Reflection Paper

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***A1***

The purpose and function of my Tableau dashboard directly align with the needs detailed in the medical data dictionary provided. Specifically, my dashboard enables executive leaders, such as the Senior Vice President of Hospital Operations and Regional Vice Presidents, to quickly explore trends related to patient readmission, demographics, and medical conditions. For instance, the "Readmission by Initial Admission" bar chart communicates that emergency admissions have the highest readmission rates, guiding executives to prioritize improvements in emergency care discharge processes. Another crucial representation, "Diseases Readmission," highlights that conditions like obesity, diabetes, and back problems significantly contribute to readmissions, prompting targeted preventive care strategies.

***A2***

Two data representations from the dashboard are particularly valuable for executive leaders. The "Readmission by Initial Admission" visualization clearly illustrates which types of hospital admissions—emergency, elective, or observation—lead to the highest patient readmission rates. Executive leaders can use this insight to strategically allocate resources toward improving discharge planning, mainly focusing on emergency admissions, to reduce costly readmissions. The "Readmission by Medical Condition" chart highlights medical conditions, such as obesity, diabetes, and back problems, significantly influencing readmission rates. Leaders can leverage this information to implement targeted healthcare interventions, such as specialized patient education programs or follow-up care protocols, ultimately enhancing patient outcomes and optimizing resource utilization.

***A3***

Two interactive controls in the dashboard significantly enhance executive decision-making capabilities. The first control, the "Have Disease" filter, allows executives to filter patients based on whether they have certain medical conditions. This control is instrumental for isolating patient groups who require specialized attention, enabling leaders to develop precise, condition-specific intervention strategies. The second control, the "Readmission" filter, allows executives to view data specifically for patients who were readmitted or those who were not. This functionality helps leaders understand patterns linked explicitly to readmission cases, guiding more targeted approaches to improving hospital discharge procedures and reducing readmission rates.

***A4***

To ensure accessibility for colorblind individuals, the dashboard was thoughtfully designed by incorporating a specific interactive parameter on each worksheet labeled "Colorblindness." Users can easily toggle this parameter, selecting "True" to activate colorblind-friendly color palettes that clearly distinguish data points without relying on problematic color combinations. Conversely, selecting "False" restores the standard color scheme. This flexible design ensures that all users, regardless of visual impairment, can effectively interpret and utilize the data representations, enhancing universal usability and compliance with accessibility standards.

***A5***

Two data representations in my presentation directly support the narrative I aimed to communicate regarding hospital readmissions: "Readmission by Diseases" and "Readmission by Initial Admission Type." The "Readmission by Diseases" visualization emphasizes specific medical conditions, such as obesity, diabetes, and back problems, significantly increasing patient readmission risk and highlighting the need for targeted preventive care. Complementing this, the "Readmission by Initial Admission Type" chart underscores the heightened readmission rates linked to emergency admissions compared to elective or observation admissions, stressing the urgency for enhanced discharge planning. Together, these visualizations illustrate the critical areas requiring strategic intervention, reinforcing my central message that targeted, condition-specific strategies and improved emergency admission processes are essential to reducing hospital readmissions.

***A6***

I analyzed my audience by identifying that my audience consisted primarily of data analytics peers—individuals with a strong technical background who value methodological transparency and analytical rigor. Recognizing this, I adapted my presentation to include detailed explanations of the data processing techniques, explicit justifications for selecting specific visualizations, and precise interpretations of statistical patterns and trends. By aligning the presentation content and complexity with their technical expertise and interest in actionable insights, I ensured the message was engaging and relevant, effectively highlighting opportunities for strategic interventions and fostering meaningful, data-driven discussions.

***A7***

I designed my presentation for universal access by prioritizing clarity, simplicity, and inclusivity. I used plain and straightforward language, avoiding overly technical jargon to ensure comprehension across all audience types, including technical and non-technical stakeholders. The visuals chosen were clear and intuitive, employing accessible design principles, such as the colorblindness parameter on each visualization, allowing users to switch to colorblind-friendly palettes easily. Additionally, the presentation was structured logically with clear introductions, explanations, and summaries, making the content easy to follow regardless of the audience's background or expertise level. These deliberate design choices helped ensure the insights were universally understandable, impactful, and actionable.

***A8***

Two critical elements of effective storytelling implemented in my presentation were engaging visuals and a clear problem-solution narrative structure. First, I selected compelling visualizations, such as "Readmission by Diseases" and "Readmission by Initial Admission Type," designed to immediately capture the audience's attention and clearly communicate key insights. These visuals were intended to spark interest and curiosity by vividly illustrating critical areas needing attention. Second, I structured the presentation with a straightforward narrative, beginning by highlighting the significant issue of hospital readmissions and then systematically guiding the audience toward actionable solutions, such as improving emergency discharge procedures and targeted healthcare interventions.

Through this storytelling approach, I aimed to persuade the audience to recognize the urgency and importance of proactively addressing high readmission rates by implementing targeted preventive strategies and optimized discharge planning. The clearest example from the dataset supporting this persuasion is the consistently high readmission rate observed in patients admitted via emergency services, underscoring the immediate need for focused improvements in discharge planning and patient follow-up care.