**Healthcare Analysis Report**

**Methodology**

**Tools Used:**

**-Power BI: For data visualization and dashboard creation.**

**Data Cleaning**

**- Before analysis, data was cleaned to remove any inconsistencies, such as missing values and incorrect data entries. This ensured that the analysis was based on accurate and reliable data.**

**- Specific steps included formatting date and time fields, categorizing age groups, and verifying referral department consistency.**

**Data Analysis:**

**The cleaned data was then analyzed in Power BI to generate key insights, which are presented in this report. The analysis focused on understanding patient demographics, satisfaction scores, wait times, and departmental efficiency.**

**The dataset you've provided is CSV file contains various columns related to patient visits to the emergency room, including:**

**\* Date and Time (date)**

**\* Patient ID (patient\_id)**

**\* Patient Gender (patient\_gender)**

**\* Patient Age (patient\_age)**

**\* Patient Satisfaction Score (patient\_sat\_score)**

**\* Patient Race (patient\_race)**

**\* Administrative Flag (patient\_admin\_flag)**

**\* Wait Time (patient\_waittime)**

**\* Department Referral (department\_referral)**

**I will now extract key insights from this data, focusing on the following aspects:**

**- Total Patient Visits: Breakdown by time, demographics, and referral departments.**

**- Satisfaction Analysis: Average satisfaction score across different patient demographics and departments.**

**- Wait Time Analysis: Average wait times by age group, race, and referral department.**

**Administrative vs. Non-Administrative Visits:**

**Comparison and impact on overall metrics.**

**Here are the key insights from the data analysis:  
  
1. Total Patient Visits by Year:**

**- 2019: 4,338 visits**

**- 2020: 4,878 visits**

**- The number of patient visits increased by approximately 12.5% from 2019 to 2020.**

**2. Gender Breakdown:**

**- Male: 51.05%**

**- Female: 48.69%**

**- Non-conforming: 0.26%**

**- The gender distribution is fairly balanced, with a slight majority of male patients.**

**3. Age Group Breakdown:**

**- Infancy (0-1 years): 101 visits**

**- Early Childhood (1-5 years): 473 visits**

**- Middle Childhood (5-12 years): 839 visits**

**- Teenager (12-18 years): 697 visits**

**- Adult (18-65 years): 5,489 visits**

**- Senior (65+ years): 1,617 visits**

**- Adults (18-65 years) make up the largest group of patients, accounting for over half of the visits.**

**4. Average Satisfaction Score:**

**- 4.99 out of 10.**

**- This indicates a relatively low average satisfaction score, suggesting there may be room for improvement in patient experience.**

**5. Average Wait Time:**

**- 35.26 minutes.**

**- The average wait time is significant, which could be a factor influencing the lower satisfaction scores.**

**6. Patient Visits by Department Referral:**

**- No Referral: 5,400 visits**

**- General Practice: 1,840 visits**

**- Orthopedics: 995 visits**

**- Physiotherapy: 276 visits**

**- Cardiology: 248 visits**

**- Neurology: 193 visits**

**- Gastroenterology: 178 visits**

**- Renal: 86 visits**

**- Most patients did not require a department referral, with General Practice being the most common referral department.**

**7. Referred vs Walk-in Patients:**

**- Referred: 100% (all patients were referred)**

**Walk-in: 0%**

**- It appears that all patients were referred, possibly due to how the data is classified.**

**Recommendations:**

**- Improving Patient Satisfaction: Investigate the causes of low satisfaction scores, potentially related to long wait times.**

**- Focus on Adult and Senior Patients: Given that they represent the majority of visits, enhancing services targeted at these age groups could improve overall outcomes.**

**- Analyze Departmental Efficiency: Consider streamlining referrals and processes in departments with higher patient traffic, like General Practice and Orthopedics, to reduce wait times.**