

## SPECIAL COMMUNICATION

## Health Care for Patients with Serious Mental Illness: Family Medicine's Role

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Numerous studies document disproportionate physical morbidity and premature death among people with serious mental illness. Although suicide remains an important cause of mortality for this population, cardiovascular disease is the leading cause of death. Cardiovascular death among those with serious mental illness is 2 to 3 times that of the general population. This vulnerability is commonly attributed to underlying mental illness and behavior. Some excess disease and deaths result from poor access to and use of quality health care. Negative cardiometabolic effects of newer psychotropic medications augment these trends by increasing rates of obesity, diabetes, and hyperlipidemia among those treated. Researchers have developed innovative care models aimed at minimizing the disparate health outcomes of patients with serious mental illness. Most strive to enhance access to primary care, but publications on this topic appear almost exclusively in the psychiatric literature. A focus on primary care for the prevention of excess cardiometabolic morbidity and mortality in this population is appropriate, but depends on primary care physicians' understanding of the problem, involvement in the solutions, and collaboration with psychiatrists. We review health outcomes of the seriously mentally ill and models designed to improve these outcomes. We propose specific strategies for Family Medicine clinicians and researchers to address this problem. (J Am Board Fam Med 2009;22:187–195.)

### Serious Mental Illness: A Cardiovascular Disease Risk Equivalent?

In 2002, the National Heart Lung and Blood institute labeled diabetes a cardiovascular disease (CVD) risk equivalent, indicating patients with diabetes have a risk of CVD events equal to that of

people with known CVD.<sup>1</sup> This information represented a paradigm shift in cardiovascular event prevention for diabetics. A similar shift may be warranted for people with serious mental illness (SMI) (schizophrenia spectrum, bipolar disorder, and refractory depression). The association between SMI and cardiovascular event risk has not been conclusively quantified, but the high prevalence of cardiometabolic risk factors, CVD, and cardiovascular death in this population may justify classification of SMI, like diabetes, as a CVD risk equivalent. At very least SMI should signal a need for attentive cardiovascular risk assessment and prevention efforts. Such a shift in understanding will focus physicians on the cardiometabolic hazards this group faces and prompt appropriate attention to the problem. In this article we aim to convince family physicians of the need for this paradigm shift and to engage them in the effort to improve health and health care for this population.

### Background

Health outcomes and life expectancy of patients with SMI are poor and worsening. Much of this

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**Table 1. Minimal Monitoring Protocol for People Taking Second-Generation Antipsychotics<sup>5</sup>**

	Baseline	4 Weeks	8 Weeks	12 Weeks	Quarterly	Annually	Every 5 Years
Personal/family history	x					x	
Weight (BMI)	x	x	x	x	x		
Waist circumference	x					x	
Blood pressure	x			x		x	
Fasting glucose	x			x		x	
Fasting lipids	x			x			x

\*More frequent assessment may be warranted based on clinical status.

BMI, body mass index.

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morbidity and mortality is caused by CVD.<sup>2–4</sup> As a result, the psychiatric literature is calling on psychiatrists to collaborate and coordinate with primary care physicians in screening for cardiometabolic risk factors and monitoring cardiometabolic medication side effects.<sup>5–7</sup> Collaboration between mental and physical health care teams is not new but warrants emphatic renewal in light of these disturbing trends and the fact that some of this health deterioration is attributable to the negative cardiometabolic effects of prescribed treatment. An effective response to the health needs of those with SMI will require psychiatrists and primary care physicians to expand their collaborative efforts and knowledge of each other's practices and treatments. The psychiatric care community has begun this work by discussing this topic in the literature, developing cardiometabolic screening guidelines (Table 1), and designing innovative, collaborative care models. Family physicians are particularly well suited to advance this important work and bring the discussion already under development in the field of psychiatry to the discipline of primary care.

## Understanding the Problem

### Excess Mortality

An estimated 3% of adults in the United States have SMI. This includes 1.5% with schizophrenia, 1% with bipolar disorder, and 1% with treatment refractory depression.<sup>8</sup> Individuals with SMI have high rates of premature death, dying as much as 15 to 25 years younger than the general population, a trend that has accelerated in recent decades.<sup>4,9–12</sup> Suicide remains an important cause of death among those with SMI, but most deaths result from natural causes, especially CVD, which occurs at a rate 2 to 3 times that of the general population.<sup>4,11,13,14</sup>

### Excess Morbidity

Excess and increasing cardiovascular death is undoubtedly linked to significant and rising prevalence of cardiovascular risk factors. People with SMI suffer high rates diabetes, hypertension, obesity, and hyperlipidemia.<sup>15–18</sup> The prevalence of CVD among people with schizophrenia or bipolar disorder is at least twice that of the general population.<sup>12,14,19,20</sup> In one study of patients with schizophrenia, the prevalence of diabetes was estimated to be 4 times that of an age- and gender-matched control population, and the prevalence of hypertension was found to be approximately twice that of controls.<sup>15</sup> In this same population, abdominal obesity affected 35% of men and 76% of women; among a comparison group, the prevalence was 25% and 57%, respectively.<sup>21</sup> People with schizophrenia also have less favorable cholesterol profiles.<sup>15</sup> Estimates of the prevalence of metabolic syndrome among those with schizophrenia range from 22% to 60%, 1.8 to 2.5 times that of those without mental illness.<sup>21</sup> Studies comparing cardiometabolic disease among patients with schizophrenia and those with bipolar disorder show these conditions are equally prevalent in the 2 populations.<sup>22–24</sup>

### Behavior, Life Style, and Age

Although some excess morbidity associated with SMI is attributed to genetic predisposition and underlying psychopathology, a significant portion probably results from modifiable behaviors such as cigarette smoking, poor diet, and inactivity.<sup>2,14,25</sup> People with SMI are at least twice as likely to smoke as those without mental illness, and as much as 75% to 90% of those with schizophrenia smoke.<sup>26–28</sup> Smokers with SMI tend to smoke

**Table 2. Second-Generation Antipsychotics and Metabolic Derangement<sup>5</sup>**

Drug	Weight Gain	Risk for Diabetes	Worsening Lipid Profile
Clozapine	+++	+	+
Olanzapine	+++	+	+
Risperidone	++	D	D
Quetiapine	++	D	D
Aripiprazole*	±	–	–
Ziprasidone*	±	–	–

\*Newer drugs with limited data.

+, increased effect (the more + symbols the greater the effect);

–, no effect; D, discrepant results.

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heavily and have more difficulty quitting.<sup>27,29</sup> People with SMI are also more likely, compared with the general population, to eat poor diets and remain sedentary.<sup>26,30,31</sup> Aging of the population with SMI adds to the growing rate of medical comorbidity seen in this population but cannot account for increasing mortality rates, which are age adjusted.<sup>17</sup>

## Medication and Care Access Imbalance

### Medication Side Effects

A portion of the excess disease, and probably excess mortality, observed in populations with SMI results from the negative metabolic effects of newer “atypical” antipsychotic medications, now the dominant pharmacologic treatment for psychotic disorders.<sup>15,16,32</sup> Atypical antipsychotics are associated with development of obesity, diabetes, and dyslipidemia. A meta-analysis of studies assessing the impact of antipsychotics on weight over just 10 weeks of treatment found mean gains of 4 kg with clozapine and olanzapine use and 2 kg with risperidone use (Table 2).<sup>33</sup> The risk of impaired glucose metabolism and diabetes associated with atypical antipsychotics seems to be 1.2 to 5 times the risk of placebo or no treatment (Table 1).<sup>32</sup> Clozapine and olanzapine increase serum triglycerides by 30% and 40%, respectively, compared with pretreatment baseline and treatment with first generation antipsychotics.<sup>34</sup> Reports of extreme triglyceride increases exist for both of these agents, but neither significantly impacts total cholesterol values (Table 1).<sup>34</sup>

The mechanisms by which atypical antipsychotics induce obesity and disrupt glucose and lipid metabolism are poorly understood; they likely occur through multiple pathways that include direct pharmacologic effects, compounded dietary indiscretion, and diminished activity.<sup>33–36</sup> Much of the diabetes and hyperlipidemia seem related to treatment-associated obesity, but up to 25% of new cases occur independent of weight gain and obesity, suggesting some agents directly impact glucose and lipid metabolism.<sup>32,34,35</sup>

### Inadequate Access to and Use of Quality Health Care

Paradoxically superimposed on the iatrogenic disease that results from prescription medication access and use is a pattern of insufficient access to and use of quality health care. A recent study of people with schizophrenia revealed point prevalence of nontreatment was 30% for diabetes, 62% for hypertension, and 88% for hyperlipidemia.<sup>16</sup> Mortality after myocardial infarction is relatively high in this population, and this higher mortality seems fully attributable to lower quality of care: less use of aspirin, beta-blockers, angiotensin-converting enzyme inhibitors, reperfusion, and smoking cessation counseling.<sup>37,38</sup> A recent study found that people with schizophrenia experienced twice as many inpatient adverse events as those without this disease.<sup>39</sup> Researchers at the Veterans Administration found mental illness negatively correlated with receipt of preventive health care and screening tests in that setting.<sup>40,41</sup>

### Obstacles to Care

The poor quality of care observed in this population probably relates to patient characteristics, clinician behavior, and the system in which this care occurs. People with SMI are less likely than those without mental illness to seek care and adhere to prescribed treatments.<sup>2</sup> Primary care clinicians may be uncomfortable or lack necessary skills to treat patients with SMI.<sup>42</sup> Psychiatrists may not believe physical health is their responsibility or may not feel knowledgeable about physical medicine.<sup>43</sup> Time constraints and competing demands perceived by physicians may limit willingness and ability to expand scope of practice.<sup>6,44,45</sup> The seriously mentally ill may be less able than others to communicate symptoms, and physicians may question the veracity of complaints made by those with SMI.<sup>6</sup> Within a busy primary care setting, patients

with SMI and poor organizational skills may be effectively limited to few topics per visit. Visits may thus erroneously focus on acute symptoms rather than chronic illness, risks, and prevention. Therapeutic nihilism on the part of clinicians may limit interventional and educational efforts. Complex and fragmented care systems may be particularly difficult for those with SMI to effectively navigate. Fee-for-service reimbursement models that favor procedures, multiple short visits, and specialty care over longer encounters and primary care undoubtedly magnify these potential sources of limited care.<sup>46</sup>

### Addressing the Problem

Successes achieved through the chronic care model have taught us that health improvement will not occur through good clinical care alone.<sup>47</sup> Eliminating these health disparities will require work on multiple levels including clinics, communities, public health agencies, insurers, and state and federal policy. For individual family physicians we propose, as an initial step, a unified effort at the clinical level through explicit recognition of the problem and interdisciplinary dialogue and collaboration. Creative models for such collaboration are being developed and tested. These efforts will be strengthened by further involvement of family physicians.

Family physicians are uniquely suited to address complex health issues for patients suffering with SMI. Our focus on family and community prepares us for this work and facilitates implementation of the chronic care model and experimentation with creative new care models. Our emphasis on holistic care and our efforts to maintain continuity make us a natural medical care anchor for patients with SMI. Our ability to provide procedures, preventive care, orthopedic treatment, gynecologic care, and acute and chronic disease management to all age groups helps minimize fragmentation of care for our patients, fragmentation that may be particularly prohibitive to people with SMI. Our expertise in care coordination, patient advocacy, and care planning may be exactly what is needed to begin reversing outcome disparities of this population.

### Integrated Care Models

The literature on efforts to improve mental health care in the primary care setting is abundant, but evidence from efforts to improve physical health

care of psychiatry patients is limited. Programs with this aim are heterogeneous and include: (1) physicians dually trained in psychiatry and physical medicine;<sup>48,49</sup> (2) on-site medical consultation at a mental health care center;<sup>50</sup> (3) collaborative care models that provide context and structure for regular communication between physical and mental health care teams;<sup>45,51,52</sup> (4) nurse case managers who facilitate access to care, aid in decision making, and educate;<sup>7,53,54</sup> and (5) facilitated referral models in which the psychiatric care team helps patients link to a primary care team through referral efforts.<sup>55,56</sup> Each of these models aims in distinct ways to reduce barriers to physical care by connecting disconnected psychiatric and physical care services. The care model best suited to an individual practice will depend on practice location, size, affiliations, external support, funding/revenue sources, availability of community and academic psychiatrists, and prevalence of SMI within the population served (Table 3). Once engaged in this effort, family physicians' unique perspectives and practice experiences will probably give rise to new care models and improve those currently under development and study.

### Barriers to Integrated Care

Although many agree that integrated care is a promising approach to the problem of excess morbidity and mortality among people with SMI, many obstacles hinder the development of such models. Financial barriers and the work required to create and sustain these programs may prove most challenging. Fee-for-service reimbursement schedules favor short office visits and thus discourage exploration of complex health conditions and risks.<sup>46</sup> Behavioral health carve-outs, a popular financial model for separating budgets of physical and psychiatric care, probably limit efforts of integration by creating budgetary uncertainty or even budgetary conflict around the responsibilities of various clinical teams.<sup>45,53,56</sup> Clinicians are not compensated directly for time spent communicating with colleagues. This creates a financial disincentive for complex care coordination.<sup>46</sup> Establishing new collaboration and communication is involved work that requires commitment and time. Training programs may inadequately provide skills required for development and maintenance of such collaborative relationships. As a result, physicians may feel ill prepared to embark on such arrangements.

**Table 3. Models to Improve Health and Health Care for People with Serious Mental Illness**

Model	Description	Limitations	Setting	Clinician Involvement
Dually trained physicians <sup>48,49,57</sup>	Physician trained in both psychiatric and physical medicine manages all care	Few available, may not maintain sufficient skills for complex medical care, may not be optimal use of resources	High concentration of medical comorbidity, eg, inpatient and chemical-dependency treatment centers	High
Physical medicine on-site consultation <sup>41,50</sup>	Physical medicine clinician provides consultation and care within psychiatric clinic or inpatient setting	Expensive unless volume is sufficient to fill consultant's schedule	Concentrated medical comorbidity, eg, inpatient and addiction centers <i>or</i> as outreach model for large clinics managing many SMI patients seen in limited number of psychiatric clinics	High
Collaborative care <sup>45,51,52</sup>	Frequent communication between mental and physical health care teams	Requires un-reimbursed communication time, added attention to HIPAA compliance, and supportive communication infrastructure (eg, secure e-mail, telephone access, medical record access)	Financially and administratively integrated systems with shared medical records, eg, HMOs and VA, co-located clinics	Intermediate
Case manager <sup>53,54</sup>	Often a registered nurse who coordinates transportation and appointments, monitors health status and treatment adherence	Time intensive for nurse, potentially expensive	Any setting with sufficient volume of patients	Low
Facilitated referral to primary care <sup>55,56</sup>	Psychiatric care team facilitates access to primary care team	Requires sufficient primary care access in community	Private clinics, geographically dispersed practice locations	Intermediate

SMI, serious mental illness; HIPAA, Health Insurance Portability and Accountability Act; HMO, health maintenance organization; VA, Veteran's Association. Adapted and expanded from framework of Druss and Bower.<sup>50,58</sup>



## What Individual Family Physicians Can Do

Recently, Mary Seeman,<sup>59</sup> a psychiatrist with 50 years' experience treating SMI, lamented the apparent trade off between autonomy conferred by deinstitutionalization and increasing premature mortality. Is this trade off inevitable? Might people with SMI have freedom and health? To this end, psychiatrists and primary care physicians can work collaboratively promoting interdisciplinary education, support, and models of care more effective for this population.

Potential strategies for family physicians committed to the health care of this population include:

- 1) Building integrated care models into practices through collaborative relationships with community and academic psychiatrists.
  - Select practice-appropriate collaboration options (Table 3).
  - Develop new models of care and collaboration.
  - Identify a physician "champion" and communication point person for collaboration building.
  - Select measurable outcomes to monitor effectiveness.
  - Apply continuous quality improvement methods to the process.<sup>60</sup>
- 2) Treating medical comorbidities and high-risk behaviors aggressively, acknowledging that psychopathology will complicate but not prohibit such efforts.
  - Establish SMI disease registries and monitoring protocols.
  - Understand empiric evidence on behavior modification programs proven successful for people with SMI.<sup>61–72</sup> Counsel and facilitate access to appropriate behavioral change programs for smoking cessation, weight loss and exercise.
  - Track missed visits, practice outreach, optimize continuity of care, and facilitate treatment adherence.
  - Consider open access to better match demand and needs of people with SMI.
- 3) Understanding psychopharmacologic treatment options, their side effects, and recommended monitoring guidelines (Tables 1 and 2).<sup>5</sup>
  - Study the guidelines, review prescribing literature, and track updates.
  - Know what others are prescribing and what the patient is taking.
  - Set up automated monitoring reminder systems.
- 4) Attentively advocate for thorough, high-quality inpatient care.
  - Advocate for appropriate diagnostic and therapeutic treatment.
  - Address the risk of adverse events openly and advocate for enhanced attention to this risk.
- 5) Developing residency curricula on collaborative mental health care models.
  - Develop such collaborations within residency clinics.
  - Role model family medicine psychiatry collaboration.
  - Include collaborative work in psychiatry rotations.
- 6) Reflect on personal tendencies toward therapeutic nihilism and find sources of support to bolster our commitment
  - Use Bailant or other support groups for discussion.
  - Share successes and study failures openly.
  - Include the entire care team in this effort.
- 7) Advocating for reimbursement reform that recognizes the value of this complex work.
  - Work through organizations such as the American Academy of Family Physicians to promote policy changes aimed at addressing the financial barriers to this complex work. Advocacy efforts should include distinct, reimbursed billing codes for care coordination and family meetings in the inpatient or outpatient setting.
- 8) Disseminating the design and results of collaborative efforts.
  - Plan to study your work as a quality improvement effort or as clinical research.
  - Share results through presentations and publications.

Like all quality improvement efforts, the development of such models will be complex and iterative. The task may seem daunting, but the work is critically important, and family physicians are well suited to the task. To improve outcomes of those with SMI, the time is right for enhanced partnerships between family medicine and psychiatry. Family physicians already benefit from access to clinical support by psychiatrists.<sup>73</sup> Psychiatrists acknowledge their responsibility to forge linkages to assure cardiometabolic monitoring and treatment for their patients with increasing risk of cardiometabolic disease and premature death. Thus both groups need the assistance of the other and have ample motivation to solidify collaboration for the benefit of this vulnerable population. Although this effort will not redress larger system failures and policy shortcomings, it is a starting point within reach of most practitioners and has potential to benefit those we are so overtly failing to serve with current care models.

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