PATIENT HOSPITAL READMISSIONS

A Data-Driven Strategy

- Hospital Readmission Analysis & Performance Improvement
- Improving patient outcomes and operational efficiency through predictive analytics

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Project Overview & Data Source

Analyzing patient data to predict readmission risk

❑ Methodology

- Our project aims to leverage comprehensive patient data to develop a predictive understanding of hospital readmission risk.
- By analyzing various patient attributes, we seek to identify patterns and factors that contribute to readmissions, ultimately enabling proactive intervention strategies.

❑ Key Metrics Tracked

Demographics

- Age
- Gender

Clinical Factors

- Blood Pressure
- Blood Sugar
- Number of Diagnoses

Visit Details

- Admission Type
- Length of Stay
- Previous Admissions

Data analysis provides insights for targeted intervention strategies

The High-Risk Patient Profile: Who Get Readmitted?

Identifying characteristics of patients most likely to be readmitted within 30 days

High-Risk Patient Profile

Admission Type

Predominantly emergency admissions, accounting for the overwhelming majority of high-risk cases.

Clinical Complexity

High number of concurrent diagnoses, typically ranging from 7 to 9 conditions.

Vital Signs

Uncontrolled blood sugar levels (greater than than 125 mg/dL) and elevated blood pressure. pressure.

Admission History

Record of multiple previous admissions, specifically three or more.

Patient Segment

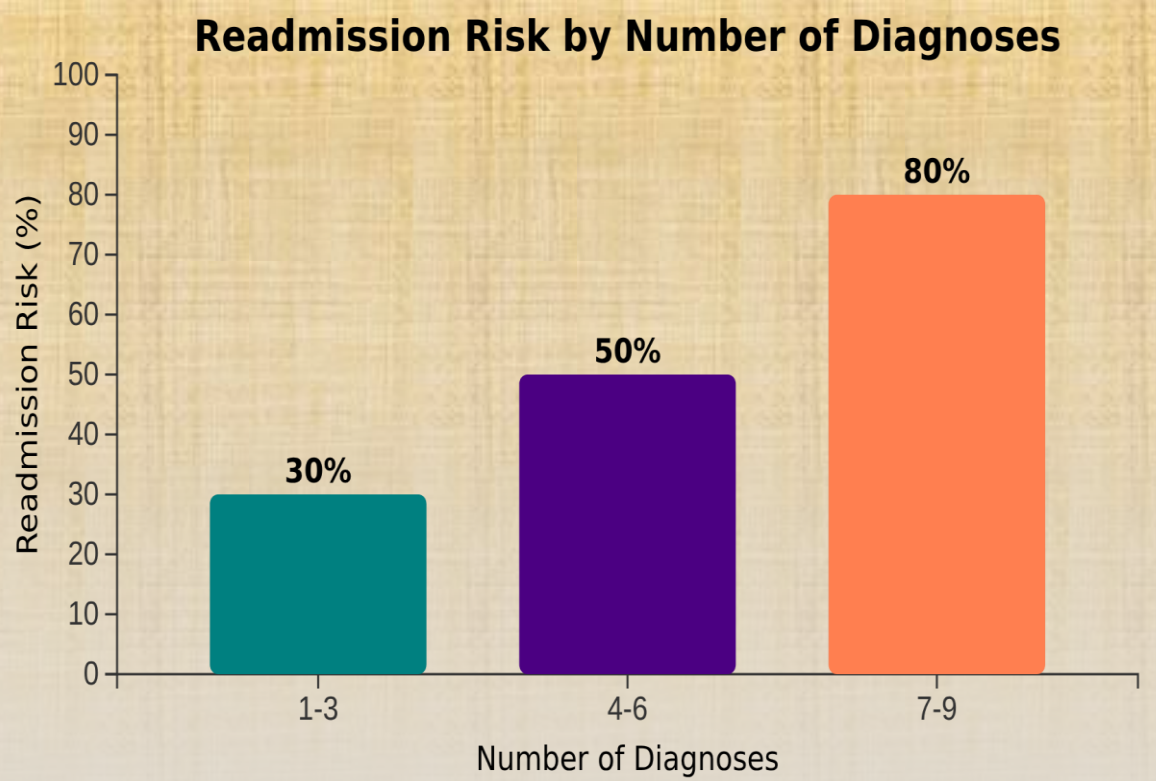
Often falls into categories such as "Complex Chronic Patients" or "Long-stay Emergency Patients."

Primary Drivers

Number of diagnoses and admission history are primary predictors of readmission risk.

Key Driver 1: The Impact of Chronic Conditions

Analysis of how multiple diagnoses significantly increase readmission risk



Key Finding

Patients with 7-9 concurrent diagnoses exhibit a **significantly higher readmission rate** compared to those with fewer conditions.

Why It Matters

- Complex medical needs are harder to manage
- Increased medication complexity
- Higher likelihood of treatment non-adherence
- Greater resource utilization

Managing patients with 7-9 chronic conditions requires specialized care coordination to reduce readmission risk

Key Driver 2: The Role of Patient History

Admission History

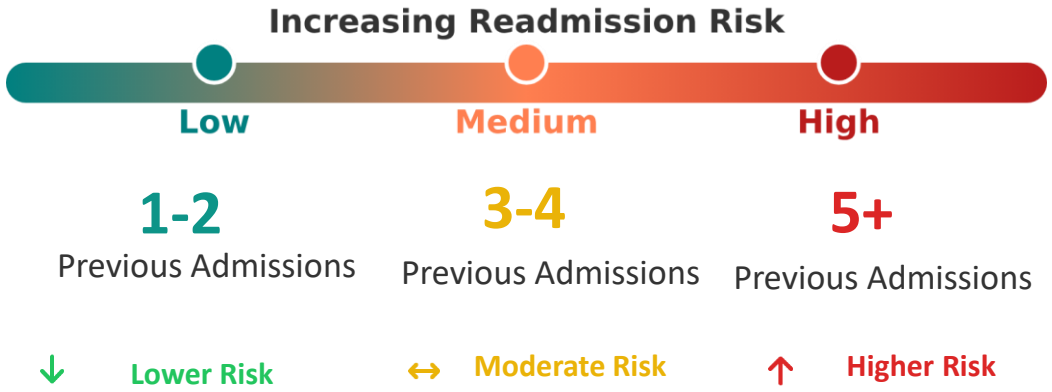
- Previous admissions are a **strong predictor** of future readmissions
- Patients with **3 or more** previous admissions are at **substantially higher risk**
- Each additional admission increases the likelihood of future readmission

Why It Matters

A patient's admission history reveals patterns in their healthcare utilization that indicate:

- Chronic condition management challenges
- Complex healthcare needs
- System navigation difficulties

Risk Correlation with Admission History



Key Finding: Admission history is one of the primary predictors of readmission risk, second only to the number of diagnoses.

Our Risk Stratification Model

A three-tiered approach to patient categorization and intervention

PRIORITY 1

Immediate Intervention

Characteristics:

- Very High Risk
- Multiple high-risk factors
- High number of diagnoses
- Frequent previous admissions

Interventions:

- Intensive case management
- Dedicated care coordinator
- Comprehensive support

PRIORITY 2

High Intervention

Characteristics:

- High Risk
- Clear danger of readmission
- Multiple risk factors

Interventions:

- Standardized discharge checklists
- Scheduled follow-up calls
- Post-discharge monitoring

PRIORITY 3

Monitor

Characteristics:

- Low & Medium Risk
- General patient population

Interventions:

- General education
- Routine care
- Preventive measures

This stratification model enables targeted resource allocation and personalized intervention strategies.

Recommended Intervention Strategy

A four-pillar approach to reducing readmissions

Enhanced Discharge Planning

Target: Complex Chronic Patients

- Comprehensive medication reconciliation
- Schedule follow-up appointments before discharge

Post-Discharge Follow-Up

Target: Long-stay Emergency Patients

- Mandatory nurse-led phone call within 48 hours
- Early identification of issues

Patient Education

Target: Patients with High Blood Sugar

- Targeted education materials
- Self-management techniques

Specialist Coordination

Target: Patients with 7-9 Diagnoses

- Coordination between PCP and specialists
- Unified care plan

Expected Outcomes & Next Steps

A roadmap for implementation and expansion

Implement Risk Protocol in EHR

Integrate risk stratification into EHR system

Pilot Intervention Program

Target top 100 Priority 1 patients

Track Readmission Rate Reduction

Monitor 30-day readmissions

Expand Successful Interventions

Scale to all high-risk patient cohorts

Integrate Predictive Analytics

Add to real-time patient dashboards

Establish Continuous Feedback Loop

Regularly evaluate and refine model

Thank You

For questions and discussion

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Let's work together to reduce readmissions

Implementing data-driven strategies for better patient outcomes