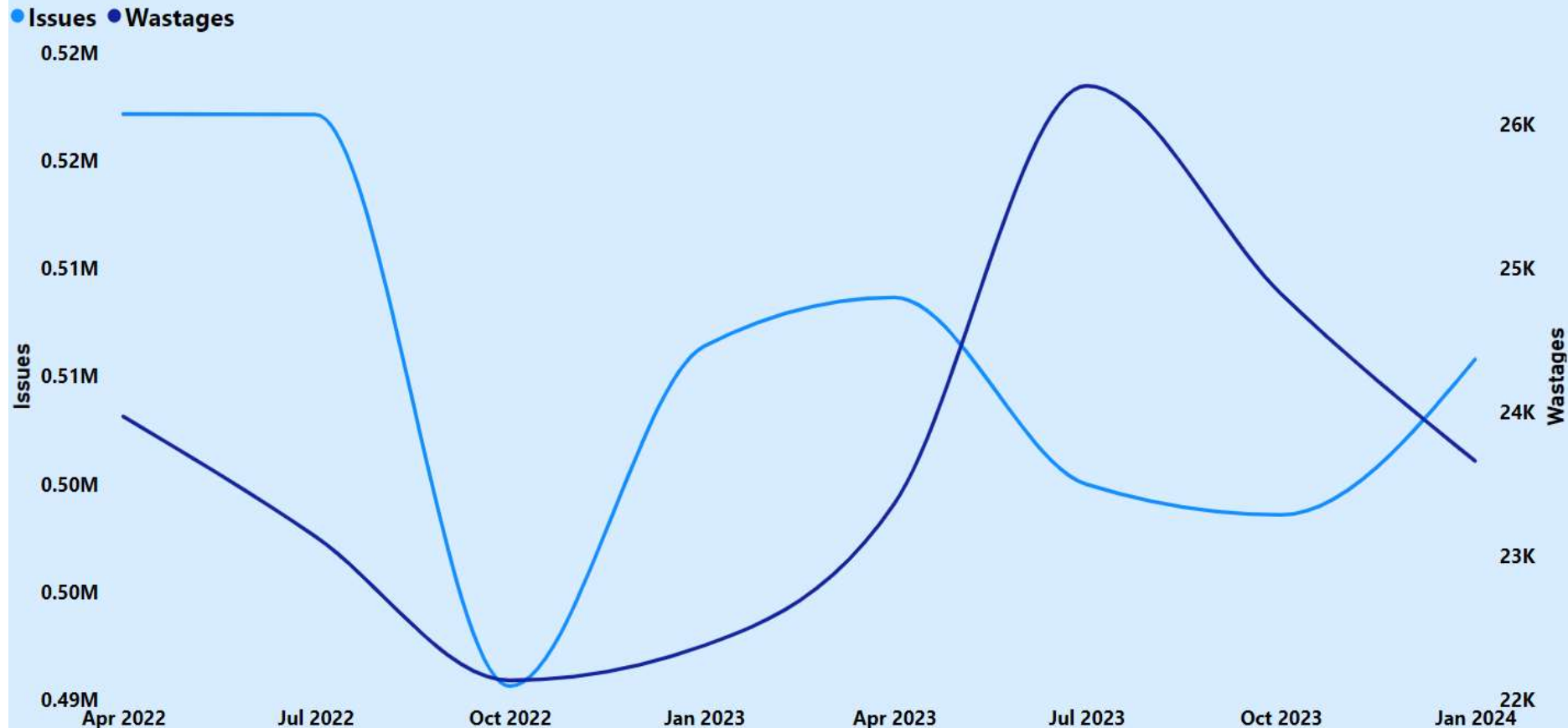
Key Insights



- Yearly trend reveal a strong positive correlation between component issues and wastage, where higher issues correspond to increased wastage.
- 2023 recorded the highest levels of both issues and wastage.

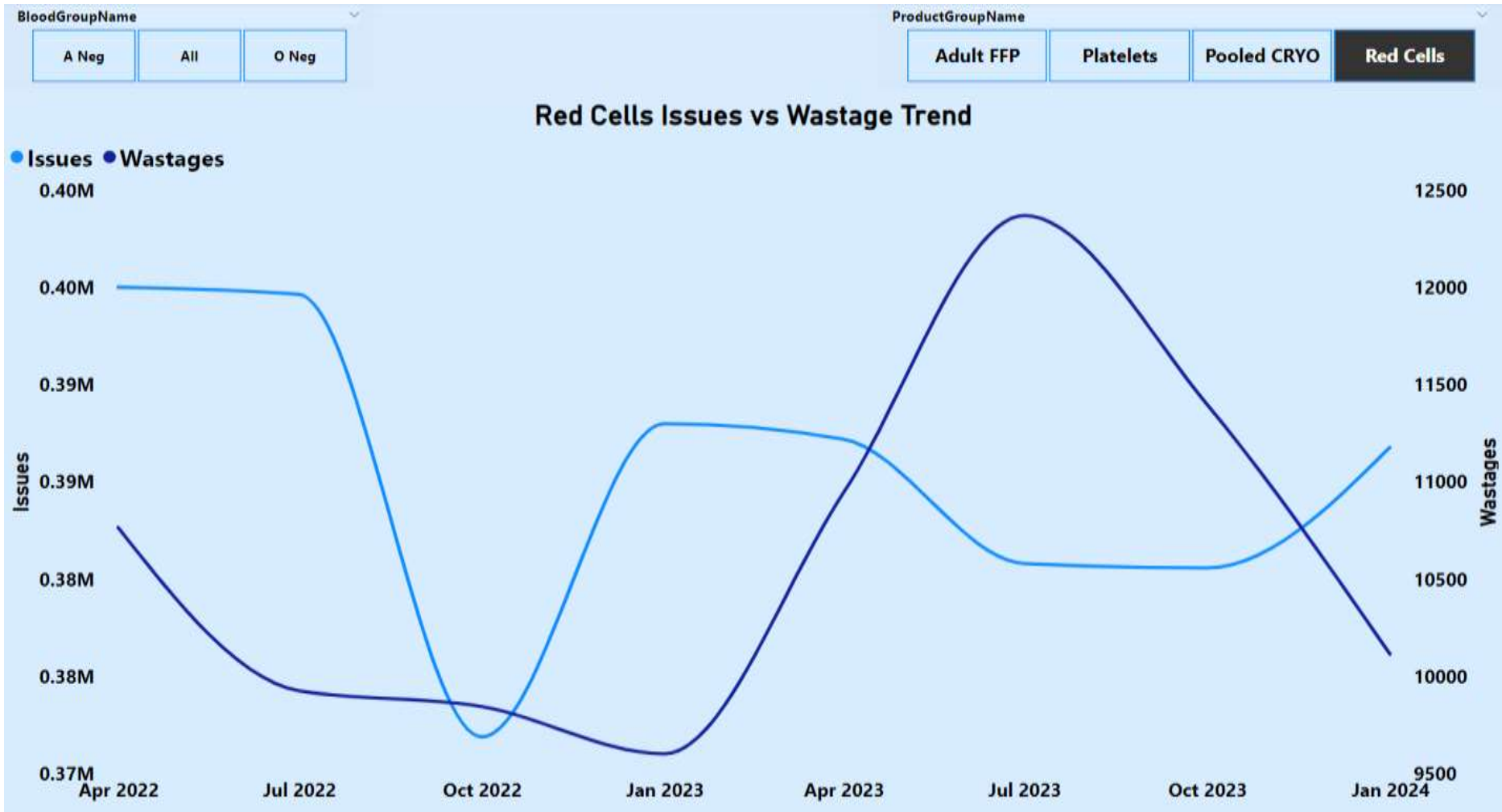
Key Insights

Component Issues vs Component Wastages Trend



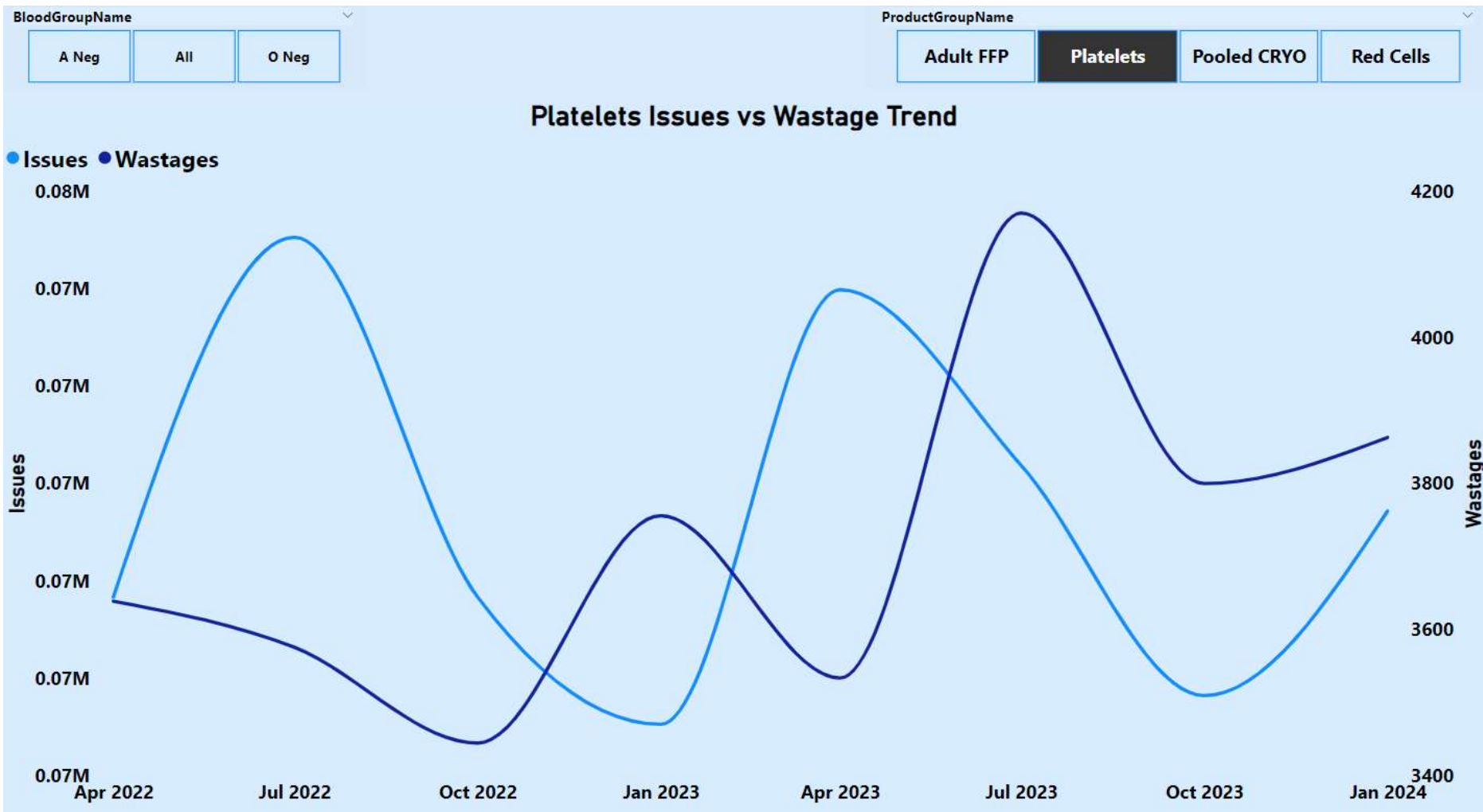
- Seasonal and quarterly trends revealed significant fluctuations in issues and wastage.

Key Insights



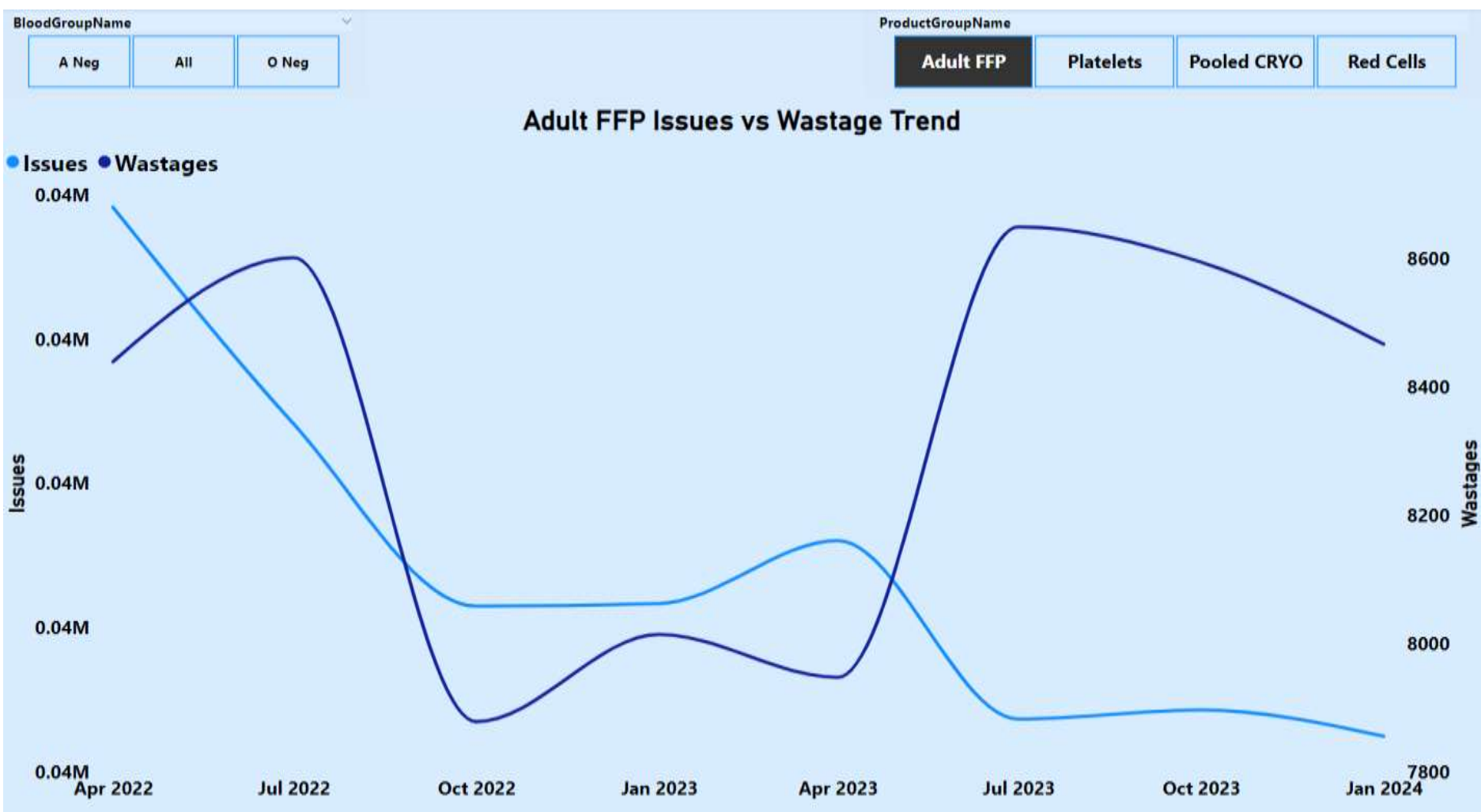
- Issues declined in Q3 2022 before surging in Q4 2022. Wastage peaked between Q1 and Q2 2023 as issues experienced a slight decline in Q2.

Key Insights



- Platelets: Wastage trended upward from Q4 2022 to Q4 2023, while issues fluctuated across the quarters.

Key Insights



- Adult FFP: Wastage surged in Q2 2023, while issues displayed a downtrend throughout the quarters.

Key Insights

BloodGroupName

A Neg

All

O Neg

ProductGroupName

Adult FFP

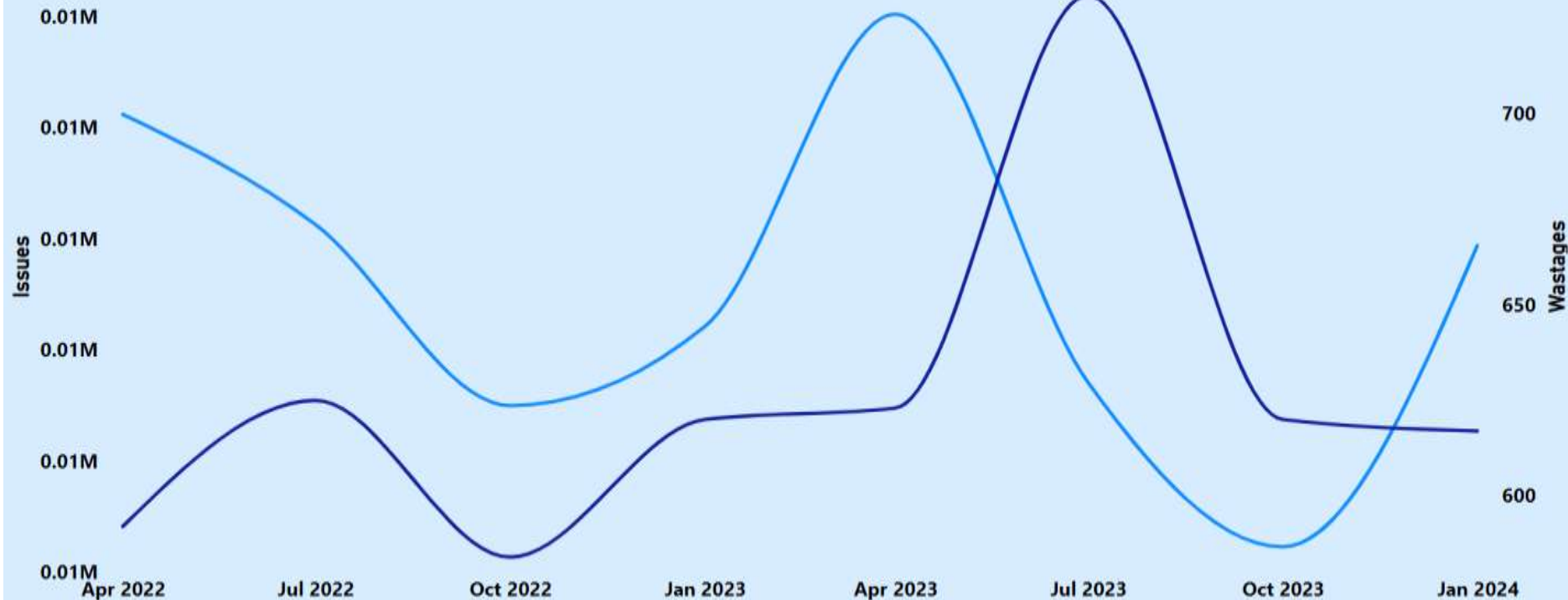
Platelets

Pooled CRYO

Red Cells

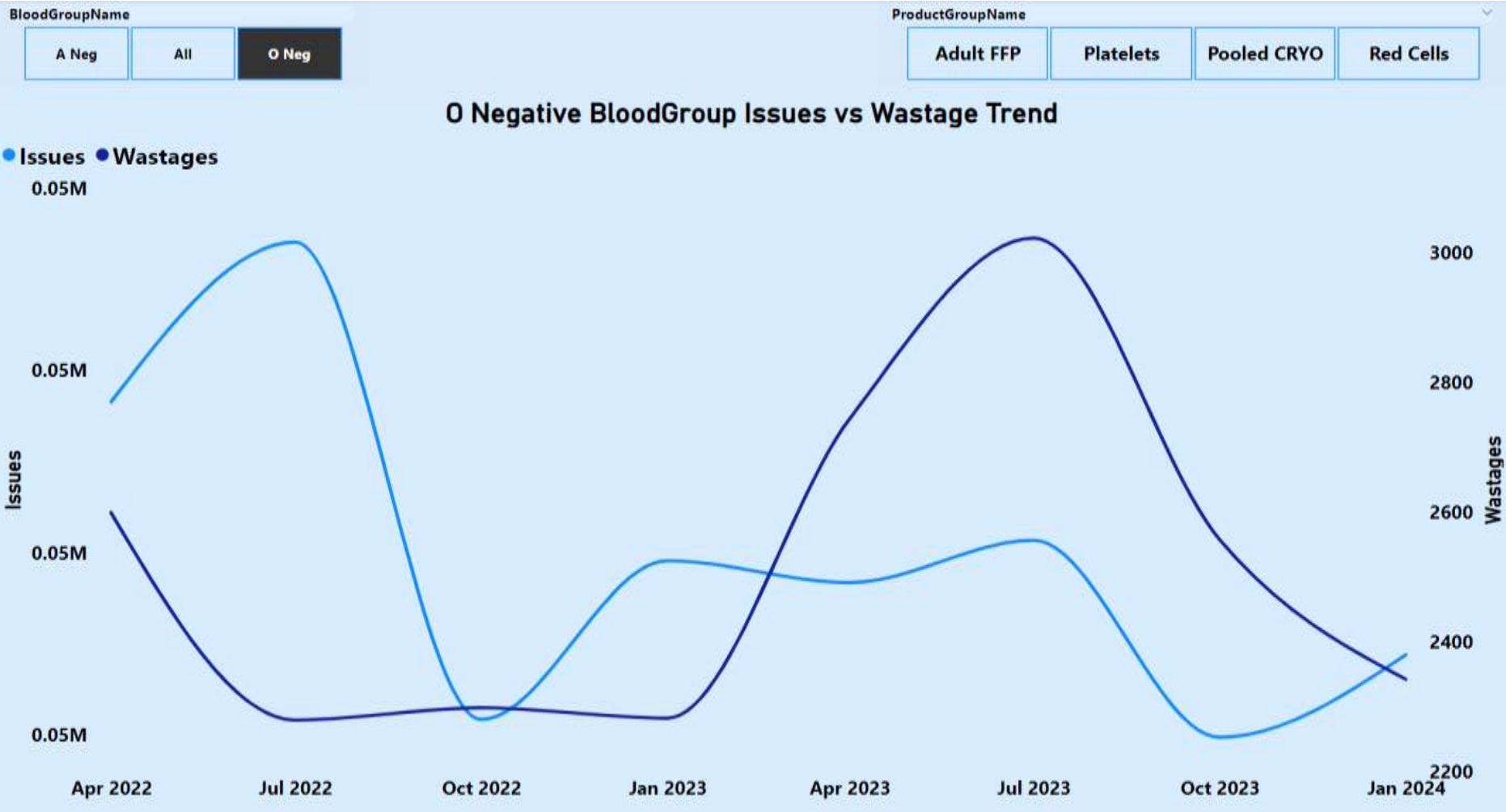
A Negative BloodGroup Issues vs Wastage Trend

● Issues ● Wastages



- A Negative Blood Group Issues peaked in Q1 2023 and declined through Q2 and Q3, while wastage surged in Q2 before declining in Q3.

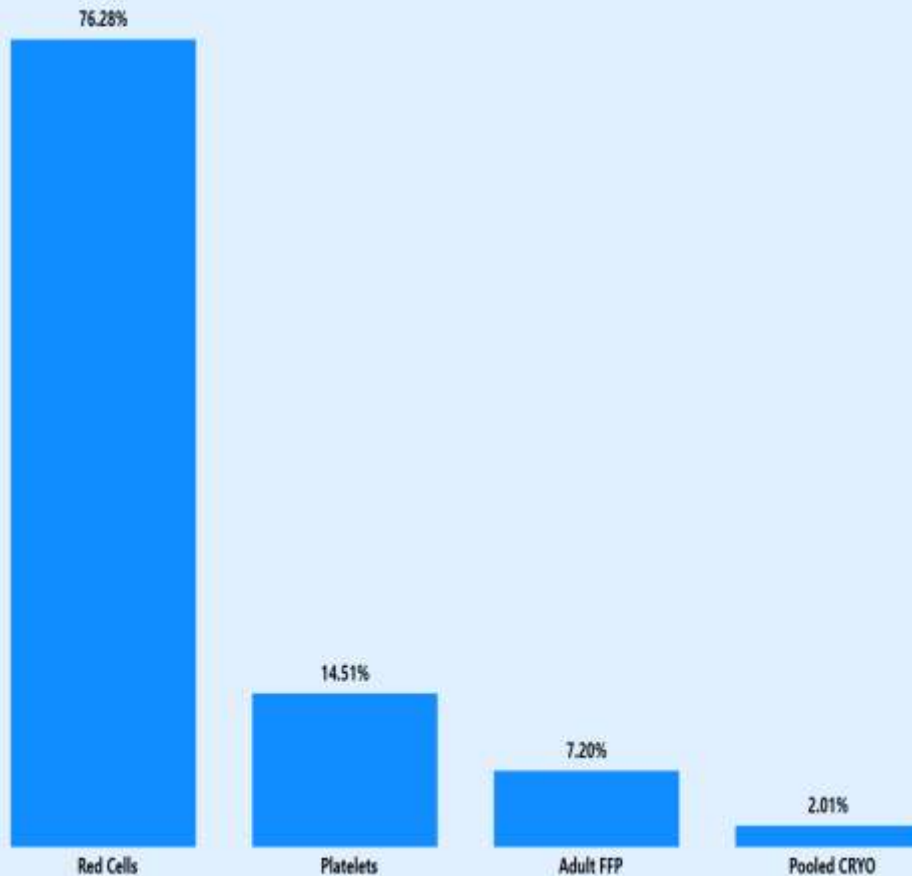
Key Insights



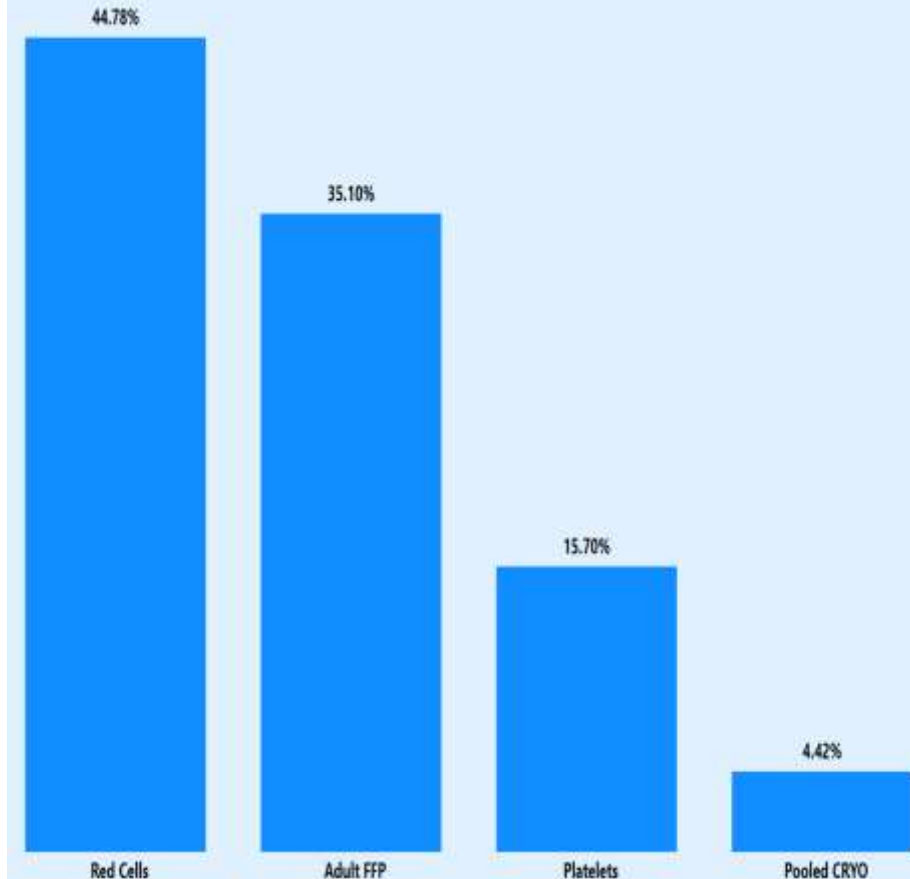
- O Negative Blood Group Issues declined in Q3 2022, while wastage peaked in Q1–Q2 2023 before declining in Q3.

Key Insights

Issue Distribution by ProductGroupName



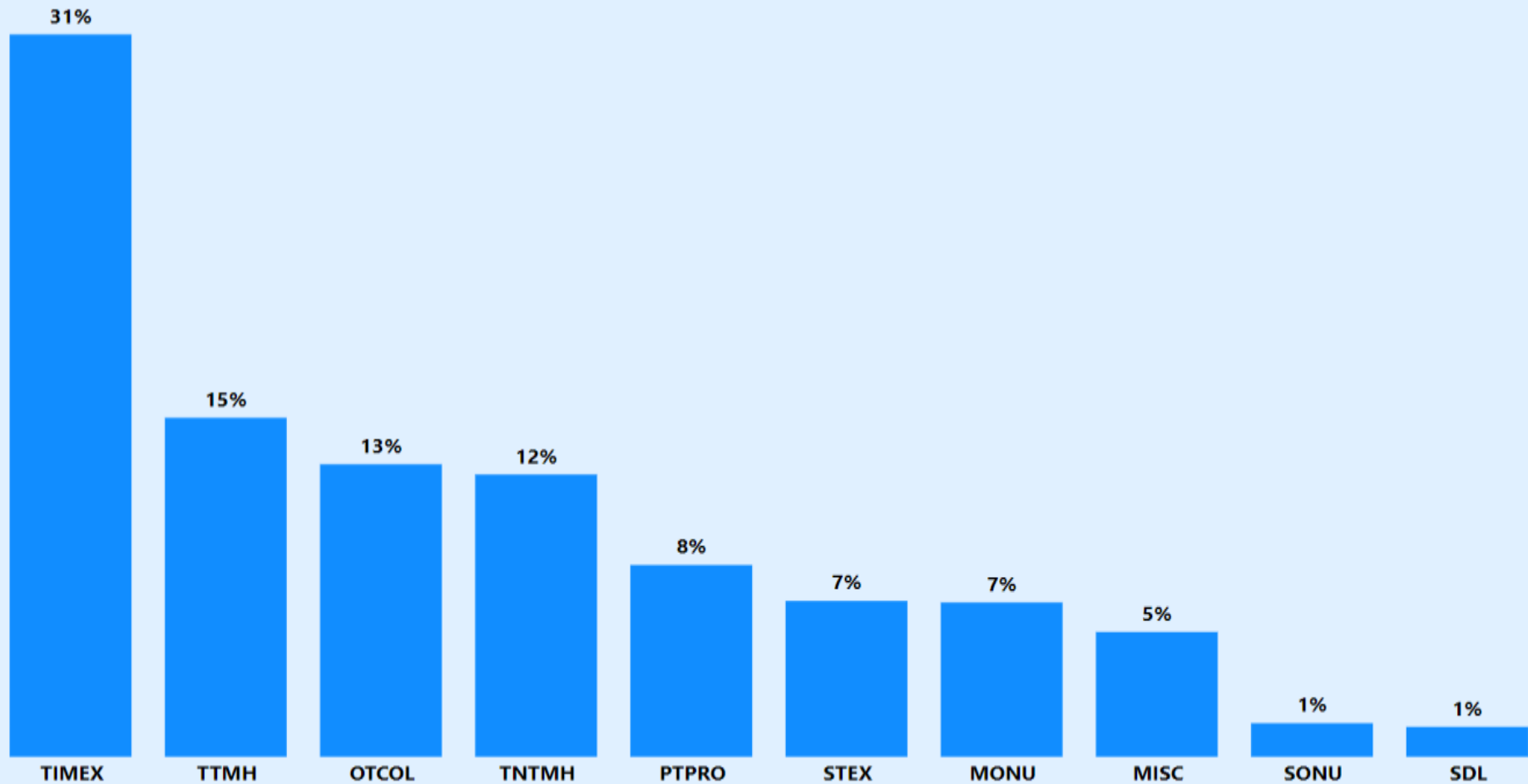
Wastage Distribution by ProductGroupName



- Red Cells have the highest units in both Issues (76.28%) and Wastage (44.78%)
- Platelets and Adult FFP follow in respective distributions, with Platelets having more Issues and Adult FFP having more Wastage.

Key Insights

Top 10 Wastage Distribution by WastageCode



- **Root Cause of Wastage: Time Expiry (TIMEX) is the leading cause, accounting for 31% of wastage units, followed by TTMH at 15%.**

Conclusion

Summary:

- Analysis reveals critical trends in component issues and wastage.
- Recommendations (Check Appendix pages) aim to enhance inventory efficiency, reduce wastage, and improve overall supply chain performance.
- A data-driven approach will enable BSMS to optimize resources and achieve its core purpose: saving and improving lives.

Any Questions?

Thank you for listening.

Any Questions?

Appendix



Blood Stocks
Management Scheme

- **Business Understanding:** Defined project objectives to analyze trends in hospital component issues and wastage.
- **Data Understanding:** Explored the dataset to identify key features and relationships for analysis.
- **ETL Process:** Extracted, transformed, and loaded the data into Power BI for compatibility and analysis.
- **Data Modeling:** Created relationships between fact and dimension tables for structured analysis.
- **Analysis & Visualization:** Used Power BI to generate trendline charts and visualizations, uncovering correlations and patterns in issues and wastage.

Recommendations

- **Target Top Wastage Causes:** Focus on minimizing the top 10 wastage drivers, especially Time Expiry (TIMEX), which contributes the most to wastage.
- **Optimize RBC Management:** Monitor and manage Red Blood Cell (RBC) stocks carefully due to their consistently high issues and wastage volumes.
- **Adjust for Seasonal Trends:** Align inventory strategies with seasonal and quarterly trends to prevent overstocking during low-demand periods and shortages during peak wastage times (e.g., Q2–Q3 2023).
- **Blood Group-Specific Allocation:** Tailor inventory levels for key blood groups like O Negative and A Negative to address fluctuations in issues and wastage effectively.
- **Enhanced Monitoring of Platelets and Frozen Components:** Closely track and address rising wastage trends in Platelets and Adult FFP, particularly the surges observed in Q1–Q3 2023.