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Veniamin Mayevskiy
USF MCOM-LVHN Campus, veniamin.mayevskiy@lvhn.org

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Assessment of Potential Risk Factors Involved in 30-Day Adult Inpatient Psychiatric Readmission Rate

Veniamin Mayevskiy
Lehigh Valley Health Network, Allentown, PA

**Introduction**

Admissions for mental disorders have been increasing at a faster rate than any other type of hospitalization with mood and psychotic disorders having the highest 30-day readmission rates. The average cost of readmission is significantly larger than the initial hospitalization, thus, hospital reimbursement has become more intimately tied to less rehospitalizations. Readmission rate has emerged as an important quality metric in psychiatry. Identifying the risk factors that lead to readmission at LVHN will allow for focused interventions—improving quality of care, patient satisfaction, and reducing the financial impact on the health care system.

**Problem Statement**

What was the 30-day all-cause readmission rate for adult psychiatric patients aged 18 or older with mood or psychotic disorders at the Lehigh Valley Hospital Adult Inpatient Psychiatric Unit during the 2014-2015 reporting year and what were the potential risk factors which contributed to readmission for this patient population?

**Methodology**

Retrospective data from the adult psychiatric inpatient unit was collected from the 2014-2015 year using the Horizon Business Insight™ (HBI) software and through chart review in EPIC and Centricity EMR. Encounters were subsequently screened for inclusion/exclusion criteria. The sample used after screening contained 2,056 patients. The readmission rate was calculated from the data and multiple variables were assessed to determine if they are risk factors for readmission in the region served by the Lehigh Valley Health Network.

**Results**

The readmission rate (RR) was found to be 13.81% and 8.16% with HBI formula vs population-based readmission rate formula respectively. RR was 5.37% after stratification for true psychiatric cause. Readmitted vs non-readmitted arms were compared in length of stay, mood disorders/psychotic disorders, and patient sex. Readmitted patients were stratified for follow-up care, Friday discharge, drug abuse history, and multiple past admissions. Odds ratios were found for two variables.

**Conclusions and Future Implications**

The study found that the readmission rate for psychiatric cause was lower than that for all-cause readmissions calculated by two different RR formulas after stratification. The finding is significant because it reveals the true fraction of patients that can be targeted by a quality improvement intervention to reduce readmission from a psychiatric cause. The study found differences between variables within the readmission vs non-readmission patients with respect to type of disorder and sex of patient, but analysis showed there was no statistical significance. Due to limitations of EMR and time, it was not possible to perform complete analytical statistics on five of seven variables. Direction for future study would include stratifying the non-readmitted patients by variables to determine correlation, standard deviations, and statistical significance of the data. The analysis would allow for identification of true risk factors and implementation of intervention at LVHN.