

# Ambulatory Care-Sensitive Conditions and Mental Health Disorders: A Short Overview of the Current State of Research

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## What is the problem?

Ambulatory care-sensitive conditions (ACSC) refer to a group of chronic and acute medical diseases such as diabetes, pulmonary and cardiovascular diseases considered not to require acute medical care and hospitalization if timely and appropriate primary respective ambulatory care is received (Agency for Healthcare Research and Quality (AHRQ), 2001). ACSC-related hospitalizations and early rehospitalizations ( $\leq 30$  days of discharge) are common and extremely costly in western countries (Galarraaga, Mutter & Pines, 2015). Subsequently, interest is increasing in understanding the risk factors for potentially preventable acute care hospital admissions and emergency department (ED) visits for ACSC among a growing aging and multimorbid population. Next to patient characteristics such as demographic factors and socioeconomic status, health status (e.g., comorbidities) as well as adherence of medication and healthcare utilization, (Folsom et al., 2005; Robinson, Howie-Esquivel & Vlahov, 2012; Yoon et al., 2012; Davydow et al., 2014; Davydow et al., 2016), comorbid mental illness is thought to play a central role.

## What do we know from most recent empirical studies?

The effect of comorbid mental disorders and mental health conditions on the utilization of ED services and preventable inpatient hospitalizations has been examined in large scale prospective longitudinal cohort studies. For example, (Yoon et al., 2012), found comorbid mental disorders, as assessed on the basis of the International Classification of Disease [ICD]-9 diagnosis codes recorded in clinical encounters in primary care practices, such as depression (odds ratio [OR] 1.10, 95% confidence interval [CI] 1.03-1.17) and drug abuse disorders (OR 1.48, 95% CI 1.05-1.99) to play a predictive role in the risks and rates of ACSC related acute care admissions and ED visits. That is, patients with depression or drug abuse at baseline had higher rates of receiving ACSC related acute care in a follow-up period of 12 months compared with patients without mental health diagnoses. Another study by (Davydow et al., 2014), with a follow-up period of up to 10 years highlighted that the neuropsychiatric disorder status in older adults, as assessed in clinical interviews and/or through ICD-9 diagnosis codes in medical records, predicted not only an increased risk for ACSC-related hospitalizations (depression: hazard ratio [HR] 1.33, 95% CI 1.18-1.52; cognitive impairment without dementia: HR 1.25, 95% CI 1.10-1.41; dementia: HR 1.32, 95% CI 1.12-1.55), but also for early rehospitalizations (depression: OR 1.37, 95% CI 1.01-1.84) for pneumonia, congestive heart failure or myocardial infarction. That is, patients with these neuropsychiatric disorders at baseline had an increased number of hospitalizations and rehospitalizations for an ACSC relative to patients without neuropsychiatric disorders.

A recently published population-based study by (Davydow et al., 2015), used data from nationwide Danish registries (study period 1999–2013) and confirmed the previous United States results. In this study, it was found that individuals diagnosed with serious mental health conditions such as bipolar disorder, schizophrenia or schizoaffective disorder, according to the ICD-10 diagnosis codes in the psychiatric central register, were at a stable risk for increased ACSC-related hospitalizations (incidence rate ratio [IRR] 1.41, 95% CI 1.37-1.45), and early rehospitalizations for the same ACSC (IRR 1.28, 95% CI 1.18-1.40) or for another ACSC (IRR 1.62, 95% CI 1.49-1.76). In summary, research indicates that mental health disorders are associated with potentially preventable ED visits and hospitalizations for ACSC after adjustment for covariates such as demographics, socioeconomic factors, health status and medication use as well as prior healthcare utilization.

## What do we still don't know?

Thus far, the causal mechanisms underlying the association between mental disorders and risk for potentially preventable ACSC-related acute medical care and hospitalizations are still poorly understood. Possible explanations are manifold. On one hand, patients with mental health conditions may be at elevated risk for ACSC-related acute care because they have higher prevalence rates of comorbid chronic medical diseases (Bankier, Januzzi & Littman, 2004; Todaro et al., 2007), (which underlie many ACSC). In addition, they may suffer from toxic side effects of psychiatric medication use, (Pizzi et al., 2011), they may present an altered immune system activity or other medical complications leading to hospitalization (Ghoneim & O'Hara, 2016). Also, patients with mental health conditions may have more difficulties to access primary care as well as specialized ambulatory healthcare, (Cradock-O'Leary et al., 2002), they may show a lower treatment adherence, (Ziegelstein et al., 2000), and may receive worse quality of medical care (Druss et al., 2012), because of a lower functional status and reduced self-management abilities. (Herrman et al., 2002; Bayliss, Ellis & Steiner, 2007). On the other hand, mentally ill patients may present with higher acuity and severity of mental and physical burden to primary care compared with patients without mental disorders, and thus require hospitalization for an appropriate treatment. (Davydow et al., 2016; Herrman et al., 2002; Gili et al., 2011; Gili et al., 2011; Dickens et al., 2012). For example, the combination between depression and chronic medical conditions is associated with the greatest decrements in health (Moussavi et al., 2007), and increased mortality (Barth, Schumacher & Herrmann-Lingen, 2004) as well as high use and costs of care (Egede, Zheng & Simpson, 2002). Noteworthy, previous findings also suggest a potential for a vicious cycle of hospitalization, rehospitalization, and physical as well as mental decline with adverse health outcomes among chronically ill patients with comorbid mental disorders (Davydow et al., 2014) However, all explanations remain speculative to a large degree at this point.

## What is needed now?

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Patients with chronic medical conditions and comorbid mental health issues are a particularly vulnerable patient population with an increased risk of inefficient or inappropriate use of primary as well as specialized ambulatory care services. Given the known potential impact, mental health conditions are a major concern and need to receive more attention in the context of primary care and acute medical care. International data show a high prevalence rate between 40% to 50% of patients presenting to the ED with accompanying mental health conditions (Wulsin et al., 1988; Schriger et al., 2001; Marchesi et al., 2004), but still may be under-diagnosed (Gili et al., 2011; Dickens et al., 2012; Wulsin et al., 1988; Schriger et al., 2001; Marchesi et al., 2004; Kowalenko & Khare, 2004; Kumar, Clark, Boudreaux & Camargo, 2004; Boudreaux, Clark & Camargo, 2008; Rhodes, 2008; Coley, Saul & Seybert, 2009; Kessler et al., 2009; Wittchen et al., 2011; Jachertz, 2013). The treatment success of ED patients with mental disorders has sparsely been investigated (Rhodes, 2008). It has been pointed out that even within ED settings the screening for co-existing mental disorders is feasible if appropriate settings and technical solutions are provided (Boudreaux, Clark & Camargo, 2008). This includes the routine application of valid, short, and precise self-report screening tools. And recently, more effective measurement tools to screen for most common mental disorders have been developed (Devine et al., 2016).

In the light of the scarcity of resources, healthcare costs for preventable acute medical care services and hospitalization must be reduced, and the disease burden of patients with disabling medical conditions and comorbid mental disorders in acute care and ED settings must be decreased. The implementation of enhanced trans-sectorial care models with an improved clinical management, better access to mental health services, and coordination of medical and mental health services for multimorbid patients may be an answer to the problem.

## Outlook

- Systematic screening for comorbid mental health conditions in patients with acute or chronic medical conditions in acute care and ED settings.
- Development, implementation, and evaluation of enhanced trans-sectorial care models.

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