Department of Psychiatry

Factors Related to Psychiatric Readmissions in a Large Community Academic Hospital

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Objectives

The purpose of this study was to analyze factors related to readmission to the acute care behavioral health unit in an academic community hospital, with a special focus on comorbid medical conditions. Through this analysis, the research team sought to identify subpopulations that might merit more personalized medical care. The emergence of the concept of an Accountable Care Organization (ACO)[1] suggests potential to improve the quality of patient-centered, effective, efficient, safe, timely, and equitable care.[2] This study represents a necessary and replicable first analysis that might be performed by any integrated system (potential ACO) to identify features of the acute care psychiatric population. Results from this study and subsequent studies can then be utilized to formulate effective strategies and/or processes that better manage patients with comorbid diagnoses. The research reported here features the first use of multiple regression techniques used to analyze psychiatric readmissions in relation to a set of behavioral and medical comorbidities as suggested by current literature.

Methods

6457 unique patients were admitted to the psychiatric unit at Lehigh Valley Hospital in Allentown, Pa. from July 1, 2007 to June 30, 2009. Characteristic data were recorded based on the literature on readmissions. This data included primary psychiatric diagnosis, the presence of a secondary medical diagnosis and/or a secondary behavioral health diagnosis. Chi-square goodness-of-fit tests were used to analyze significant association between categorical variables. Interval variables were analyzed using an independent samples t-test. The targeted outcome was identifying significant relationships between three periods of 30-day, 90-day and 365-day readmissions and potential related factors.

Total Inpatient Admissions
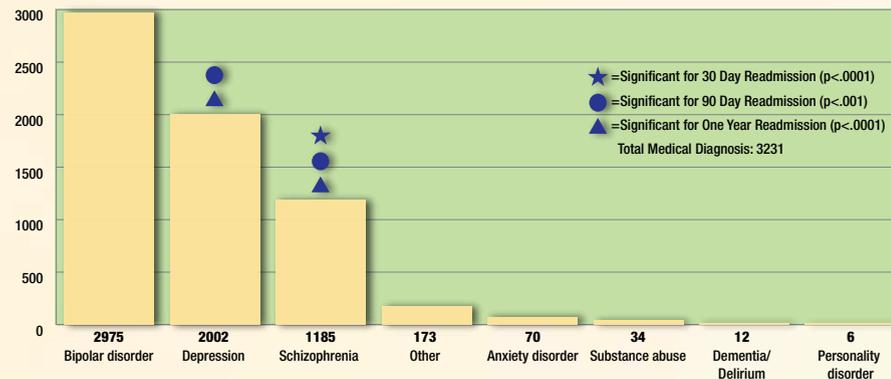
Graph 1. This graph demonstrates the composition of Lehigh Valley Hospital psychiatric inpatient admissions over a three year period based on primary diagnoses. Note that a primary diagnosis of schizophrenia is significantly associated with 30 day readmissions. A primary diagnosis of depression and schizophrenia, were both significantly associated with readmissions at 90 days and one year. Graph 4. This graph displays the percentage of psychiatric inpatients at Lehigh Valley Hospital that were readmitted within the three different categories. 6.2% were readmitted within 30 days, 10.6% within 90 days, and 18.5% within one year.

Medical Comorbidities Psychiatric Population
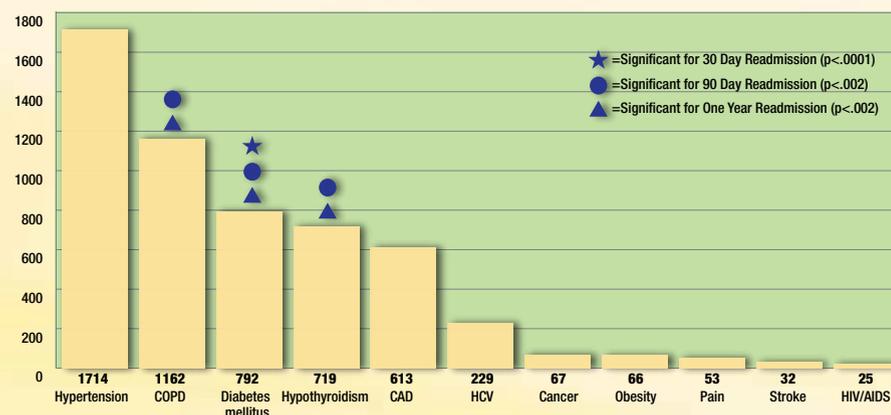
Graph 2. This graph indicated the prevalence of the selected medical comorbidities in the Lehigh Valley Hospital psychiatric inpatient population over a three year period. Note that a secondary diagnosis of diabetes mellitus was significantly associated with readmission at 30 days, 90 days, and one year. A secondary diagnosis of COPD and hypothyroidism were also significantly associated with 90-day and one-year readmissions.

COPD = chronic obstructive pulmonary disease, CAD = coronary artery disease
HCV = hepatitis C

Admission Insurance Type
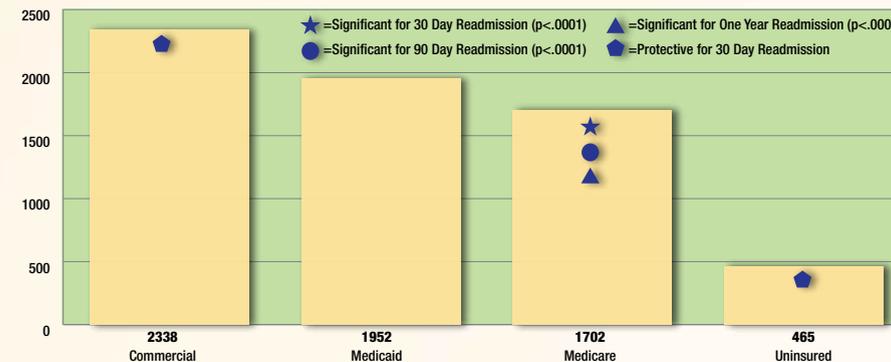
Graph 3. This graph demonstrates the prevalence of different patient insurance types in the Lehigh Valley Hospital psychiatric inpatient population over a three year period. Note that having Medicare insurance types was significantly associated with readmission at 30 days, 90 days, and one year. Also, commercial and uninsured types were significantly protective against readmission at 90 days and one year.

Percentage of Patients Readmitted
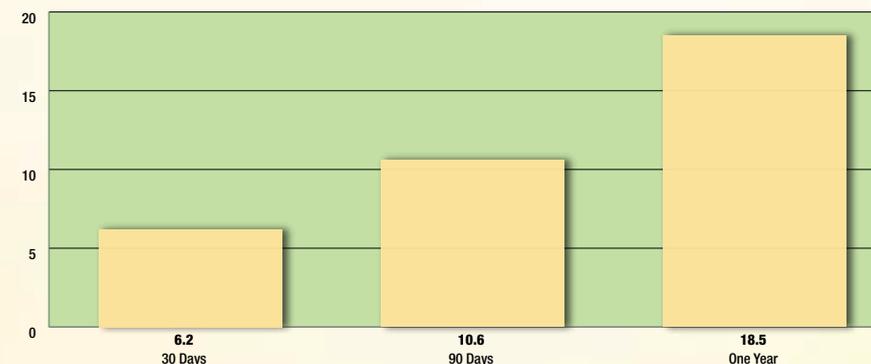
Graph 4. This graph displays the percentage of psychiatric inpatients at Lehigh Valley Hospital that were readmitted within the three different categories. 6.2% were readmitted within 30 days, 10.6% within 90 days, and 18.5% within one year.

Results

3231 patients (50.04%) were identified as having at least one comorbid medical diagnosis. Over the two years, 398 patients (6.2%) were readmitted at 30-days, 687 patients (10.6%) at 60-days and 1195 patients (18.5) at 365 days. The presence of a secondary comorbid medical diagnosis was also associated with readmission at all three levels (p<0.001). Diabetes was the most consistent comorbid medical factor in readmissions at all three levels with significant relations also identified for both COPD and Hypothyroidism at 60 and 90 days.

Conclusions

The significant relationship between select medical comorbidities and psychiatric readmissions underlines the need for increased integration of mental and physical care when treating this vulnerable population. This analysis is the first step in creating community-based care strategies that use population data to identify and treat community demand. Using interdisciplinary care coordination and the Patient Centered Medical Home model may help to improve the overall care for patients with behavioral health issues.

References

[1]. Fisher E, Staiger D, Bynum J. Creating Accountable Care Organizations Health Affairs. 2007;207:w44-w57.

[2]. Institute of Medicine (US). Crossing the Quality Chasm: A New Health System for the 21st Century. Washington:2001.

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