

HealthCare Funding Analysis

Insights from 2008-2024 Research Funding Data

By
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Introduction

This project details the creation of an extensive Tableau dashboard to analyze healthcare funding for various research and disease areas from 2008 to 2024. Using a comprehensive dataset that also includes 2019 US mortality and prevalence data, this analysis aims to identify key funding trends, compare resource allocation across different categories, and explore the relationship between funding and health outcomes.

Methodologies & Approaches

To meet the project's objectives, a structured, multi-step methodology was employed:

- Data Preparation: The process began with cleaning and preprocessing the provided dataset to ensure accuracy and usability. The data was then imported into Tableau , and its structure was analyzed to understand relationships between funding, mortality, and prevalence data.
- Visualization Creation: A wide range of visualizations were systematically built in Tableau to answer the specific questions outlined in the project guide. This included:

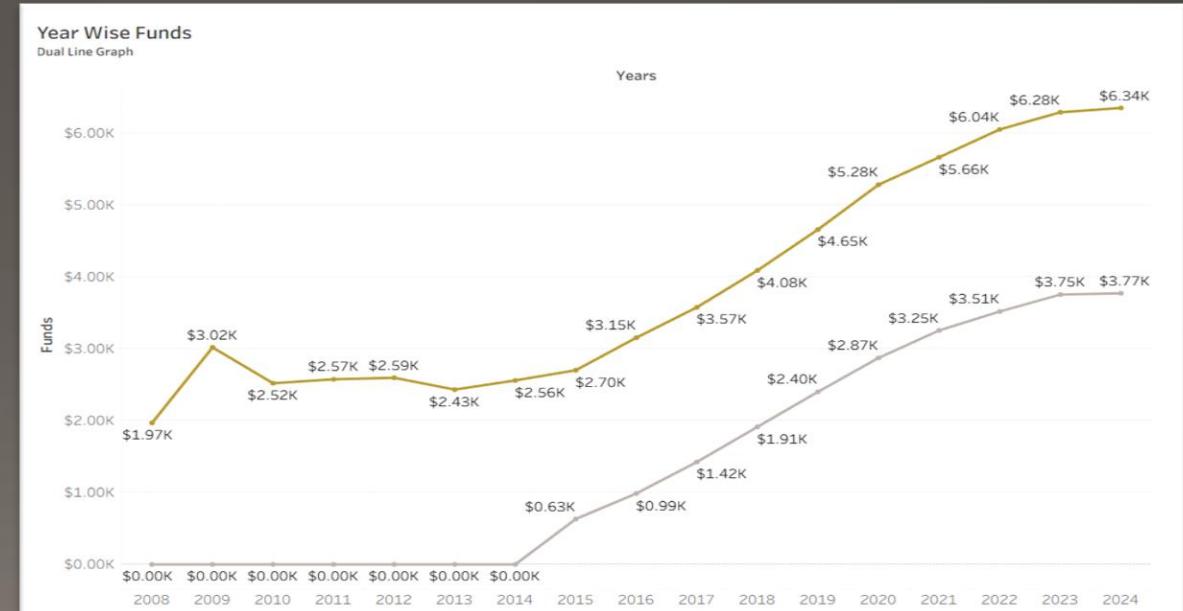
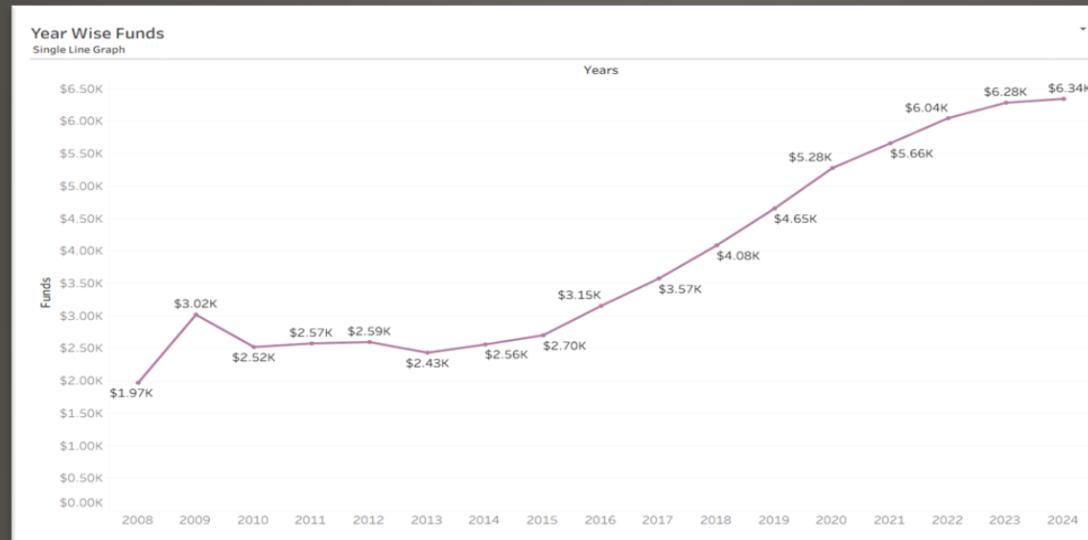
Methodologies & Approaches

- **Line Graphs** to analyze funding trends over time.
- **Bar Charts** (horizontal, vertical, and stacked) to compare funding between different research areas.
- **Scatter Plots** to investigate the correlation between funding and health outcomes like mortality.
- **Advanced Charts** like Tree Maps , Heat Maps , and Whisker Plots to visualize hierarchical data and distributions.

Key Findings

Funding Trends

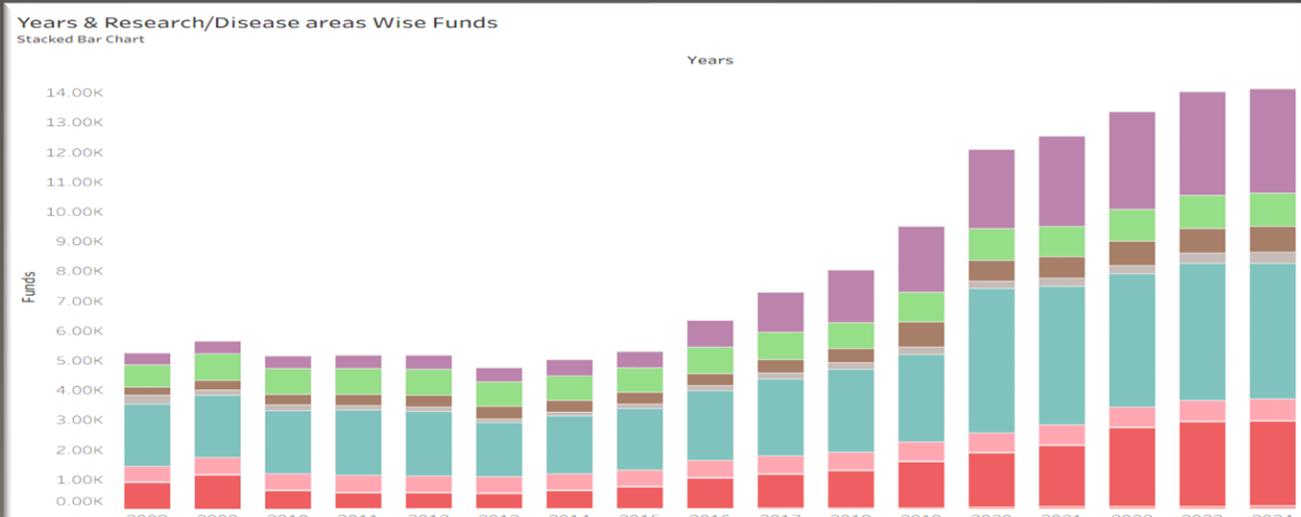
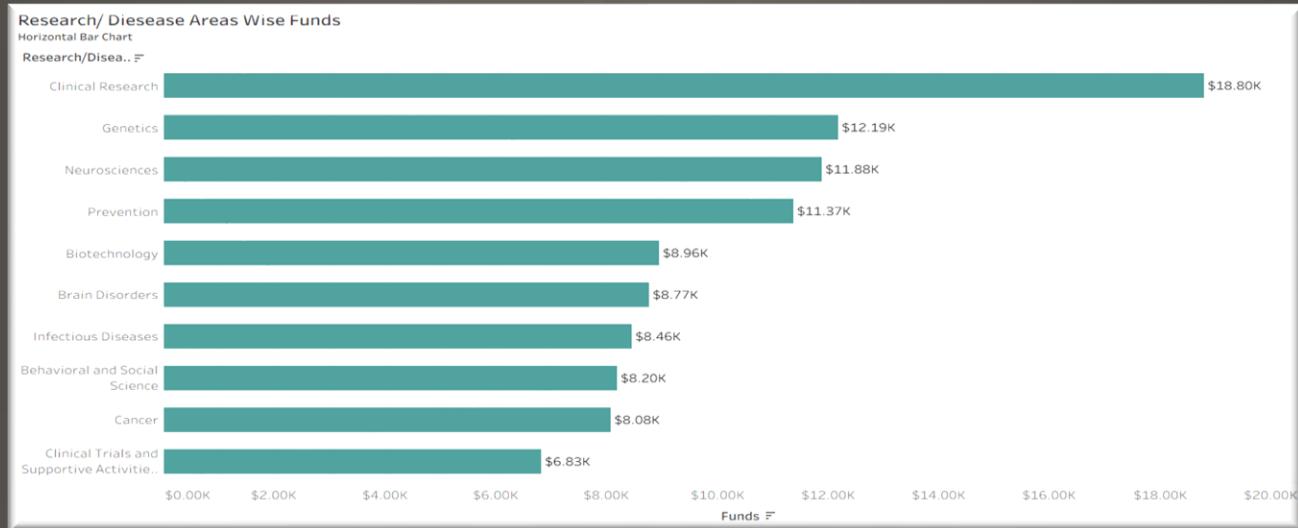
- Funding for areas like 'Alzheimer's Disease' and 'Aging' shows strong, consistent growth over the last decade.
- Other areas, like 'Agent Orange & Dioxin,' have received minimal and declining funding.



Key Findings

Year-by-Year Comparison

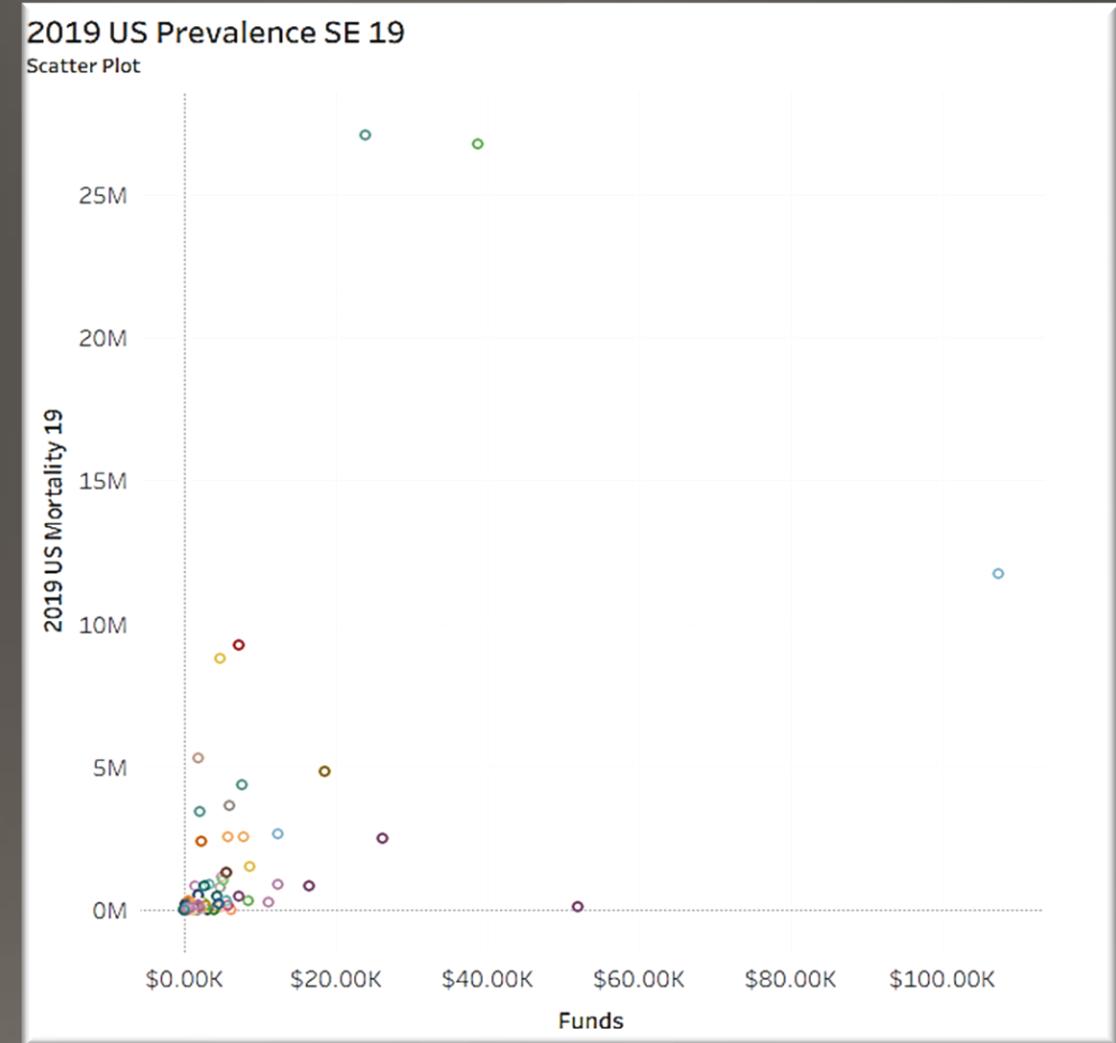
- The bar chart for 2023 shows 'Genetics' and 'Neurosciences' are the two most-funded categories.
- Stacked bars reveal how the total funding portfolio has grown, driven primarily by these top-tier areas.



Key Findings

Funding vs. Health Outcomes

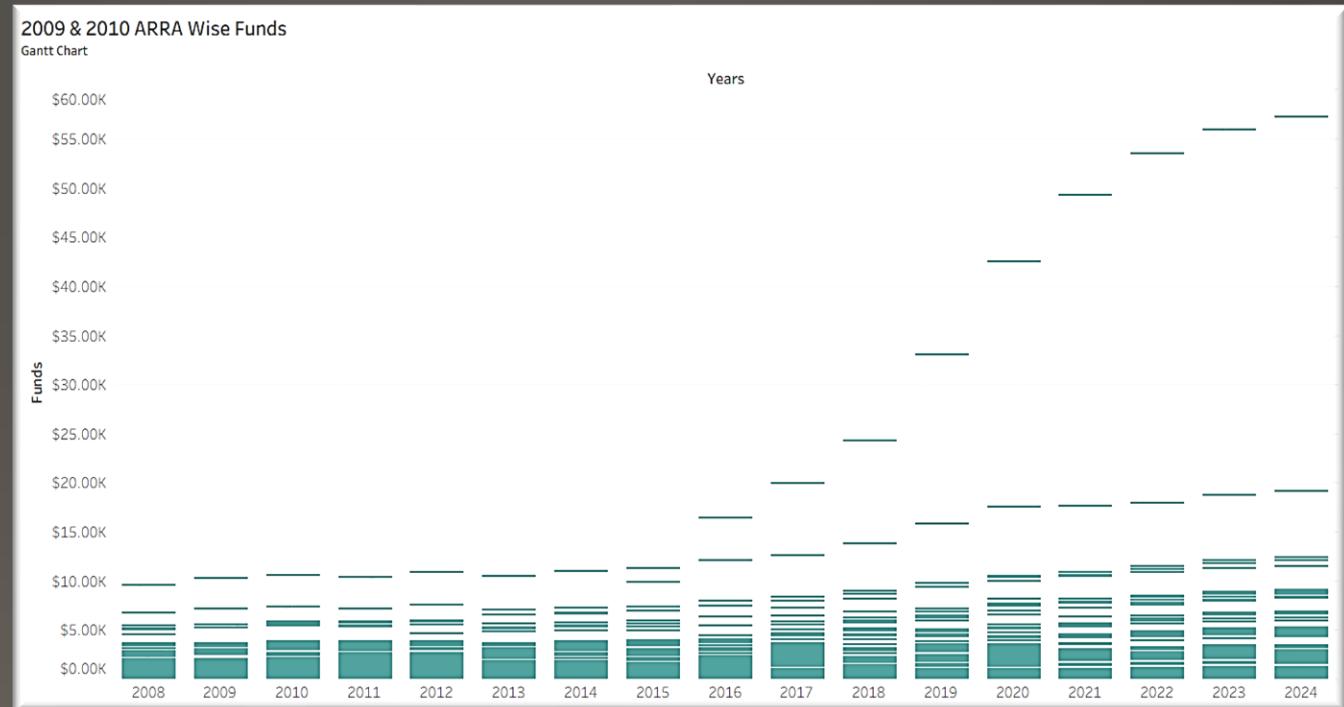
- The scatter plot shows a very weak or no correlation between 2019 funding levels and 2019 mortality rates.
- This suggests that funding is not solely allocated based on mortality, and other factors (like prevalence or research opportunities) are at play



Key Findings

ARRA Funding Impact

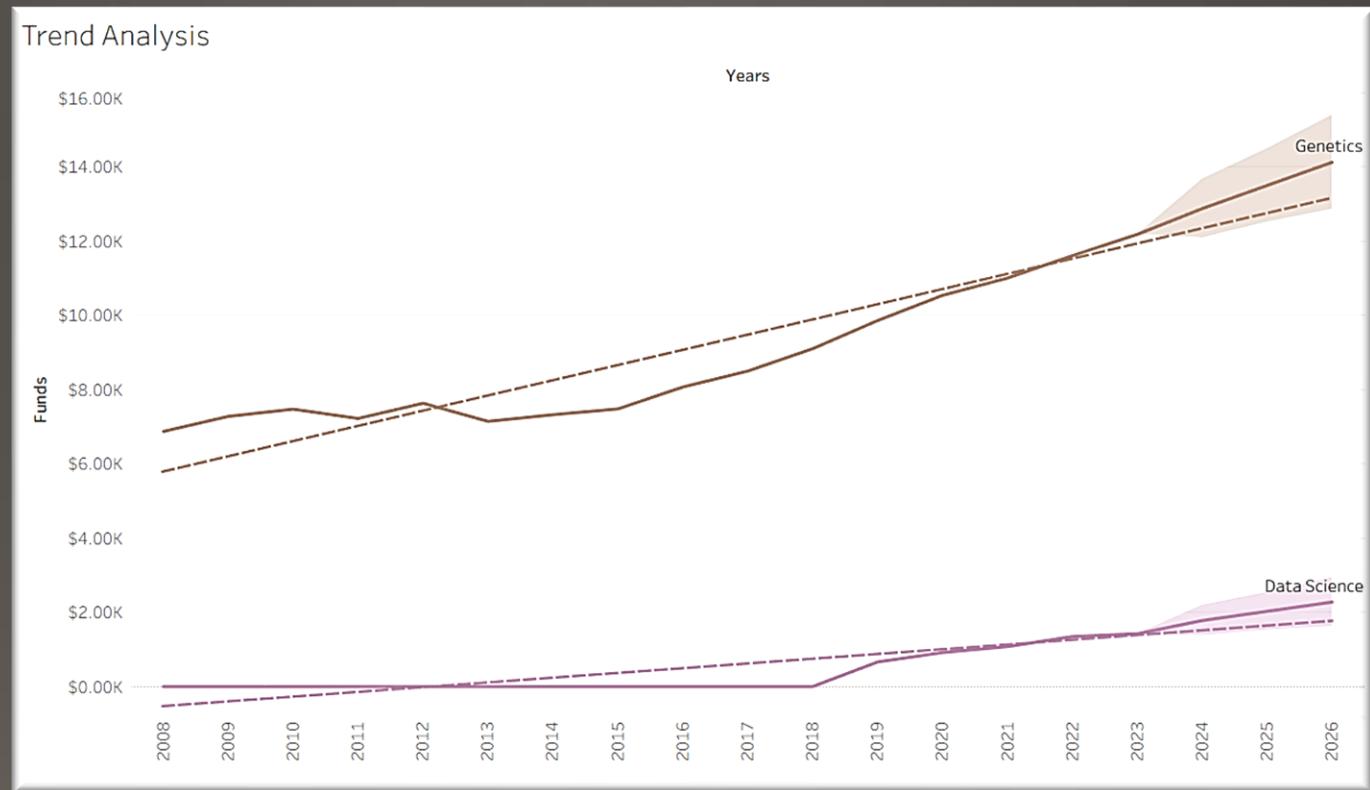
- The American Recovery and Reinvestment Act (ARRA) provided a significant, short-term funding boost in 2009 and 2010
- Areas like 'Aging' and 'Cancer' received large ARRA supplements, visible as a clear spike during those years



Key Findings

Future Projections

- Using a linear trend model, funding for 'Genetics' and 'Data Science' is projected to increase significantly
- This indicates a growing strategic interest in technology- and data-driven research areas



Key Findings

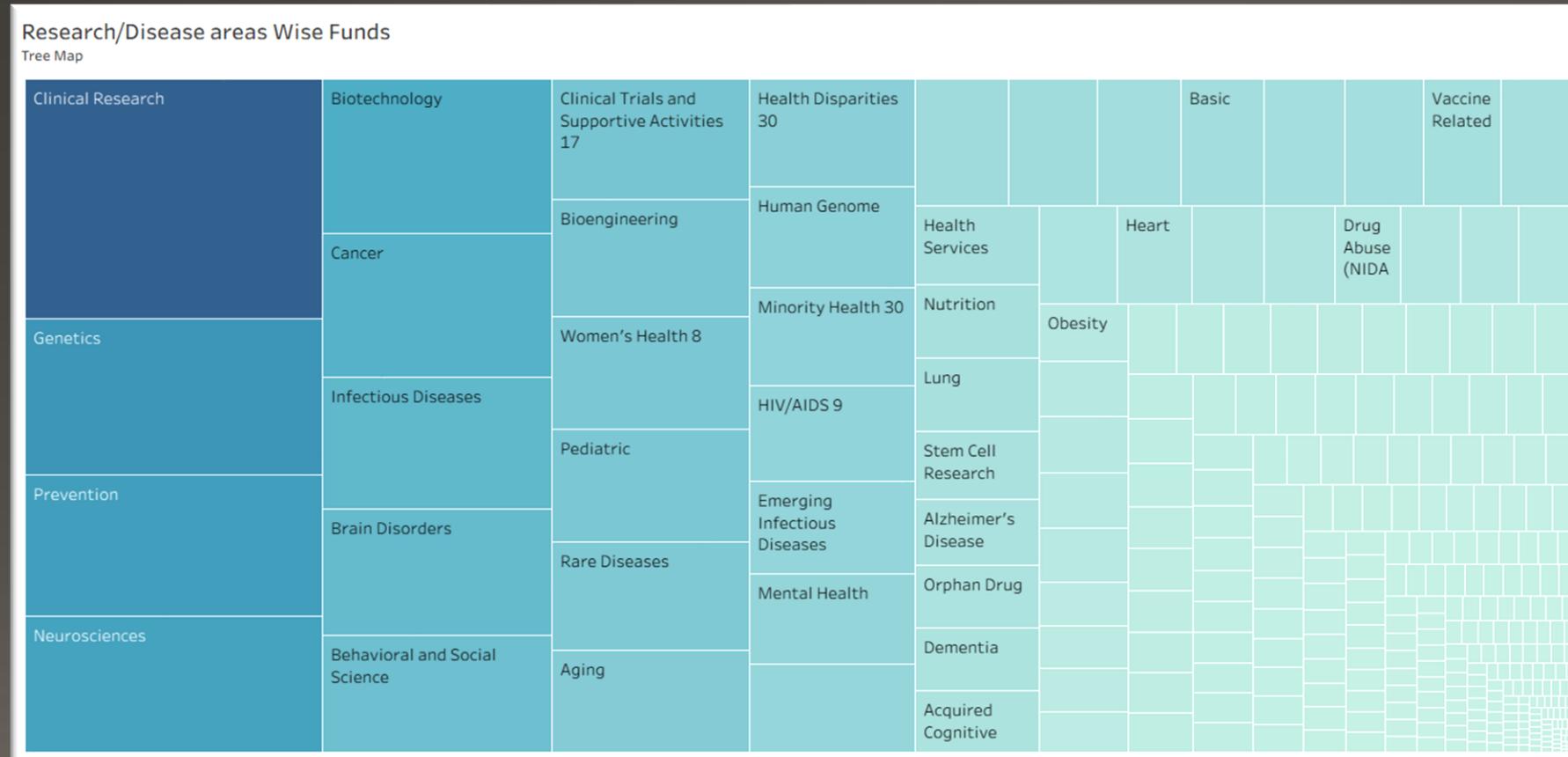
Geographic Analysis

- The provided dataset did not contain any geographic fields (e.g., State, City, or Region), which are required to create symbol or filled maps in Tableau.

Key Findings

Funding Hierarchy

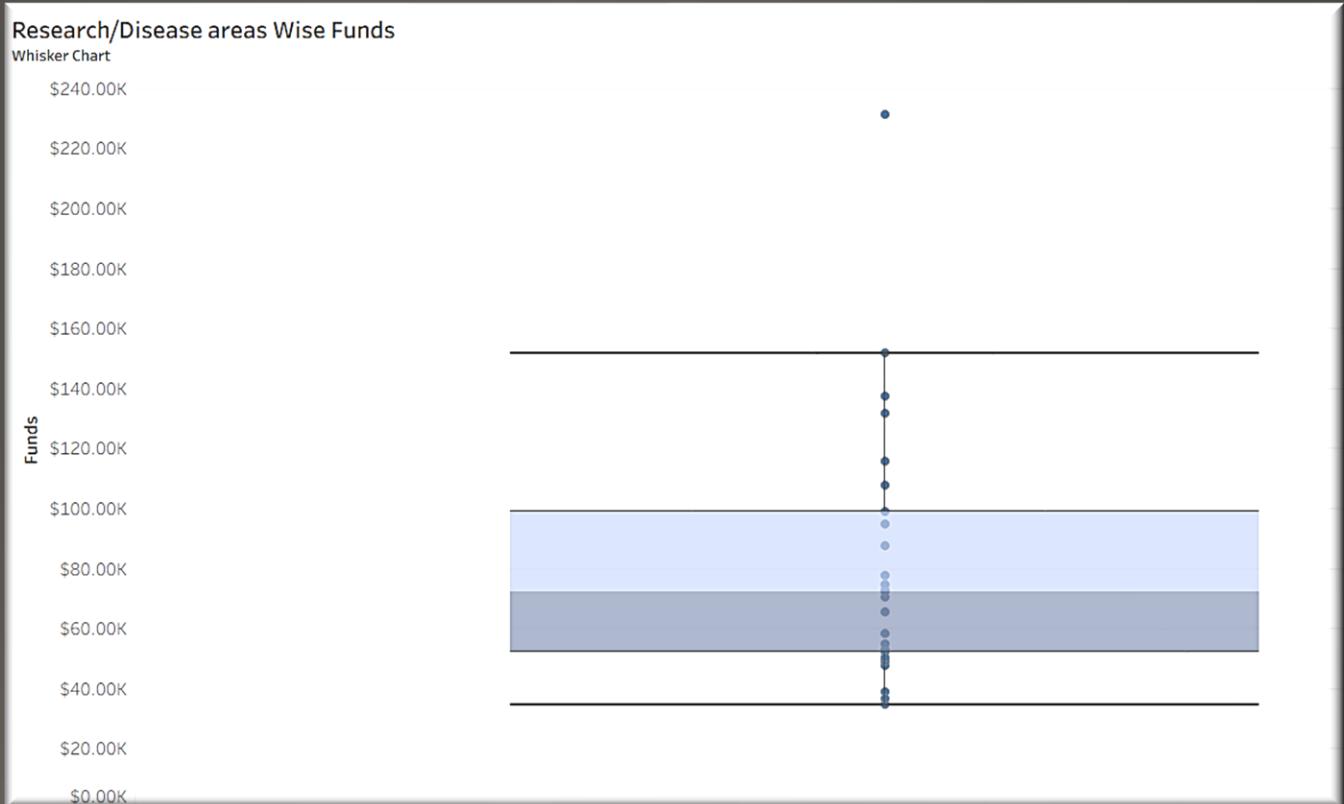
- The tree map provides a clear view of the funding hierarchy.
- It visually confirms that 'Genetics', 'Cancer', 'Aging' and 'Neurosciences' are the dominant categories, representing the largest share of the budget



Key Findings

Funding Distribution

- The whisker plot reveals the volatility of funding for different areas
- For example, 'Alzheimer's Disease' has a very wide range, showing a low minimum funding in early years and a very high maximum in recent years.
- In contrast, 'Lyme Disease' has a very narrow range, indicating its funding has been relatively low and consistent



Actionable Insights

Based on the analysis of the healthcare funding data, the following actions and strategic considerations are recommended:

Review Funding Portfolio Concentration:

The analysis clearly shows that funding is highly concentrated in a few top-tier research areas . Stakeholders should perform a strategic review to confirm that this allocation aligns with current public health goals or determine if emerging, under-funded areas require more support.

Actionable Insights

Align with Projected Growth Areas:

The strong upward funding trend for 'Data Science' , 'Genetics', and 'Alzheimer's Disease' provides a clear signal for future priorities. Researchers and institutions should consider focusing on building capabilities in these fields to align with emerging funding opportunities.

Understand Funding Drivers Beyond Mortality:

The analysis revealed no strong, direct correlation between 2019 funding levels and 2019 mortality rates . This suggests that funding decisions are complex and driven by other factors (such as prevalence , scientific opportunity, or policy). Policy-makers should use this insight to have a more nuanced discussion about how resources are allocated.

Conclusions

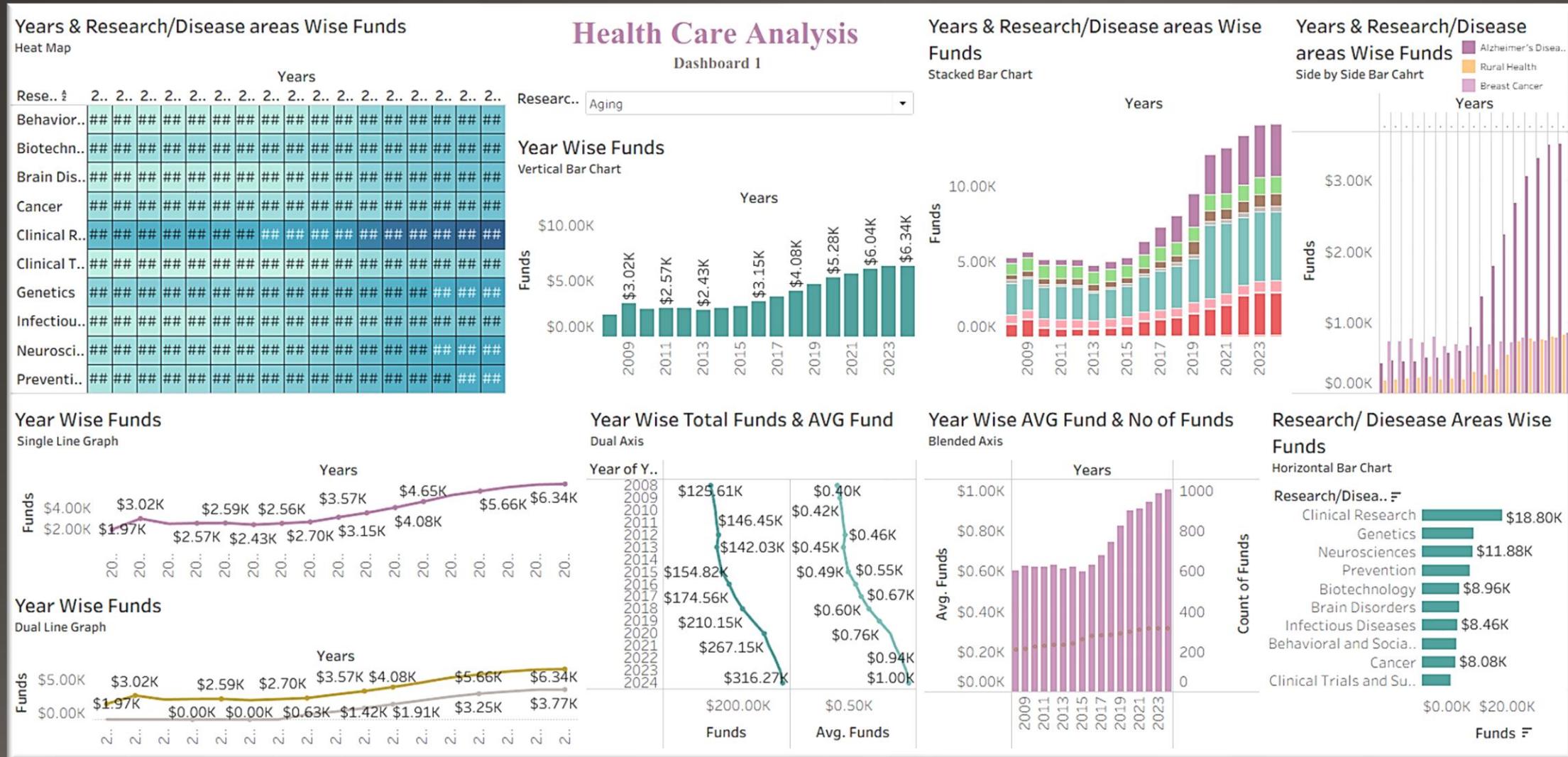
This project successfully achieved its objective of creating a comprehensive and interactive Tableau dashboard to analyze the healthcare funding dataset.

The analysis of funding from 2008 to 2024, ARRA funding, and 2019 health outcomes has provided a clear view of the research funding landscape. Through the creation of diverse visualizations—ranging from line graphs for trend analysis to scatter plots for correlation and tree maps for hierarchical distribution—key patterns were identified .

The project has demonstrated how to effectively use various analytical techniques in Tableau, such as calculated fields and trend models, to move beyond raw data and uncover actionable insights. The final dashboard serves as a powerful tool for stakeholders, enabling them to explore funding allocations, identify high-priority areas, and make informed decisions based on data.

Thank You & Final Dashboard

Dashboard 1



Thank You & Final Dashboard

Dashboard 2

