Creating a Health Care Team to Manage Chronic Medical Illnesses in Patients With Severe Mental Illness: The Public Policy Perspective

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Patients with severe mental illnesses have higher morbidity rates and shorter life spans than the general population, due in part to modifiable risk factors. Psychiatrists should understand the increased health risks that patients with severe mental illness face due to their psychiatric diagnoses, personal health behaviors, and genetic risks, and how these risks are exacerbated by a fragmented health care system. Professional societies should develop guidelines for monitoring these health risks, and accrediting bodies should monitor adherence to these guidelines. Mental health providers should help improve the integration of primary care and mental health care and implement treatment strategies for changing modifiable health risk factors in their patients with severe mental illness.

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Over the last few decades, evidence has shown that patients with severe mental illnesses have disproportionately high mortality rates,[1] elevated rates of medical comorbidity,[2] and significantly shortened life spans relative to the general population.[1,3] In fact, the mortality rate for patients with schizophrenia is approximately double that of the general population,[3,4] and patients with bipolar disorder also have an increased standardized mortality ratio (SMR), or risk of death compared with persons of the same age and sex in the general population.[5] Although suicide accounts for a portion of the overall increased SMR for patients with severe mental illness, deaths from natural causes also occur at higher rates.[5,6]

Time-trend studies[7,8] indicate that SMRs for these patients are continuing to rise for all causes of death, but particularly for cardiovascular mortality. Osby et al[7] studied data from 1976 through 1995 and found that the SMRs for cardiovascular death for patients with schizophrenia increased steadily, with a 4.7-fold increase among men and a 2.7-fold increase among women. The fact that these increases have occurred even as advances have been made in the effectiveness and safety of the treatments available for mental illnesses raises concerns about the consequences and causes of medical disorders in patients with chronic and severe mental illness.

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FACTORS INFLUENCING INCREASED MORTALITY RATES

Sources of risk contributing to the high rates of mortality and medical comorbidity seen in patients with schizophrenia and other severe mental illnesses are related directly to the mental disorders themselves, to the personal health behaviors seen in these populations, to psychiatric medications, and to problems inherent in the health care system.[9]

Risks Related to Mental Disorders

Studies[10,11] have shown that medical illnesses in patients with psychiatric illnesses are underdiagnosed. Psychiatric symptoms such as cognitive deficits may impede these patients' ability to communicate medical problems,[12] and other characteristics related to psychiatric illness, such as increased pain tolerance in patients with schizophrenia, can mask medical illness.[13]

Negative symptoms of psychiatric illness such as poor insight and inattention may increase health risks for these patients by interfering with the ability to monitor one's health and maintain preventive habits.[2] In addition, consequences of severe psychiatric illness, such as low educational attainment among patients with schizophrenia, are associated with poor physical health.[2]

Psychiatric illnesses may also be biologically related to vulnerability to some medical illnesses, such as diabetes

FOR CLINICAL USE

- Individuals with severe mental illness have higher mortality rates and shorter life spans than the general population, usually due to natural causes such as cardiovascular disease.
- Professional societies need to develop and disseminate guidelines for monitoring the medical health of patients with severe mental illness.
- Payers should facilitate and provide incentives for integration of primary care and behavioral health care.
- Service delivery systems and accrediting bodies should monitor adherence to guidelines.

and cardiovascular disease. For example, evidence[14] suggests that people with schizophrenia are more insulin resistant than healthy subjects and have higher levels of plasma glucose, insulin, and cortisol. Obese patients with bipolar disorder, when compared with obese control subjects, have been found to have higher levels of abdominal fat, more hypertension, and lower rates of fat oxidation.[15]

Schizophrenia, or even familial susceptibility to schizophrenia, may make a person more susceptible to smoking and make it harder to stop smoking.[16] Patients with schizophrenia may smoke tobacco in an effort to self-medicate, using nicotine to alleviate cognitive symptoms associated with mental illness,[17] and have been shown to have higher nicotine levels than the general population of smokers, perhaps due to deeper inhalation when smoking.[18]

Risks Related to Health Behaviors

Unhealthy lifestyles that contribute to medical illnesses such as diabetes and heart disease have been reported among patients with severe mental illness. Patients with schizophrenia and bipolar disorder are more likely than patients without serious mental illness to report poor exercise habits and suboptimal eating behaviors.[19–21]

Allison et al[22] found that women with schizophrenia had a significantly higher mean body mass index than a control group of women without schizophrenia ($P < .001$). The prevalence of obesity among persons with schizophrenia and affective disorders is approximately 1.5 to 2.0 times higher than in the population at large.[23]

Approximately 75% to 85% of persons with serious mental illnesses smoke,[24] and substance abuse is also common, particularly alcohol abuse.[25] People with severe mental illness also have a high prevalence of risk factors (ie, unsafe sex, intravenous drug use, and needle sharing) for human immunodeficiency virus (HIV)/AIDS and hepatitis C.[26,27] The rate of HIV infection in this group is approximately 8 times the rate in the US population, and hepatitis C infection approximately 11 times the rate.[28]

Risks Related to Psychiatric Treatment

Medications used to treat severe mental illnesses can have side effects that may contribute to medical illnesses. Adverse effects of psychiatric medications include sedation and neurologic effects such as akinesia, which can contribute to a lack of exercise. Some atypical antipsychotics have been shown to cause significant weight gain (≥ 7% of body weight),[29] increasing the risk for diabetes mellitus, coronary artery disease, hypertension, and certain cancers. Studies[30,31] indicate that certain atypical antipsychotics may directly affect glucose regulation, even in patients who do not gain weight, leading to insulin resistance and elevation of fasting glucose levels. Atypical antipsychotic treatment is associated with a high rate of metabolic syndrome (54%) in both patients with schizophrenia and those with bipolar disorder.[32] Metabolic syndrome increases the risk of cardiovascular disease and diabetes and is diagnosed when a patient has 3 of the following 5 factors: abdominal obesity, elevated triglyceride levels, low levels of high-density lipoprotein (HDL) cholesterol, hypertension, and hyperglycemia (Table 1).[33]

Risks Related to the Health Care System

A fragmented health care system, lack of health insurance coverage, and lack of access to health care are all obstacles to the provision of adequate medical care for persons with mental disorders.[34] Additional barriers include the stigmatization of people with mental disorders by primary care physicians and the complexity of coordinating both medical and psychiatric medications.

Even when patients with mental disorders obtain access to medical care, they may receive suboptimal care. Druss et al[35] investigated a national cohort of 88,241 patients over the age of 65 years who had been hospitalized for acute myocardial infarction (of whom 5.3% had a mental disorder) to determine indicators of excess mortality during the following year. They found that patients with mental disorders were less likely to receive certain guideline-based treatments than the other patients, including reperfusion therapy, aspirin, β-blockers, and angiotensin-converting enzyme inhibitors. Mortality for patients with all mental disorders was 19% higher than that of the other patients during the year following the index hospitalization, and 34% higher for patients with schizophrenia.[35] The excess mortality rate for patients with mental disorders could be partly attributable to a lower quality of care.

Table 1. Identification of Metabolic Syndrome (≥ 3 risk factors required for diagnosis)[a]

Risk Factor	Defining Level
Abdominal obesity	Waist circumference
Men	> 40 in (> 102 cm)
Women	> 35 in (> 88 cm)
Triglycerides	≥ 150 mg/dL
HDL cholesterol	
Men	< 40 mg/dL
Women	< 50 mg/dL
Blood pressure	≥ 130/85 mm Hg
Fasting blood glucose	≥ 110 mg/dL

[a]Reprinted with permission from the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III).[33]
Abbreviation: HDL = high-density lipoprotein.

Other studies have found a similar lower quality of medical care for mental health patients. In a large study[36] of 113,505 veterans with chronic medical conditions who were in active medical treatment, patients with psychiatric disorders received lower rates of preventive services than patients without these disorders. A national, cross-sectional study[37] of 313,586 veterans with diabetes showed that patients with mental disorders were less likely to receive standard diabetes care, including tests of cholesterol, vision, and glycemic control. The Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) schizophrenia study[38] indicated high rates of nontreatment for diabetes (30%), hypertension (62%), and dyslipidemia (88%), although compared with controls these patients had significantly higher rates of diabetes (13% versus 3%) and hypertension (27% versus 17%) and lower HDL cholesterol levels ($P < .001$).[39]

INTERVENTIONS TO LOWER EXCESS MORTALITY

The excess mortality rates in persons with severe mental illnesses are largely due to modifiable health risk factors, such as overweight and obesity, hypertension, smoking, dyslipidemia, and hyperglycemia, which are the key risk factors for cardiovascular disease, the leading cause of death in the United States.[40] Mental health care providers can play an important role in helping to reduce these health risks in their patients with severe mental illness.

Behavioral Intervention and Patient Education

Nonpharmacologic interventions such as cognitive-behavioral therapy, group interventions, and nutritional counseling have been shown to be effective for reducing weight gain in patients with schizophrenia taking antipsychotics.[41] In addition, evidence suggests that behavioral therapy can aid in preventing weight gain when patients first initiate atypical antipsychotic therapy.[42] Behavioral interventions address self-control and self-monitoring skills, problem solving, and motivational techniques to help change their eating habits,[43] including ways to control their environment to reduce the exposure to food and food cues that precipitate eating behaviors (stimulus control).

Patients should be taught about healthy lifestyles and should receive psychoeducational packages to facilitate them. The National Institute of Diabetes and Digestive and Kidney Diseases[44] has developed publications on many subjects, such as healthful diets and the health risks of being overweight, that can be made available to patients. Psychoeducation does not need to be administered by a nutritionist, nor does it require special training, but should be administered by staff at the mental health clinic. Patients should be provided with positive feedback and support.

Patients should also be counseled to stop smoking, which is a risk factor for cardiovascular and respiratory disease. Psychiatrists report that they rarely advise patients to quit smoking,[45] but studies[24,46] show the efficacy of integrated approaches that include medications for addiction, behavioral therapies, and psychosocial interventions for smoking cessation in these patients.

Improved Monitoring of Patient Health Risks

In 2004, the American Diabetes Association (ADA), the American Psychiatric Association (APA), the American Association of Clinical Endocrinologists, and the North American Association for the Study of Obesity established health monitoring protocols for patients taking atypical antipsychotics due to concerns regarding their association with weight gain, diabetes, and dyslipidemia (Table 2).[23] In a consensus statement, the panel recommended that baseline screening measures be obtained before the patient begins antipsychotic medication or as soon as possible thereafter. This screening should begin with the patient's personal and family history regarding the screening measures. The metabolic syndrome criteria of waist circumference, blood pressure, fasting plasma glucose, and fasting lipid profile should be assessed. If the patient is overweight (body mass index [BMI] 25.0–29.9) or obese (BMI ≥ 30), has prediabetes (fasting plasma glucose [fpg] = 100–125 mg/dL) or diabetes (fpg ≥ 126 mg/dL), hypertensive blood pressure (> 140/90 mm Hg), or dyslipidemia, the patient should be referred to a primary care provider to treat these conditions. Follow-up monitoring should be done at appropriate intervals (see Table 2). Changes in baseline measurements or weight gain (≥ 5% of the patient's initial weight) are reasons to consider switching antipsychotic medications.[23]

Changes to Health Care System

Changes need to be made in the health care system to address the problem of suboptimal medical treatment for patients with severe mental illness.[47] Presently, psychotic symptoms and other aspects of psychopathology may appear more salient to providers than long-term health risks,

Table 2. Screening and Monitoring for Patients Taking Atypical Antipsychotics[a]

Parameter	Baseline	Every 4 Weeks	Every 8 Weeks	Every 12 Weeks	Quarterly	Annually	Every 5 Years
Personal/family history	✓					✓	
Weight (body mass index)	✓	✓	✓	✓	✓		
Waist circumference	✓					✓	
Blood pressure	✓			✓		✓	
Fasting plasma glucose	✓			✓		✓	
Fasting lipid profile	✓			✓			✓

[a]Reprinted with permission from the American Diabetes Association.[23] More frequent assessments may be warranted based on clinical status.

and clinicians may concentrate on controlling these symptoms. However, psychiatrists need to focus on both the short-term treatment goals and the long-term consequences of the illness and its treatment, such as cardiovascular disease.

An effective and consistent integration of primary care management with mental health care should be part of the treatment plan. Studies[48,49] show that while patients with severe mental illness utilize outpatient services for medical problems at a high level, they receive low levels of preventive care such as dental, vision, and gynecologic examinations and are less likely to make general medical visits than those without severe mental illness. However, a trial[50] of integrated, on-site medical care for patients with serious mental disorders found that improved communication between medical and mental health care providers led to a greater utilization of preventive services, a greater likelihood of primary care visits, and a greater improvement in health measures than for patients in a control group. The study also found that, in a setting without integrated primary and mental health care, psychiatrists simply giving patients referrals to primary care providers resulted in greater utilization of preventive and primary care visits, illustrating that psychiatrists can make a positive impact on the coordination of general medical care for their patients.

Psychiatrists should engage in shared decision making with their patients, informing them of the results of their medical tests and their implications. This communication is particularly important when the best treatment option for the patient is unclear. When the health care professional provides needed information about the potential benefits and risks of available treatments, the patient and the patient's caregiver can then discuss what is personally important to the patient in evaluating treatment options. For example, patients need to be aware of the long-term medical risks of a medication and the potential risks of switching medications if adverse effects occur. A joint treatment decision that includes specific plans for evaluating outcomes can then be made.

Public Policy Perspective

Professional societies need to develop and disseminate treatment guidelines for patients with severe mental illnesses, such as the ADA/APA consensus guidelines for monitoring patients prescribed atypical antipsychotics. Implementation strategies need to be created to ensure that these guidelines are followed. Compliance can be greatly improved if guidelines are actively implemented using seminars, local implementation teams, regular feedback, and other means.[51] Agreement will need to be reached on who will perform the guideline tasks; for instance, if metabolic monitoring is not conducted in the mental health care setting, the psychiatrist should coordinate this care with another provider. Psychiatrists can facilitate the integration of primary care management into psychiatric care through greater communication with both patients and primary care providers.

Once treatment guidelines are in place, service delivery systems will need to monitor performance. Both hospital administrators and the medical leadership will need to be involved in monitoring adherence to the established guidelines, including such factors as who has responsibility for performing screening tests and then recording and interpreting the data. Established accrediting bodies, such as the Joint Commission, should play a role in deciding the performance measures needed for monitoring guideline adherence, and monitor adherence using these measures once guidelines are in place.

Payers should facilitate and provide incentives for integration of primary care and behavioral health care. Integrating services can result in better treatment and health outcomes without increasing total costs,[50] but private, state, and federal payers often treat medical and mental health systems differently, making it difficult to receive reimbursement for services. The President's New Freedom Commission on Mental Health has called for a transformation of the mental health care system that will require collaboration between public and private sectors and between the branches and levels of government in order to provide more comprehensive mental and physical health care.[52]

CONCLUSION

In order to provide optimal care to patients with chronic and severe mental illnesses, mental health care providers need to be aware of the increased health risks faced by this population. These patients are at risk for premature death,

usually from natural causes. Some of the risk factors for these patients are associated directly with their mental disorders, psychiatric medications, and personal health behaviors, but others arise from problems inherent in the health care system.

Much of the excess morbidity seen in patients with severe mental illnesses is due to modifiable health risk factors such as smoking and obesity. Psychiatrists need to address these risks and develop integrated strategies that will improve both medical and psychiatric treatment outcomes. Treatment guidelines, such as routine screening measures for patients with severe mental illness, can help in integrating mental and physical health care. Professional societies, health care providers, health care payers, and accrediting bodies will all need to work together to transform health care for patients with severe mental illness.

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