Integrating General Health Care in Private Community Psychiatry Practice

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Persons with serious mental illness represent a special at-risk population, with elevated medical comorbidity and mortality rates, mainly due to cardiovascular disease. For this reason, the treatment plan for patients with mental illness must include the assessment of medical risk factors, beginning at the time of the initial psychiatric evaluation. Follow-up assessments should proceed as recommended by the Expert Consensus Development Panel convened by the American Diabetes Association, the American Psychiatric Association, and other relevant specialty organizations. Because the various second-generation antipsychotics (SGAs) have unique side effect profiles with respect to cardiometabolic risk factors, such as weight gain and dyslipidemia, the selection of an SGA always should weigh efficacy versus potential risks. Prior to initiating antipsychotic therapy, the psychiatrist should not only explain to the patient the risks of the medication and alternative treatments, but also address preventive strategies and the importance of monitoring. To help evaluate the patient's response and manage SGA-related adverse effects, the psychiatrist should spend considerable time in contact with the patient, the patient's family and/or caregivers (as appropriate), and the patient's primary care physician. To enhance overall patient care, the psychiatrist in private practice should implement procedures to ensure adequate patient education and address overall health monitoring. Furthermore, the psychiatrist must serve as a patient advocate, actively working to foster communication with medical colleagues, especially primary care practitioners, and identify resources in the community that facilitate preventive health care.

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The psychiatrist in private practice can face considerable challenges when integrating medical and psychiatric care. Obstacles often include time constraints, as well as an absence of ancillary personnel to assume responsibility for health education, monitoring, and outreach. In addition, if the solo practitioner is not part of a larger health care system, integration of medical and psychiatric care may be even more difficult. As a result, the psychiatrist in private practice must assume a variety of roles. In addition to patient education and monitoring, this includes actively working to foster communication with medical colleagues and identifying resources in the community that can facilitate preventive health care.

In formulating a strategy to integrate medical and psychiatric care, the solo practitioner must first become familiar with the multiple health care needs that characterize the chronically mentally ill. Patients with mental illness have a higher relative risk of death than the general population.[1,2] Moreover, death often occurs at a younger age among the mentally ill,[1,2] with the life expectancy shortened by as much as 20% in persons with schizophrenia.[2] The excess mortality rate among the mentally ill has been attributed to "natural causes" and preventable medical illnesses, such as heart disease, cancer, cerebrovascular disease, and pulmonary illnesses, with heart disease being the leading cause of death.[1] In addition, among all patients with mental illness, those with more severe and chronic symptoms tend to have less access to appropriate medical care and are more likely to suffer iatrogenic metabolic disturbances resulting from pharmacotherapy.

CAUSES OF EXCESS MORTALITY AND MORBIDITY

Several recent publications[3–5] have reviewed a number of factors that contribute to the excess morbidity and mortality in patients with schizophrenia, including poor nutrition, cigarette smoking, other substance abuse, sedentary lifestyle, obesity, infectious diseases (including hepatitis and HIV), and metabolic consequences of medications. A recent study[6] of a representative national sample of patients with schizophrenia from the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) found that the estimated 10-year risk of cardiac disease was significantly elevated compared with matched controls from the general population. The increased risk among schizophrenia patients resulted from higher rates of cigarette smoking (68% vs. 35%, p = .0001), diabetes (13% vs. 3%, p = .0001), and hypertension (27% vs. 17%, p = .0001), as well as dyslipidemia. In the same sample, rates of metabolic syndrome, a serious cardiac risk factor believed to represent the consequences of insulin resistance, were increased by 138% in men and by 251% in women with schizophrenia.[7] Cardiac risk appears to be even greater in patients treated with certain second-generation antipsychotics (SGAs). For example, in a 10-year naturalistic study of patients treated with clozapine,[8] the 10-year mortality rate from cardiac disease was 9% and the rate of new-onset diabetes was 43%—both rates are alarmingly high compared with rates in other populations. In particular, blacks and Hispanics were at increased risk for diabetes, as were obese patients.

While attention has focused increasingly on the high rates of cardiac disease in patients with schizophrenia, the greater vulnerability to infectious diseases also should be emphasized. Sur-

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veys[4,9] have found a 5- to 10-fold increase in rates of HIV and hepatitis B and C infections in the chronically mentally ill. These individuals also are at greater risk for pulmonary disease, particularly pneumonia and emphysema, although lung cancer does not appear to be as prevalent as might be predicted by the high rates of cigarette smoking, possibly reflecting a protective genetic factor.[10] Substance abuse, which is common yet often undetected in psychiatric patients, threatens patient health via many routes, including intravenous infection, overdose, intoxication–related injuries, compromised nutrition, and health risks taken in the process of procuring drugs.

ASSESSING AND ADDRESSING MEDICAL RISK FACTORS

To minimize and prevent excess medical comorbidity and mortality, the assessment of medical risk factors should be incorporated into the initial psychiatric evaluation (Table 1). Due to the high prevalence of cardiovascular morbidity and mortality, the psychiatrist should be conversant with cardiovascular risk factors and the goals of treatment to help reduce or eliminate these risk factors (Tables 2–4). In addition to a standard medical history and review of systems, the psychiatrist should inquire about family medical history, cigarette smoking, substance abuse, high-risk behaviors (including unprotected sexual activity), nutritional status, exercise, and medical care (including compliance with regular medical examinations and treatments).

The process of patient education can start at the first visit by conveying the seriousness of potential health risks and the importance of preventive health measures. This information should be communicated to the patient and, if appropriate, family members and other caregivers. In some settings, a nurse or other member of a multidisciplinary team can take a lead role in patient education. In addition, providing printed educational materials or the use of educational videos may be helpful. Topics discussed with the patient should include nutrition, exercise, infectious disease precautions (including "safe sex"), health consequences of cigarette smoking and other substance abuse, weight reduction, and the importance of compliance with routine medical screening and treatments.

Although a psychiatric clinician in solo private practice is unlikely to possess the expertise or resources necessary to provide interventions for the full range of medical risk factors, the psychiatrist should be able to identify programs in the community that offer nutritional counseling, supervised exercise programs, smoking cessation programs, and dual-diagnosis treatment. Despite frequent pessimism on the part of physicians and patients, recent studies[4] have suggested that weight reduction and smoking cessation are realistic goals that can be achieved with approaches specifically designed for individuals with chronic mental illness. Nutritional counseling and exercise programs should be designed and modified as necessary to accommodate the needs of psychiatric patients who may require a more simplified approach, with repetition of educational lessons, extra staff support, the use of food diaries, and the expectation that several attempts may be necessary before the patient is successful.[4] Education and behavioral/lifestyle interventions targeted to mental health patients are discussed in detail by Dr. Ganguli[20] and Ms. Vreeland[21] in their respective articles in this supplement.

For smoking cessation, bupropion and nicotine replacement therapy have been found to improve success rates in patients with schizophrenia when combined with cognitive-behavioral approaches.[4,22–24] Bupropion also may prevent symptomatic worsening associated with nicotine withdrawal.[23] Continued use of bupropion or nicotine replacement therapy may be necessary to maintain smoking cessation in patients with schizophrenia, in contrast to the time-limited approach taken by traditional smoking cessation programs.[4]

MANAGING SGA-RELATED METABOLIC DISTURBANCES

The initial selection of an SGA should involve a careful weighing of its efficacy against potential cardiometabolic risks. For guidance, the clinician should refer to the joint statement from the American Diabetes Association (ADA)/American Psychiatric Association (APA) Consensus Development Panel composed of experts from these and other relevant specialty organizations, who reviewed the evidence on metabolic side effects associated with antipsychotic agents.[3] The panel concluded that olanzapine and clozapine produced the greatest weight gain and were most clearly linked to the risk of diabetes mellitus and dyslipidemia. Risperidone and quetiapine were found to produce intermediate weight gain, and the evidence linking these agents to diabetes and dyslipidemia was judged to be "discrepant" or uncertain. Ziprasidone and aripiprazole were associated with the least weight gain, and the panel concluded that the available data did not support a relationship between the use of these agents and an increased risk of diabetes or dyslipidemia. Consistent with the panel's recommendation, the National Institute of Mental Health–initiated CATIE study[25] also observed that olanzapine was associated with significantly greater weight gain ($p < .001$) and elevations of glycosylated hemoglobin ($p < .01$), triglycerides ($p < .001$), and total cholesterol ($p < .001$) than other SGAs.

When prescribing psychotropic medication with potential adverse medical effects, the psychiatrist carefully should explain to the patient the risks of the medication and the alternative treatments, as well as preventive strategies and the importance of monitoring. It is clear that when the patient is involved in the process of selecting a medication on the basis of such pretreatment education, the emergence of adverse effects is less likely to jeopardize adherence and the treatment alliance. The psychiatrist should spend considerable time with the patient, the patient's family members (when possible and appropriate), and the primary care physician to help evaluate the patient's response and manage treatment-emergent adverse effects. Further, because both effectiveness and metabolic side effects vary considerably between patients and cannot be predicted, the selection of the optimal agent for an individual patient may require several trials. This process should involve the patient and, when possible, family members and the primary care physician.

Once the decision to initiate antipsychotic treatment is made, the ADA/APA Consensus Development Panel's schedule for monitoring metabolic effects should be followed.[3] Prior to initiation of SGA treatment, a careful assessment should be made of cardiac risk factors, including family history and the measurement of weight, body mass index (BMI), waist circumference, blood pressure, fasting glucose concentration, and lipid levels. Thereafter, weight should be recorded every 4 weeks for the first 3 months, then quarterly, while waist circumference, blood pressure, fasting blood sugar, and a lipid panel should be repeated after 4 months, then annually. The frequency of assessments should

Table 1. Guidelines for the Integration of Medical Care[a]

Initial evaluation

- Perform a complete medical history, substance abuse history, family medical history, and review of systems
- Record weight, waist circumference, height, blood pressure, and pulse; calculate BMI; and assess activity level
- Ask specific questions about risk behaviors, including the risk of viral transmission, time spent in institutions, exposure to domestic or partner violence, use of seatbelts and bike helmets, smoking, and substance use
- Establish communication with the patient's primary care physician and any other relevant medical care providers; if the patient is not receiving consistent medical care, a referral should be made and facilitated, as necessary
- Obtain the results of the most recent physical examination, laboratory, electrocardiogram, and other relevant tests; if not completed within the previous 6 mo, arrange an appropriate medical evaluation
- Assess the patient's level of knowledge regarding health factors (weight, diet, exercise, smoking, high-risk sexual behaviors, and substance abuse) and receptiveness to change and provide psychoeducational resources, as appropriate; also, communicate general information on primary prevention of disease

Every visit

- Review all new somatic symptoms and changes in medication prescribed by other caregivers
- Monitor compliance with medical treatment
- Determine possible exposure to infectious disease, particularly unsafe sexual behaviors and parenteral drug use
- Explore and encourage receptiveness to smoking cessation if currently smoking
- Review the use of illicit drugs and alcohol and offer treatment, as appropriate

Semiannually (every 6 mo)

- Communicate with primary care physician
- Assure that weight, height, and BMI have been recorded in the last 6 mo (if an SGA has been started recently, weight should be recorded every 4 wk for 12 wk, then quarterly)
- Review psychoeducational needs and refer to nutritional counseling, smoking cessation program, exercise program, safe-sex education, and substance abuse treatment, as appropriate

Annually

- Assure that fasting glucose and blood pressure have been measured annually (if an SGA has been started recently, blood pressure and fasting glucose should be measured after 12 wk)
- Confirm that all necessary screening studies have been completed, including mammography, pap smear, and colonoscopy, as appropriate; psychiatric interventions for anxiety or paranoia may be needed to facilitate completion of these tests
- Measure lipids annually in patients with a higher risk for coronary heart disease (ie, diabetes, multiple cardiovascular risk factors including older age, smoking, elevated blood pressure, and other metabolic risk factors)
- Review immunization status (PPD, hepatitis B, pneumococcal, and tetanus)
- Review residential safety, including smoke detectors and removal of firearms
- Discuss health habits, including exercise and use of seatbelts and bicycle helmets
- Formulate goals with patient for health enhancement and primary prevention

Special circumstances

- Overweight patients: BMI ≥ 25 in women or ≥ 30 in men and 2 obesity-related risk factors OR waist circumference ≥ 88 cm (≥ 35 in) in women or ≥ 102 cm (≥ 40 in) in men and 2 obesity-related risk factors
  - Refer for nutritional counseling and exercise program
  - Weight reduction programs should last ≥ 6 mo and be followed up continuously
  - Consider a switch to a weight-neutral antipsychotic agent (ziprasidone, aripiprazole, molindone)[b]
- Abnormal fasting glucose (see Table 2 for diagnostic thresholds and goals)
  - Refer for nutritional counseling and exercise program after medical clearance
  - Refer for medical assessment
  - Educate patient and family members about warning signs of uncontrolled diabetes (polyuria, polydipsia, and weight loss)
  - Consider a switch from clozapine or olanzapine to alternative agents[b]
- Smoking
  - Assess receptiveness to smoking cessation
  - Offer advice and encouragement to stop smoking
  - Refer for smoking cessation program, offering behavioral interventions and NRT or bupropion
  - Maintain frequent contact during patient's attempts to stop smoking; monitor for signs of increased medication levels in response to smoking cessation
  - Encourage repeated attempts to quit in the face of failures
- Hypertension (see Table 3 for blood pressure goals)
  - Refer for nutritional counseling and exercise program after medical clearance
  - Review salt, alcohol, and overall diet, particularly intake of fruit and vegetables
  - Encourage smoking cessation program if a smoker
  - Refer for medical evaluation and treatment
- Hyperlipidemia (see Table 4 for cholesterol goals)
  - Refer for nutritional counseling and exercise program after medical clearance
  - Assure yearly measurement of fasting serum lipids
  - Refer for medical evaluation and treatment
  - Consider switching to another antipsychotic medication if treated with clozapine or olanzapine[b]
- High-risk behaviors for HIV or hepatitis
  - Refer for intensive behavioral education program
  - Refer for counseling and HIV and hepatitis screening, as appropriate
- Starting an SGA
  - Record weight, BMI, waist circumference, blood pressure, fasting glucose, and fasting lipid profile at baseline
  - Repeat weight at 4 wk for 12 wk, then quarterly
  - Repeat waist circumference annually
  - Repeat blood pressure and fasting glucose at 12 wk, then annually
  - Repeat lipid profile at 12 wk, then every year in patients with elevated coronary heart disease risk
  - Consider switching medication if the patient gains ≥ 5% of his or her initial weight, BMI increases by 1 unit, waist circumference is ≥ 88 cm (≥ 35 in) in women or ≥ 102 cm (≥ 40 in) in men, or if elevated fasting glucose or undesirable lipid levels develop[b]

[a]Adapted with permission from Goff et al.[4] Based on references 2, 5, and 11–19.

[b]In stable patients, medication switches should only be considered if other interventions fail to reduce medical risk. The effectiveness of the current medication must be carefully weighed against the relative risks of medical morbidity, particularly in patients with a history of suicidality, who have responded preferentially to the current medication. Risk of weight gain is greatest with clozapine and olanzapine, intermediate with risperidone and quetiapine, and least with aripiprazole and ziprasidone.[3] Dyslipidemia and diabetes are most strongly associated with clozapine and olanzapine; an association with risperidone and quetiapine is uncertain; and limited data have not indicated an association with aripiprazole or ziprasidone.[3]

Abbreviations: BMI = body mass index, NRT = nicotine replacement therapy, PPD = tuberculin skin testing, SGA = second-generation antipsychotic.

Table 2. Diagnostic Thresholds for Diabetes and Impaired Fasting Glucose[a]

Fasting Plasma Glucose (FG)	Interpretation According to the American Diabetes Association	Treatment Goals and Recommended Intervention
< 100 mg/dL	FG upper limit of normal	
100–125 mg/dL	Impaired FG/prediabetes	Interventions Weight loss Appropriate nutrition Increased physical activity Close monitoring and follow-up counseling Monitor and treat cardiovascular risk factors
≥ 126 mg/dL	Diagnostic for diabetes (confirmed on a subsequent day)	FG goal (intensive glycemic control) Preprandial glucose: 90–135 mg/dL Postprandial glucose: < 180 mg/dL HbA_{1c}: < 7% All interventions listed for prediabetes + oral hypoglycemics or insulin injections Medical nutrition therapy Prevent and manage diabetic complications

[a]Based on American Diabetes Association.[19]
Abbreviation: HbA_{1c} = glycosylated hemoglobin.

Table 3. Adult Treatment Panel III (ATP III) Cholesterol Goals and Thresholds for Lifestyle Changes and Drug Therapy[a]

Risk Category	LDL-C Goal	Initiate Therapeutic Lifestyle Changes	Consider Drug Therapy
CHD or CHD risk equivalents[b] (10-y risk >20%)	< 100 mg/dL (optional goal: < 70 mg/dL)	≥ 100 mg/dL[c]	≥ 100 mg/dL (< 100 mg/dL: consider drug therapy)[e]
2+ risk factors[d] (10-y risk 10%–20%)	< 130 mg/dL (optional goal: < 100 mg/dL)	≥ 130 mg/dL	≥ 130 mg/dL (100–129 mg/dL: consider drug therapy)[e]
2+ risk factors[d] (10-y risk <10%)	< 130 mg/dL	≥ 130 mg/dL	≥ 160 mg/dL
0 or 1 risk factor	< 160 mg/dL	≥ 160 mg/dL	≥ 190 mg/dL (160–189 mg/dL: LDL-C–lowering drug optional)

[a]Based on National Heart, Lung, and Blood Institute.[18]
[b]Coronary heart disease (CHD) risk equivalent includes the presence of peripheral arterial disease, carotid artery disease, abdominal aortic aneurysm, diabetes, and 2+ risk factors, with a 10-year risk for CHD of > 20%.
[c]Patients who have lifestyle-related risk factors are candidates for therapeutic lifestyle changes to modify these risk factors, regardless of low-density lipoprotein cholesterol (LDL-C) level.
[d]Major risk factors, exclusive of LDL-C, that modify LDL-C goals include cigarette smoking, hypertension or taking antihypertensive medication, low high-density lipoprotein cholesterol, family history of premature CHD, and age (men ≥ 45 years; women ≥ 55 years).
[e]Initiation of LDL-C–lowering drug is a therapeutic option on the basis of available clinical trial results.

reflect the patient's risk factors, as well as the relative metabolic risk of the SGA. More frequent monitoring may be appropriate for higher-risk situations.[3]

In addition, the psychiatrist in private practice should inform the patient's primary care provider of the need to monitor metabolic parameters. Although the primary care physician will perform some or all of the medical monitoring, the psychiatrist should coordinate the overall monitoring process. Similarly, if metabolic abnormalities arise, the psychiatrist can enlist the primary care physician's help in managing these side effects, including referral for behavioral interventions. Some practitioners may be wary of approaching the primary care physician because of Health Insurance Portability and Accountability Act (HIPAA)–related privacy issues. However, it should be emphasized that, according to the U.S. Department of Health and Human Services,[26] the HIPAA privacy rule "does not restrict the ability of doctors, nurses, and other providers to share information needed to treat their patients," although care must be taken to share "only the minimum amount of protected information needed for a particular purpose."

Interventions, including the consideration of a change in antipsychotic medication, should be recommended if the patient gains greater than 5% of his or her body weight, if the BMI increases by 1 unit, or if the waist circumference is greater than or equal to 88 cm (≥ 35 in) in a female patient or greater than or equal to 102 cm (≥ 40 in) in a male patient.[3–5] For adverse effects, such as weight gain or dyslipidemia, or for enhanced glycemic control, the management strategy should always involve educational and behavioral interventions, which are discussed in detail by Dr. Ganguli[20] and Ms. Vreeland[21] in their respective articles in this supplement. If interventions are not effective, a switch to a more metabolically neutral antipsychotic agent should be considered. Considerations for switching are described in detail by Dr. Weiden[27] in another article in this supplement.

PSYCHIATRIST AS PATIENT ADVOCATE

In many cases, the severely mentally ill may be unable to describe somatic complaints to their primary care physician or, because of their psychiatric diagnosis, the veracity of these complaints may be questioned by the primary care physician. In addition, psychiatric patients may find it difficult to navigate fragmented care systems, and their psychiatric illness may interfere with compliance in medical screening and treatment. Several studies[28,29] have found that psychiatric patients, particularly those with schizophrenia, receive inferior care and experience poorer medical outcomes compared with other medical patients, either as the result of stigma or poor compliance. Thus, in addition to providing information about psychotropic medications to pri-

Table 4. Seventh Report of the Joint National Committee (JNC 7) Recommendations for Management of Blood Pressure[a]

Blood Pressure Classification	Systolic Blood Pressure[b] (mm Hg)		Diastolic Blood Pressure[b] (mm Hg)	Lifestyle Modification	Initial Drug Therapy	
					Without Compelling Indication	With Compelling Indication[c]
Normal	< 120	and	< 80	Encourage	No antihypertensive drug indicated	Drugs for compelling indications[d]
Prehypertension	120–139	or	80–89	Yes		
Stage 1 hypertension	140–159	or	90–99	Yes	Thiazide-type diuretics for most; may consider ACEI, ARB, BB, CCB, or combination	Drug(s) for the compelling indications[d]; other antihypertensive drugs (diuretics, ACEI, ARB, BB, CCB) as needed
Stage 2 hypertension	≥ 160	or	≥ 100	Yes	2-drug combination for most[e] (usually thiazide-type diuretic and ACEI or ARB or BB or CCB)	

[a]Based on National Heart, Lung, and Blood Institute.[17]
[b]Treatment determined by highest blood pressure category.
[c]Compelling indications for drug therapy include heart failure; postmyocardial infarction; high risk for coronary disease, diabetes, and chronic kidney disease; and recurrent stroke prevention. Refer to guidelines for recommended drugs from compelling indications.
[d]Treat patients with chronic kidney disease or diabetes to blood pressure goal of < 130/80 mm Hg.
[e]Initial combined therapy should be used cautiously in those at risk for orthostatic hypotension.
Abbreviations: ACEI = angiotensin converting enzyme inhibitor, ARB = angiotensin receptor blocker, BB = β-blocker, CCB = calcium channel blocker.

mary care physicians and sharing monitoring responsibilities, it is critical that the psychiatrist in private practice be prepared to advocate for patients when necessary to ensure adequate medical care. This process of patient advocacy should begin at the first visit by obtaining the necessary consent to contact the patient's primary care physician, followed by regular communication between the psychiatrist and the primary care physician. It should be noted that, while patient consent is appropriate and contributes to the therapeutic alliance, it is not absolutely required under HIPAA for health care professionals to share information for the coordination of patient care.[26] Although the psychiatrist in private practice is often limited by time constraints and may not have a nurse or other staff to assist patients in their interactions with the medical system, regular communication between the psychiatrist and primary care physician can have a very positive impact on the process.[30]

CONCLUSION

Just as medical health and physical health are intertwined,[1] so must the efforts of the psychiatrist and the primary care physician be combined to address the full spectrum of health needs of the psychiatric patient. Individuals with chronic psychiatric illness represent a special at-risk population with unique medicals needs. Hence, the treating psychiatrist must assume a leadership role in providing health care that addresses the patient's medical as well as psychiatric problems. To do this will require efforts that expand the solo practitioner's focus beyond the traditional office setting to include contact with primary care physicians and various community resources. When these efforts are made, despite the inherent time and personnel constraints of solo practice, the anticipated result is enhanced overall patient health and improved medical and psychiatric outcomes.

Drug names: aripiprazole (Abilify), bupropion (Zyban and others), clozapine (FazaClo, Clozaril, and others), molindone (Moban), olanzapine (Zyprexa), quetiapine (Seroquel), risperidone (Risperdal), ziprasidone (Geodon).

Disclosure of off-label usage: The author has determined that, to the best of his knowledge, no investigational information about pharmaceutical agents that is outside U.S. Food and Drug Administration–approved labeling has been presented in this article.

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