**Healthcare Quality Metrics**

**Introduction**

Managing chronic conditions like diabetes is critical to both patient outcomes and healthcare costs. Hospitals and provider groups face penalties for high readmission rates, poor diabetes control, and excessive emergency utilization, all of which reduce quality scores under value based care contracts. To simulate this real world challenge, I analyzed and de-identified a diabetes dataset (130 U.S. hospitals, 1999–2008) from Kaggle. The goal was to identify high risk patients, measure quality performance (readmissions, A1c testing, poor control), and build an executive ready dashboard to support clinical and operational decision making.

**SQL Queries**

1. **KPI Overview – Quality Scorecard**

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*Purpose:* Identifies outcome disparities across race groups, supporting equity focused care improvement.

1. **Disparities by Race**

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*Purpose:* Identifies outcome disparities across race groups, supporting equity focused care improvement.

1. **Utilization by A1c Control**

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*Purpose:* Quantifies the relationship between diabetes control and healthcare utilization (ED, inpatient, length of stay).

1. **High Risk Patient Panel**

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*Purpose:* Generates a prioritized panel of high risk patients for care management outreach.

**Dashboard Summary**

The **Healthcare Quality Dashboard** consolidates these analyses into an executive friendly view. At the top, KPI scorecards show baseline performance on critical metrics, with current rates signaling significant gaps in A1c testing and diabetes control. The disparities chart highlights measurable differences across racial groups, an important factor for equity-based interventions. Utilization analysis demonstrates that patients with poor A1c control incur higher inpatient stays and longer hospitalizations, underscoring the financial impact of uncontrolled diabetes. Finally, the patient panel provides an actionable list of the highest-risk patients, sorted by severity and flagged for quick identification.

This dashboard translates raw healthcare data into a strategic decision making tool enabling leadership to monitor performance, address disparities, reduce costly readmissions, and target interventions toward patients who need them most.

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