



# HEALTHCARE ANALYTICS

## CASE STUDY



### Background & Challenges

For nearly a century, Public Health Departments have been dedicated to improving community health through a range of services, including vital **inpatient care**. However, fragmented systems made it challenging to track and analyze patient admissions, discharges, and overall care. The lack of integration across financial, facilities, supply chain, and EHR platforms limited administrators' ability to manage resources, forecast capacity needs, and make timely decisions. These challenges ultimately strained organizational efficiency and the quality of patient care.



### Impact on Healthcare Teams & Patients

The inability to cohesively analyze inpatient data across departments had several repercussions:

- **Inefficient Resource Allocation:** Hospital administrators were unable to predict peak admission times, which led to inadequate staffing, overcrowded departments, and prolonged patient wait times.
- **Missed Opportunities for Cost Optimization:** Without an integrated view of admissions and payor mix, administrators struggled to optimize financial planning, leading to potential revenue losses.
- **Patient Experience Decline:** The lack of real-time data hindered healthcare providers from responding quickly to changes in patient loads, impacting patient care quality and overall satisfaction.
- **Inconsistent Patient Flow Management:** Fragmented data prevented accurate tracking of patient length of stay, department-wise discharge rates, and other critical metrics necessary for streamlining patient flow, resulting in bottlenecks at various care touchpoints.





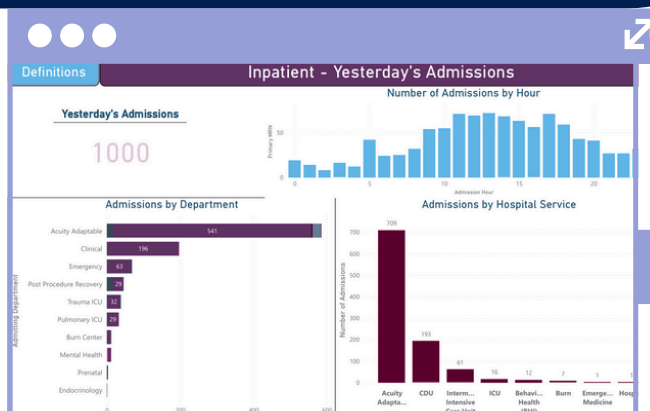
# IMPLEMENTED SOLUTIONS

V3iT Consulting addressed these challenges by implementing a centralized data warehouse and customized dashboards. Using in-memory databases, we integrated siloed systems across admissions, discharges, ERP, supply chain, and EHR into a unified platform, improving data accuracy and accessibility. Previously built spreadsheets were migrated to visualization tools to allow administrators to drill into key variables and tailor views to their needs.



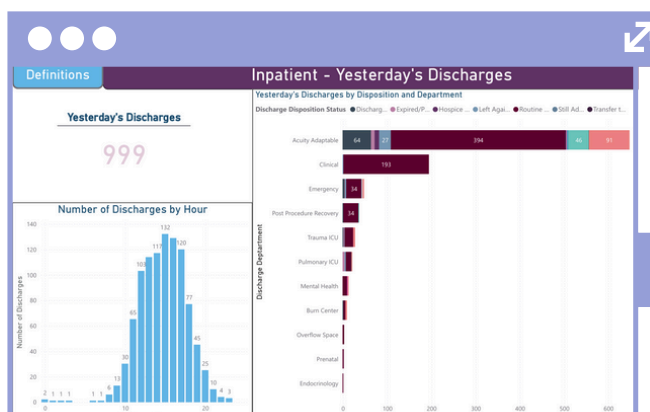
## Inpatient Admission Tracking:

The dashboard allowed hospital administrators to view admissions in real-time, categorized by hour, department, and hospital service.



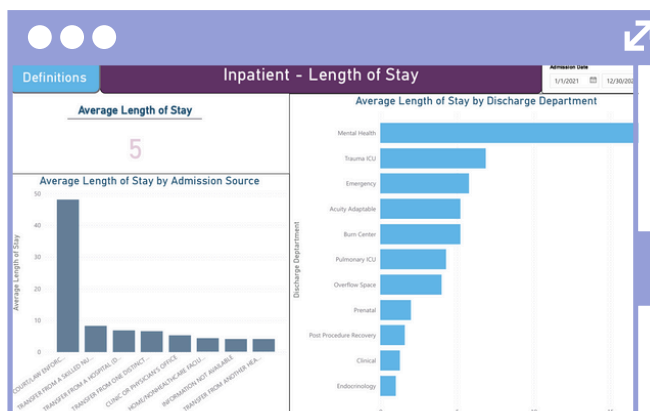
## Discharge and Length of Stay Evaluation:

Administrators could now track discharges by disposition and department, as well as evaluate the average length of stay across departments and admission sources.



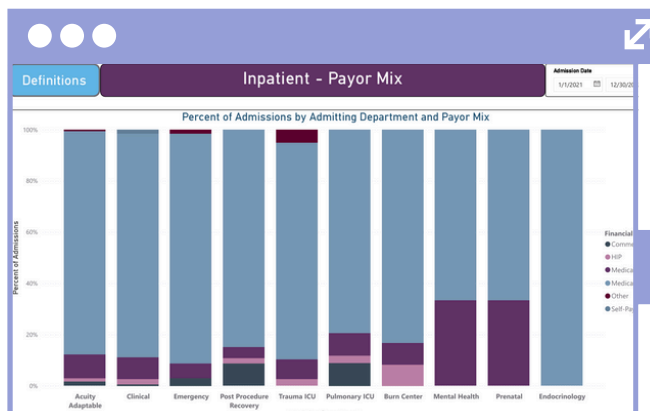
## Payor Mix and Financial Analysis:

With a clear view of admissions by department and payor mix, administrators could analyze reimbursement patterns, assess patient demographics, and refine financial strategies.



## Customized Graphical Data Representation:

Incorporating administrator feedback, we used visualization tools to create intuitive ways to represent critical data to enhance data interpretation and decision-making.





# IMPACT, BENEFITS & OUTCOMES

V3iT's centralized data warehouse and dashboard provided the health department with a cohesive view of hospital operations, significantly improving planning, decision-making, and patient care.



## Enhanced Capacity Planning:

By understanding peak patient volumes and department-wise loads, administrators were able to allocate staff and resources more efficiently, reducing patient wait times and improving care delivery.



## Improved Financial Outcomes:

The inclusion of payor mix analysis enabled more effective financial planning and resource allocation, optimizing cost management across departments.

V3iT's solution not only transformed the health department's operations but also set a new standard for data-driven efficiency in healthcare. By centralizing data for real-time insights, we empowered administrators to improve patient flow, resource allocation, and financial outcomes—demonstrating the tangible impact of innovation. As healthcare evolves, V3iT remains committed to helping organizations unlock the full potential of their data, driving sustainable improvements that benefit both patients and providers.



## Streamlined Patient Flow:

With access to real-time discharge and length of stay data, hospital staff could manage patient turnover more effectively, ensuring that resources were available when needed.



## Data-Driven Decision Making:

The ability to track admissions, discharges, and patient flows in real time provided hospital administrators with actionable insights, enabling better operational adjustments that improved both patient and healthcare provider experiences.

## Contact Us Today!

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