GREGORY ANIM BOANTE

LEVEL 3 DATA TECHNICIAN

PORTFOLIO



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# 1.0 Introduction

In my role as a Healthcare Assistant, also supporting the Ward Care Navigator, I was delegated to make improvements to our care planning and discharge coordination process. delays in discharge have become an issue at the hospital; this impacts bed availability and can be related to the issue of patient flow. Effective and timely discharge planning is important for optimizing resource usage, improving the outcomes of patients, and ensuring seamless transitions to post-hospital care. This project, therefore, aimed at analysing the available data to identify the bottlenecks in discharge and provide insight for the refinement of care plans and improvement of patient throughput.

# 2.0 Data Extraction

In order to support this portfolio report, I exported data from the ward care navigator portal in the electronic health record (EHR) system of the hospital that included patient information, care plans, discharge notes, and service times. Key data sources included:

EHR patient records, discharge summaries, care plan information. Bed management system, from which I collected admittance, move, and discharge occasions. I retrieved patient records about Bed, Actual days stay, discharge dates, and recorded delays using PowerBI queries. While extracting data, I always made sure to anonymize patient data to maintain confidentiality and comply with hospital data governance policies.

**K6** These are the data of the care plan and coordination of discharge, which are critical to ensure continuity of care to optimize patient outcomes. I identified this data because it plays a very important function in informing future healthcare decisions and allowing for proactive interventions, including enhancing resource allocation. Most businesses face difficulty keeping views of data cohesive that are spread over multiple sources; this truly presents some challenges toward real-time insight and trend analysis. The data integrated onto one platform from different sources can be accessed centrally by any stakeholder. It also allows faster and more accurate decision-making, reducing the time and cost of managing data.

**2.1 Data Aggregation**

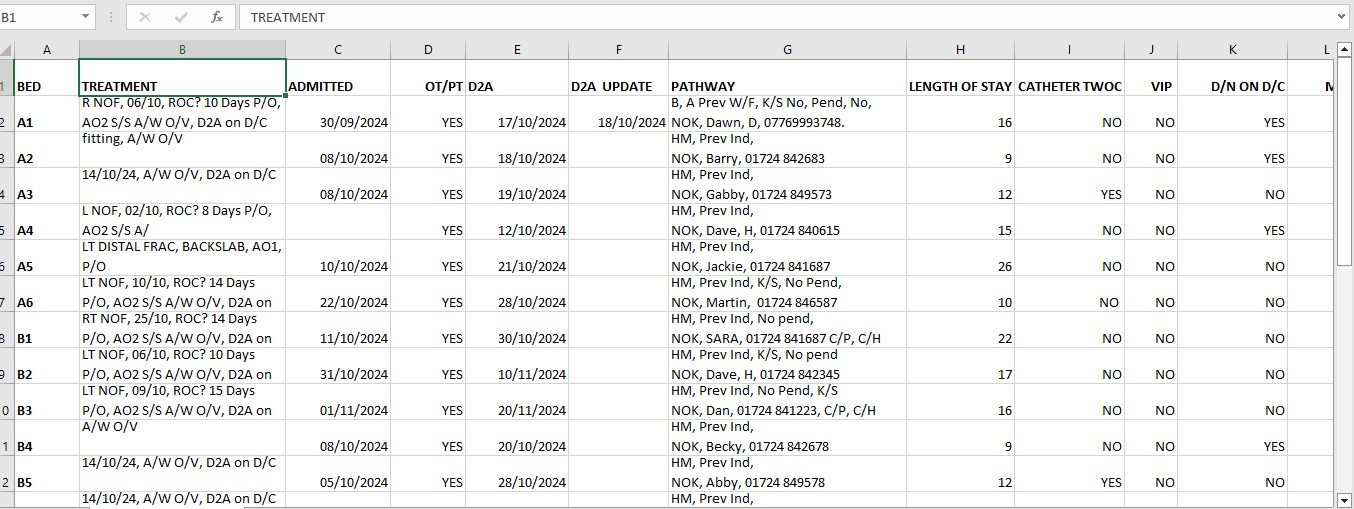


Figure 1 shows Data captured aggregation

Aggregation of data was in-depth after extraction and this proves analysis through normalizing different dates and times of admission, discharge D2A, OT/PT, Revoke, and times of intervention for a range of times of different data types. Classification classified the patients based on the main admission-such as bed, primary diagnosis, etc.-and built the distribution of the discharges as well as delays across the units as well. The aggregation provides an overview but can be further broken down to the ward level in order to analyse discharge trends.

**2.2 Data Examination**

With the data prepared, I analysed its characteristics, examining variables such as:

* Bed and Projected stay, to assess if a particular patient stayed longer based on discharge delays.
* Discharge Timing: Evaluating the most common times for discharge and identifying patterns in delays.
* Frequency of Delays of patient: To reveal which patient discharge date was revoke and potential reasons (e.g., waiting for specialist or OT/PT review and new Discharge arrangements).

### 2.2.1 Key Discoveries

Peak Discharge Delays, the highest delays occurred in patients discharged from complex care and Discharge revoke.

Common Delay Factors, frequent causes included unavailability of patient placement whereby care homes facilities, late-in taking or accepting patient.

# 3.0 Analytical Methods and Justification

To understand patterns within the data, I conducted both descriptive and inferential analyses, where Power BI provides clear visualizations (e.g., bar charts, histograms) to summarize inpatient metrics such as average length of stay, patient, and admission types. This is crucial for understanding high-level trends and identifying patterns across patient groups, laying the foundation for deeper analysis. Comparative Analysis were also conduct to compared actual days stayed and patient date for discharge revoked (delay) frequencies.

And for Justification Power BI is an optimal tool due to its user-friendly interface, robust data connectivity, and strong visualization capabilities. These features facilitate quick insights and decision-making, empowering hospital administrators to monitor key metrics, identify inefficiencies, and drive quality improvements in patient care.

## 3.1 Visualizations and Technical Steps

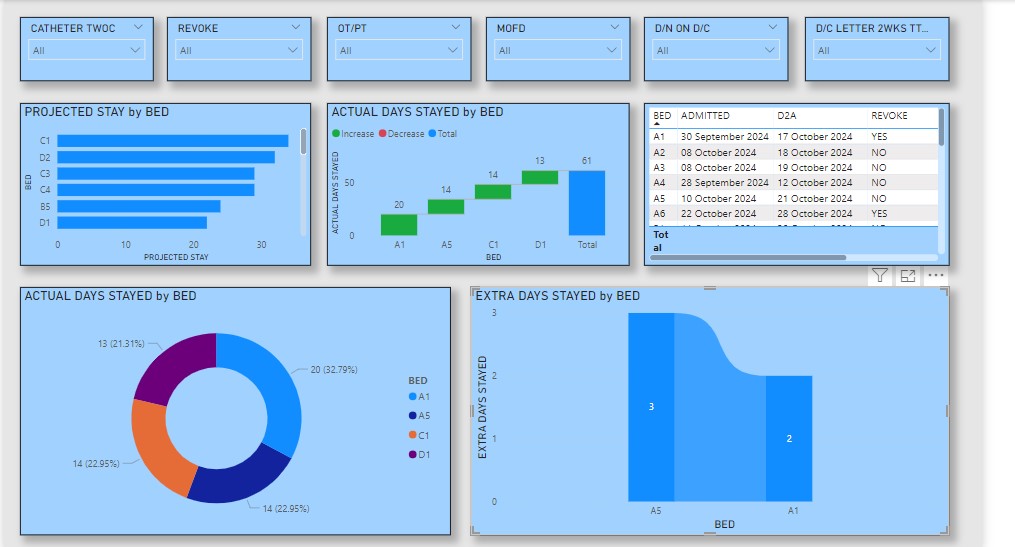


Figure 2: shows Data visuals

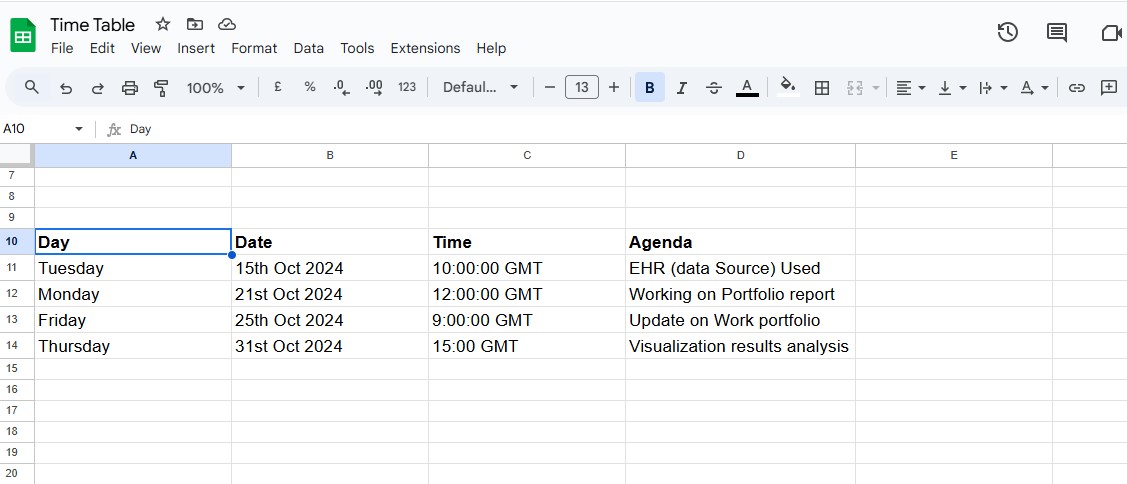


Figure 3: Shows meeting days and Time

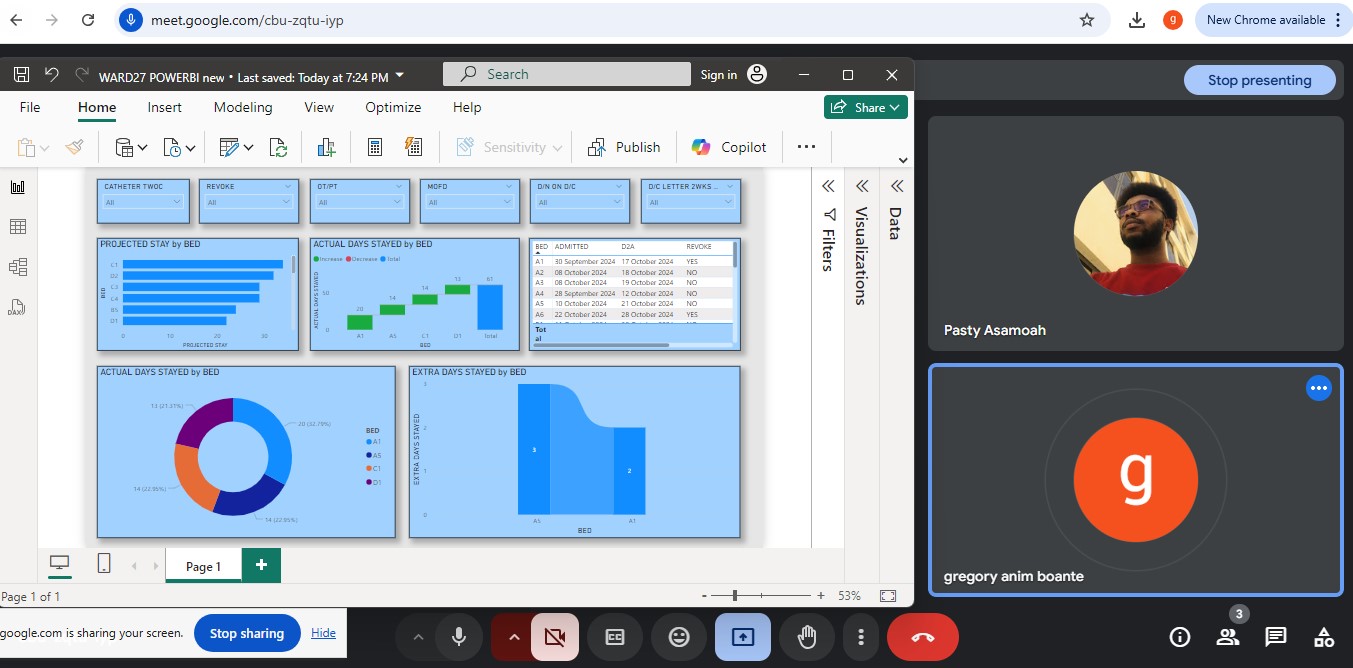


Figure 4: shows Google meeting

**B1** With the use of these tools, such as google meet and the schedule timetable with colleagues and stakeholders, I was managing the time and communicating effectively. I could cover the key behavioural criteria regarding communication and time management of the organization and collaboration.

**S13** Effectively communicate care plan and discharge coordination data by tailoring explanations to each audience's level of expertise and focus on clinical teams, patient outcomes and care continuity; for administrators, efficiency and optimization of resources; for patients and families, clarity on steps of discharge and follow-up care. This will help all stakeholders understand how the data applies to their roles and needs

**K4** For communication and findings effectively, I created several visualizations on admissions and discharges, using bar charts to track projected stay by Bed, actual days stayed, D2A trends of inpatient admissions and discharges, providing a quick overview of patient flow. Bed Occupancy Rates Create a gauge chart or KPI to display real-time bed utilization, highlighting capacity levels and helping manage resource allocation.

Bed, Admission, D2A and patient revoke byusing tables charts to see those patients been issued D2A for discharging them to their various care homes or their own home which aiding in identifying areas for efficiency improvement. Readmission Rates shows by clustered bar charts to analyse readmission rates by extra days stayed on the ward because their discharge has been revoked, this pinpointing high-risk areas for targeted interventions. Patient Actual days stayed, the use of pie or donut charts to visualize the distribution of patient length of stay.

**B5** Care plan and discharge coordination data involve collaboration with various internal and external stakeholders. It involves clear communication and alignment across teams and partners. Teresa Prior demonstrates effective coordination in care plans and discharge, with clear communication of both internally within the teams and with external stakeholders to facilitate smooth transitions of the patients.

**B6** Witness statement of care plan and discharge coordination data have emphasis on valuing of differences and sensitivity of other’s needs. For examples of evidence include respectful collaboration and flexibility.

# 4.0 Results Sharing with the Organization

The results were shared with the ward matron and line manager through a formal presentation to the healthcare management team, where I showcased key insights and visualizations. A detailed report that included methodologies, findings, and recommendations for improving discharge processes.

## 4.1 Work Feedback

Some feedback was sought from stakeholders following the presentation. Among the key points included:  
• Valuing visualization clarity and actionability of resulting insights provided.  
• Recommendation for the expansion of the study by post-discharge surveys among patients in cases when it is indispensable to get qualitative characteristics of a patient's experience.  
• A desire to conduct follow-up research into the effects produced from changes instituted in response to the findings.

Other areas that could form the direction of future studies could include predictive models for discharge planning and integration of more data from social care services for better coordination.

The work portfolio concluded that the significant KSBs have crucial applications in the processes of data extraction, data analysis, and visualization at the level of healthcare. Not only did this insight serve useful for specifying where the improvements were necessary, but also it laid down basic steps toward improvement in coordination on the coordination and discharge plan aspects related to patient care. This positive feedback thus becomes proof of the value that would result from data-driven decision-making when organizational goals are taken into consideration. Going forward, patient feedback integration and active monitoring of the discharge process are what will be important in sustaining the improvement in both patient outcomes and operational efficiencies.