Background: Value-based population care models are replacing traditional patient care and business models to lower costs of patient care and increase value. To motivate hospital and health care systems toward value-based care, the Center for Medicare & Medicaid (CMS) enforced a penalty for hospital readmissions. One subpopulation—patients with serious mental illness—are particularly vulnerable to rehospitalization. We examine the question: When patients with serious mental illness (SMI) enter hospitals for a medical and surgical condition, how do they fare? This study systematically reviews published research evidence that examines the relationship between medical and surgical hospitalizations and readmissions for individuals with co-occurring serious mental illness.

Methods: In accordance with Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) we used the following databases: CINAHL, PsycINFO, Web of Science, and PubMed (from January 1, 2012 to December 27, 2017) to identify relevant articles on the relationship between SMI diagnosis and medical/surgical readmissions. We used the National Institute of Health’s Quality Appraisal Tool for Observational Cohort and Cross-Sectional Studies guidelines to appraise studies and assess risk of bias. Data were narratively synthesized and a pooled random effects unadjusted odds ratio was estimated using meta-analysis. Heterogeneity was investigated using subgroup analysis and meta-regression.

Results: Our search yielded 424 articles after removing duplicates. Fourteen met inclusion criteria. All studies were retrospective observational cohort studies. A wide range of medical/surgical cohorts were investigated. Study methodology varied with little agreement on the definition of SMI, data sources, medical/surgical diagnoses or demographic/clinical variables. Twelve studies found significant relationships between SMI and readmissions. Two studies did not support the significant relationship. The meta-analysis showed that people with SMI have greater odds of readmission than people without SMI (pooled OR 1.38, CI 1.23-1.56, I² = 98.6%). There was heterogeneity in patient cohorts, study methodology, and definition of SMI. No significant possibility of publication bias was detected (Classic fail-safe N = 3480).

Discussion: Our results suggest that patients with SMI have higher rates of medical/surgical readmissions than patients without SMI. Given the prevalence of SMI in patients hospitalized for medical/surgical problems and the heterogeneity of evidence, further research on the relationship between SMI and readmissions is critically needed.
Title:
Medical/Surgical Readmissions in Patients With Co-Occurring Serious Mental Illness: A Qualitative Systematic Literature Review

Keywords:
comorbid serious mental illness, hospital readmission rates and medical/ surgical readmissions

References:
Burke, R. E., DonzÃ©, J., & Schnipper, J. L. (2013). Contribution of psychiatric illness and substance abuse to 30-day readmission risk. Journal of Hospital Medicine, 8(8), 450-455. doi:10.1002/jhm.2044


**Abstract Summary:**
This poster aims to estimate the relationship between comorbid serious mental illness (SMI) diagnosis and 30-day medical-surgical readmissions. The search yielded 424 articles, with fourteen meeting inclusion criteria. Meta-analysis showed that patients with SMI have greater odds of readmission than those without, displaying the meaningful relationship between SMI and readmission.

**Content Outline:**
The objectives of this systematic review were to: (1) provide a synthesis of the literature investigating serious mental illness (SMI) and medical-surgical readmissions in the adult population, and (2) quantify the relationship between SMI diagnosis and medical-surgical readmission rates. This research is applicable to clinicians, administrators and staff involved in the care of people with SMI because a synthesis of existing readmission rates could inform the design and implementation of programs targeting this vulnerable group.

The study followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist. We used a modified PICOS (population, interventions, comparisons, outcomes, and study design) framework to assess study eligibility. Our population included adults (aged >18 years) with SMI (schizophrenia, bipolar disorder, and/or major depression) hospitalized in the USA for medical conditions or surgical procedures. We searched five databases: CINAHL, PsycINFO, Web of Science, MEDLINE, and PubMed. We searched these databases using the following key terms: serious mental illness, schizophrenia, bipolar, personality disorder, borderline personality disorder, or major depressive disorder and the keywords readmission + medical, readmission + surgical, rehospitalization + medical, rehospitalization + surgical, national readmissions data, NRD, readmission, rehospitalization.

We appraised the quality of the included studies using the National Institute of Health’s Quality Appraisal Tool for Observational Cohort and Cross-Sectional Studies. Of 424 articles, fourteen met inclusion criteria.
Our meta-analysis demonstrated that among the fourteen studies identified in our systematic review, there was a 1.38 greater odds of 30-day medical-surgical readmission for patients with a diagnosis of co-occurring SMI. The significant heterogeneity across studies—which varied widely in data sources, definition of mental illness, and patient population—could not be explained through subgroup analysis or meta-regression. Nevertheless, our findings point to the need for additional resources after discharge for patients with SMI.

The association between 30-day readmissions and diagnosis of SMI was reported in nine studies. The available evidence suggests that having an SMI diagnosis increases the odds of being readmitted within 30-days of discharge. The present review should provide impetus for further investigation of the impact of SMI diagnosis on 30-day readmission. From a clinical and quality improvement perspective, the findings about the relationship between SMI and readmissions outlined in this review should raise the attention of hospital administrators to acknowledge the poor outcomes experienced by this particularly vulnerable population. Different and more intensive follow-up strategies are essential to managing these high-risk patients to substantially reduce their risk of poor post-discharge outcomes.

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