Executive Summary

This report provides a detailed dashboard overview of emergency room visits, leveraging a dataset from @Datalab365. We have developed insightful visualizations with precise guidance to enhance ER operations, improve patient care, and support decision-making through real-time data visualization and analytics. This project addresses the following key questions:

1. Evaluation of the average patient waiting time.
2. Monthly analysis of patient visits.
3. Total visits segmented by age group.
4. Average satisfaction levels by age group and patient race.
5. Average wait time analysis by age group and patient race.

Insights

Analyzing the total patient visits reveals a complex interplay of factors. Various dimensions categorize visits:

1. Periods (AM/PM, monthly, yearly)
2. Week type (weekdays/weekends)
3. Age group (adult, middle childhood, Teenager, early childhood, and infancy)
4. Administrative and non-administrative appointments
5. Referrals
6. Gender.

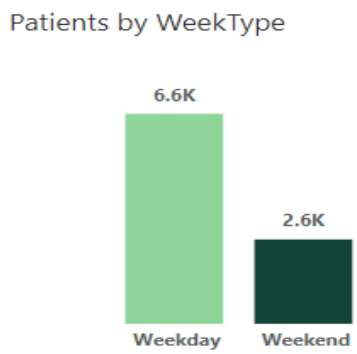
Total Patient Visits

Total Patient Visits: Understanding the Flow

Imagine the ER as a bustling hub of activity, with a steady flow of patients throughout the day. Our analysis shows that morning hours see slightly more visits than the evening, a testament to early-day medical needs. The slight preference for administrative appointments over walk-ins indicates that many patients plan their visits, perhaps for follow-up treatments or consultations.

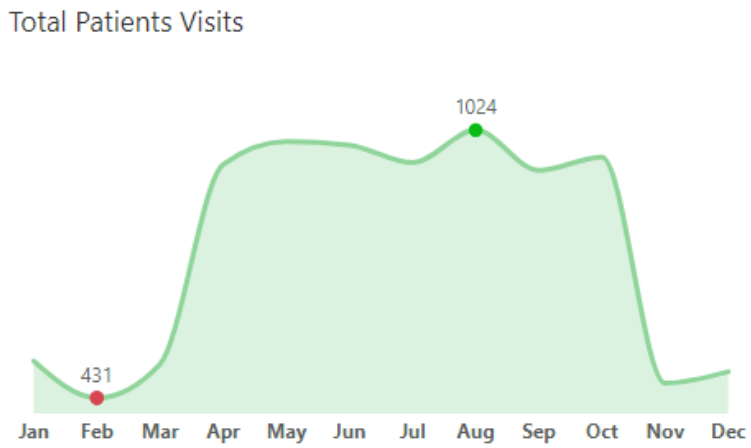
- Administrative appointments showed a marginal 0.4% increase over non-administrative ones, highlighting a slight preference for scheduled visits.
- AM visits slightly outnumber PM visits, with 4,632 and 4,584 respectively, indicating a relatively balanced distribution throughout the day.

Weekdays vs. Weekends: The ER Rush Hour



The weekdays resemble a rush hour on the freeway, with a staggering 6,574 visits compared to the quieter weekends with only 2,642 visits. This pattern highlights the importance of weekday readiness, ensuring that ER teams are fully equipped to handle the weekday influx.

Monthly Peaks and Valleys

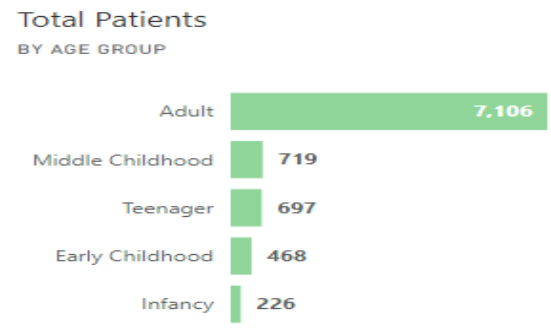


The monthly data reveals a dynamic ebb and flow of patient visits. While February stands as the calmest month, August surges with the highest number of visits, potentially due to seasonal illnesses or vacation-related incidents. These trends help in anticipating and preparing for fluctuating patient volumes.

Visits by Year

Yearly trends show a fluctuation in ER visits. The year 2019 had the lowest number of visits (4,338), while 2020 saw the highest (4,878). The increase in 2020 could be linked to the COVID-19 pandemic, driving higher ER utilization.

Age Group Insights: From Infancy to Adulthood



The age group analysis presents a narrative of varied healthcare needs. Infants, with their delicate health, account for the fewest visits, whereas adults, possibly dealing with chronic conditions or acute issues, dominate the ER scene. This insight underscores the necessity of tailored healthcare services across different age groups.

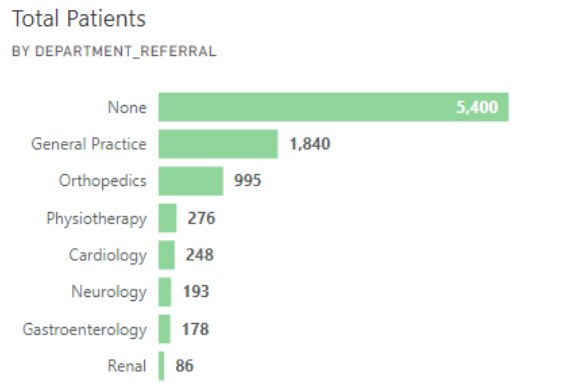
Gender Perspective

Gender-based analysis indicates that visits are categorized into Male, Female, and Other genders. Females represent the majority with 51.1% of visits, while other genders account for a mere 0.26%. This highlights the potential gender majority in healthcare access or reporting.

Referred vs. Unreferred Patients

Patient referral data shows that 58.59% of visits are by un-referred patients, whereas 41.41% are referred. This suggests a significant portion of patients are self-directed to the ER, possibly due to perceived emergencies or lack of access to primary care.

Referred Patients by Department



Among referred patients, the "None" category (i.e., referrals not linked to a specific department) is the highest at 5,400, followed by general practice at 1,840. The renal department records the fewest referrals, indicating departmental specialization and patient needs.

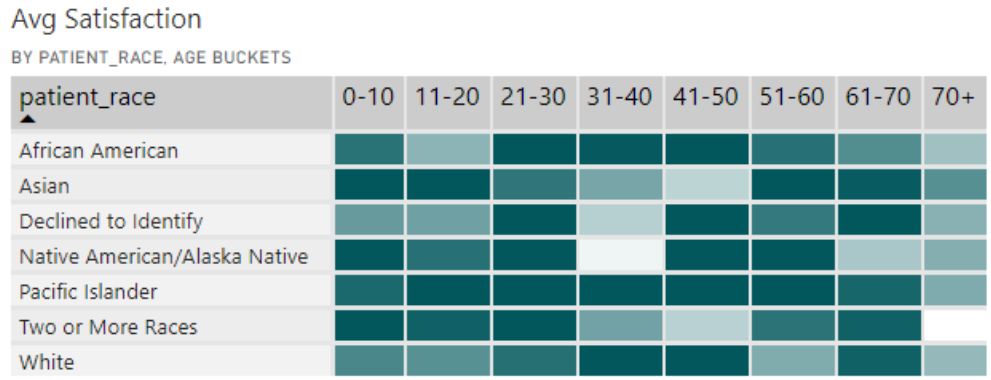
Satisfaction Scores: Room for Improvement

The average satisfaction score of 5.50% coupled with a high rate of unrated services (74%) signals a pressing need for service enhancement and patient engagement. Addressing these areas could drastically improve patient experiences and satisfaction.

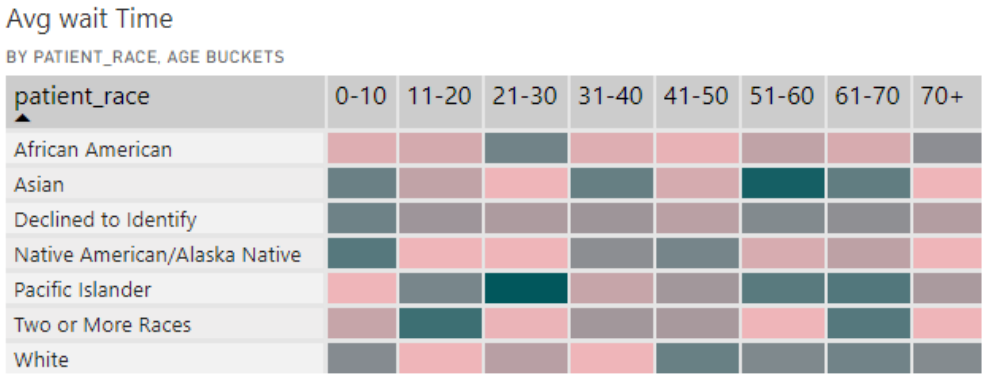
Wait Times: The Patient's Journey

The average wait time of 34.98 minutes offers a glimpse into the patient's journey in the ER. While efficient, there's always room for improvement, especially when considering the diverse wait time experiences across different demographics

Satisfaction and Wait Time Heatmap: A Closer Look



NOTE: Patients are Most SATISFIED when the SCALE shows the Darkest GREEN on the Age-Group



NOTE: The darkest Green in the scale denotes LOW Wait-Time on the Age-Group

The heatmap analysis provides a vivid picture of patient satisfaction and wait times across various races and ages. It's heartening to see higher satisfaction among African American and Pacific Islander patients, particularly those aged 21-30. However, lower satisfaction among the elderly calls for age-specific improvements in ER care.

Recommendations

1. **Reduce Wait Times**:
    - Implement triage optimization strategies to ensure critical cases are addressed promptly.
    - Increase staffing during peak hours to manage higher patient volumes effectively.
2. **Enhance Patient Satisfaction**:
    - Conduct regular training for staff on patient interaction and care.
    - Implement a feedback system to gather real-time patient feedback and address concerns promptly.
3. **Focus on Underrepresented Demographics**:
    - Increase outreach and support for demographics with lower visit and satisfaction rates, such as the elderly.
    - Develop targeted health education programs to raise awareness and encourage visits.
4. **Optimize Referral Processes**:
    - Streamline referral processes to reduce wait times and improve patient flow.
    - Enhance coordination between departments to ensure efficient patient handoffs.
5. **Increase Rating Participation**:
    - Simplify the satisfaction rating process to encourage more patients to participate.
    - Educate patients on the importance of providing feedback to improve services.

Conclusion

The emergency room dashboard report provides critical insights into patient visit patterns, satisfaction levels, and wait times. By addressing the key areas of improvement identified in this report, ER operations can be significantly enhanced. Implementing the recommended strategies will lead to better patient care, increased efficiency, and more informed decision-making. Continuous monitoring and adaptation of these strategies will ensure sustained improvements in ER performance and patient satisfaction.