**Literature review**

Rehospitalization is a significant concern in healthcare systems worldwide, reflecting not only the recurring needs of patients but also the efficiency of healthcare delivery and follow-up care. Defined as the unplanned return of a patient to a hospital within a specified period after discharge, rehospitalization rates can indicate various underlying issues, including the severity of initial conditions, the quality of discharge planning, and adherence to post-discharge care. The high rates of rehospitalization have attracted considerable focus in the academic literature, with studies revealing a range of predictors that influence the likelihood of re-admission. This literature review aims to synthesize the current research on rehospitalization, focusing on key predictors, theoretical frameworks, and existing gaps in the field.

The study by Elizabeth Mayfield Arnold, *Rates and Predictors of Rehospitalization Among Formerly Hospitalized Adolescents*, provides significant insights into factors that influence adolescent psychiatric rehospitalizations. The research followed 180 adolescents for over a decade after their discharge from an inpatient psychiatric unit, examining various demographic and psychiatric predictors. The study found that 44% of the adolescents experienced at least one rehospitalization during the follow-up period, with 19% re-hospitalized within six months. In this study, gender, race, age, psychiatric variables, including diagnoses, prehospitalization suicide attempts, and previous hospitalizations, were examined as potential predictors of rehospitalization. Key predictors identified were younger age and the presence of an affective disorder, emphasizing the importance of closely assessing these factors before discharge. The study’s findings underline the need for targeted interventions for younger patients and those with depressive disorders to reduce the risk of rehospitalization.

The study by John Billings, *Development of a Predictive Model to Identify Inpatients at Risk of Re-admission Within 30 Days of Discharge (PARR-30)*, presents a predictive logistic regression model designed to identify patients at high risk of rehospitalization within 30 days of discharge in the National Health Service (NHS) hospitals in England. Using multivariate statistical analysis and logistic regression, the model was developed from a sample of hospital episode statistics (HES) data covering over half a million admissions from 2008 to 2009. The predictors used in the study are: number admissions to hospital by type (emergency versus non-emergency) according to a time interval prior to current admission (90, 180, 365, 730 and 1095 days); the number of episodes per spell in prior admissions (a proxy measure of complex health problems); number of different types of specialists consulted in the last 12 months; a range of diagnostic categories and hierarchical diagnostic groups;36 characteristics of the area of residence and length of stay. The result of this study is a model that outputs a risk score for each patient, with a threshold score of 0.5 yielding a prediction accuracy of 59.2%.

The study by Alessandro Morandi, *Predictors of Rehospitalization among Elderly Patients Admitted to a Rehabilitation Hospital*, the authors examined factors contributing to rehospitalization among elderly patients above the age 65. The study specifically explored the impact of polypharmacy, functional status, and length of stay in rehabilitation hospitals as potential predictors of rehospitalization. The researchers found that patients with multiple medications (polypharmacy) and lower functional status at discharge were at higher risk of rehospitalization. Additionally, a longer stay in the rehabilitation hospital was associated with a increased likelihood of rehospitalization. The findings suggest that monitoring these factors can help healthcare providers identify elderly patients at higher risk and implement interventions to reduce their chances of readmission. This study highlights the importance of personalized care and careful management of medication and rehabilitation outcomes in preventing rehospitalization.

In conclusion, various factors contribute to the likelihood of rehospitalization. The most significant predictors, as highlighted by multiple studies, include age, psychological disorders, the number of medications a patient consumes, functional status (particularly in elderly patients), and the length of the initial hospitalization.