# Visualization and Insights Report

This report presents the visual outputs generated from the Gold Layer dataset. Using Azure Databricks and dashboarding tools, we built interactive and informative charts to support risk analysis and behavioral profiling. Two dashboards were designed to capture different perspectives of diabetes risk and health indicators.

## Dashboard 1: Diabetes Risk Profile Explorer

This dashboard highlights how diabetes prevalence and high-risk profiles vary across demographic segments. Key elements include:  
**1.** **Total patient distribution by AgeGroup (Pie Chart)**  
Shows how patients are spread across different age groups (18–34, 35–49, 50–64, 65+). Helps understand which segment dominates the dataset and provides context for analyzing risk.

**2.** **Total count of patients by Sex (KPI Box)**  
Displays the overall number of male and female patients. Useful for quick gender-based comparison and understanding population balance.

**3.** **DiabetesRate vs HighRiskRate scatter plot (by gender)**  
Each point represents a group’s diabetes prevalence and overall health risk. Color-coded by gender to reveal patterns and compare how risk escalates across sexes.

**4.** **DiabetesRate bar chart segmented by AgeGroup and Sex**  
Highlights how diabetes prevalence varies with age and between males and females. Clearly shows trends like risk increasing with age and gender disparities within each group.

**A screenshot of a medical report

AI-generated content may be incorrect.**

## Dashboard 2: Lifestyle Impact by Demographics

This dashboard visualizes the role of modifiable lifestyle behaviors in health risk levels. Key metrics include:

**1.** **AlcoholRiskRate by AgeGroup and RiskLevel**  
Displays how the likelihood of risky alcohol consumption varies across age groups and risk categories (Low, Moderate, High). Helps identify segments where alcohol habits may contribute to overall health risk.

**2.** **LowActivityRate by AgeGroup and RiskLevel**  
Shows the proportion of individuals reporting low physical activity levels, segmented by age and risk level. Useful for spotting trends where inactivity might be driving higher health risks.

**3.** **ObesityRate by AgeGroup and RiskLevel**  
Highlights how obesity is distributed across age groups and risk levels. A key indicator of chronic disease risk, this chart reveals how strongly obesity aligns with High-Risk segments.

A screenshot of a graph

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