Minnesota 10 By 10

Reducing Morbidity and Mortality in People with Serious Mental Illnesses

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ABSTRACT

Persons with schizophrenia, schizoaffective disorder, and bipolar affective disorder in Minnesota are dying much younger than their age- and sex-matched cohorts. A new initiative, MN 10 By 10, is designed to engage key constituencies in addressing modifiable risk factors in order to lengthen these individuals' lives.

For nearly a half century, we have been aware of increased mortality rates among people with mental illnesses. Babigian found that the relative risk of dying for anyone with a psychiatric diagnosis in Monroe County, New York, between 1960 and 1968 was two-and-a-half to three times greater than for the general population.[1] A 1996 review of 66 papers by Felker et al. found that standardized mortality ratios for psychiatric patients repeatedly exceeded those of the general population and matched controls.[2] The most comprehensive data have come from a study by Colton et al., in which mortality rates, years of potential life lost, and causes of death for clients of public mental health programs in eight states were compared with those for the general population. The relative risk of death for people in the public mental health programs was 1.2 to 4.9 times higher than that for the general population in all eight states.[3] The potential years of life lost ranged from 13 to more than 30.

The National Association of State Mental Health Program Directors' 2006 report "Morbidity and Mortality in People with Serious Mental Illness" highlights the fact that people with schizophrenia are 2.3 times more likely to die from cardiovascular disease than people in the general population, 2.7 times more likely to die from diabetes, 3.2 times more likely to die from respiratory disease, and 3.4 times more likely to die of infectious diseases.[4] The report states that people with serious mental illnesses die 25 years earlier on average than members of the general population. The report also highlights the fact that the increasing use of second-generation antipsychotic medications, which are associated with weight gain, diabetes, dyslipidemia, insulin resistance, and metabolic syndrome, is adversely affecting lifespan.

To address increasing concern about the wellness of those who suffer from a mental illness, the Center for Mental Health Service of the Substance Abuse and Mental Health Services Administration (SAMHSA) convened more than 90 participants for a summit in September 2007. This group, which included a representative from Minnesota, recommended adopting proven surveillance tools to measure the baseline health of people served by the mental health system and to monitor the future impact of initiatives aimed at reducing their risk factors for chronic illness. They recommended measuring a set of 10 health indicators and two process indicators for all adults with serious mental illnesses served by the mental health system (Table 1). The following year, the group recommended measuring the health status of those individuals. In addition, the group's members pledged to reduce early mortality by 10 years within

Table 1

Indicators Used to Measure the Health Status of People with Serious Mental Illnesses

Health Indicators

- Personal history of diabetes, hypertension, cardiovascular disease
- Family history of diabetes, hypertension, cardiovascular disease
- Weight/height/body mass index
- Blood pressure
- Blood glucose or HbA1C
- Lipid profile
- Tobacco use/history
- Substance use/history
- Medication history/current medication list with dosages
- Social supports

Process Indicators

- Screening and monitoring of risk and selected health conditions in mental health settings
- Access to and utilization of primary care services (medical and dental)

Source: Center for Mental Health Service of the Substance Abuse and Mental Health Services Administration

Table 2

Median Age at Death (Years)

	Minnesota Population at Large	MHCP* Covered Population at Large	MHCP Covered Population with Serious Mental Illnesses
Female (n=1,177)	83	85	63
Male (n=1,029)	77	74	53

* Minnesota health care programs

Table 3

Causes of Death among the General Population in Minnesota and those with Serious Mental Illnesses

	Median Age at Death (Years)		
Cause of Death	SMI*	Others	Years Lost
Heart disease (n=387)	56	83	27
COPD (n=141)	65	80	15
Cancer (n=281)	59	74	15
Unintentional injury (accidents) (n=175)	45	63	18
Suicide (n=152)	41	43	2

*Serious mental illnesses.

10 years (thus, 10 By 10), their goal being to reduce modifiable risks that can lead to chronic disease.

To launch a 10 By 10 initiative in Minnesota, in 2008 leaders in the psychiatric community formed a work group that included representatives from the Minnesota Department of Human Services, Minnesota Department of Health, health plans, hospitals, and medical groups as well as consumers. The work group committed itself to analyzing Minnesota data, selecting a subset of the health and process measures to implement, engaging all relevant constituencies, and transforming care in hope of achieving measurable improvement in risk factors and lifespan. This article describes the group's efforts and findings.

Lifespan Data Analysis

The Minnesota group's first effort was to accurately determine the extent of the disparity between the lifespans of people with serious mental illnesses (defined as schizophrenia, schizoaffective disorder, and bipolar affective disorder), and the general population.

■ Methodology

Death certificates for all adults who died between 2003 and 2007 were analyzed in conjunction with the Minnesota Department of Human Services' Minnesota health care programs (MHCP) records. The MHCP records included those of people who had health care coverage through fee-for-service Medical Assistance, the Prepaid Medical Assistance Program, General Assistance Medical Care, and MinnesotaCare.

Of the 182,567 death records analyzed, 60,588 were from people enrolled in one of the MHCPs for one or more months during the 36-month period preceding their death. For 2,206 of the people in the analysis, the MHCP had paid one or more claims for a mental health service related to a diagnosis of schizophrenia, schizoaffective disorder, or bipolar affective disorder. Those services included inpatient psychiatric care, medication management, mental health outpatient clinical services, mental health targeted case management, and mental health rehabilitative services.

For the analysis, three populations were identified: the population at large, which included all adults; the covered population, which refers to persons enrolled for one month or more in a MHCP plan during the 36 months prior to their death; and the MHCP population with serious mental illnesses, which included persons in the covered population for whom a claim for a mental health service related to a diagnosis of schizophrenia, schizoaffective disorder, or bipolar affective disorder had been paid. Analysis included comparisons of the three populations by gender and by cause of death. Results were reported as age at death in addition to the average age of death.

■ Results

Consistent with the findings in other states, people with serious mental illnesses in Minnesota die much earlier than the general population on average. The median age at death for the general MHCP population was 82 years. The median age of death for people on MHCP plans with serious mental illnesses was 58. Our results showed the trend was consistent regardless of the patient's gender (Table 2).

Heart disease was the No 1. cause of death among both the general population and persons with a serious mental illness. Those with serious mental illnesses who died of heart-related causes died 27 years earlier on average than members of the general population who died of heart disease (Table 3).

What surprised our work group was the fact that persons with bipolar affec-

tive disorder and schizoaffective disorder die significantly younger than those with schizophrenia alone; the median age of death for those with bipolar affective disorder and schizoaffective disorder was 51; for those with schizophrenia it was 62 (Table 4).

Addressing the Problem: the MN 10 BY 10 Initiative

The Minnesota 10 By 10 group has made its own commitment to lengthening the lifespan of people with serious mental illnesses by 10 years within 10 years. The goal is to increase the median age at death from 58 years to 68 years. In order to work toward that goal, the group thus far has chosen to focus on a subset of the SAMHSA measures (BMI, alcohol and tobacco use, blood pressure, LDL cholesterol, and blood sugar) (Table 5). We believe that making improvements in these measures could go a long way toward increasing the lifespans of people with serious mental illnesses.

The group also has worked to increase awareness of the fact that people with serious mental illnesses die younger from preventable chronic illnesses than the general population. Group members have given presentations and facilitated discussions about this at conferences and meetings with social workers, marriage therapists, psychologists, psychiatrists, primary care physicians, county case managers, health plan case managers, chemical dependency counselors, staff from community mental health centers and group homes, and to members of the Minnesota Psychiatric Society and the Minnesota Medical Association. The Minnesota Department of Human Services plans to use claims to measure the percentage of this population who see primary care physicians annually and bill for appropriate labs. In addition, a large health plan has chosen to have their case and disease managers work with this population to increase the percentage who see their primary care physicians annually. Eventually, they hope to measure how many of these patients have their risk factors addressed. Another large health plan will start performing chart audits to look at whether people with serious mental illnesses annually visit their primary care physicians and whether they are at risk for chronic illness. The Minnesota Department of Health is including representatives from the MN 10 By 10 group on a committee working on prevention of cardiovascular disease and stroke and a committee focusing on diabetes prevention.

In addition, the MN 10 By 10 group has created a downloadable form that lists key health measures that primary care physicians should monitor. The form and instructions for using it are available at www.dhs.state.mn.us/mn10x10. Thus far, several advocacy groups have linked to it on their websites in order to allow patients and their families to download and use it during primary care clinic visits.

Discussion

Many of the proximal causes of death in people with serious mental illnesses are the result of diseases that have modifiable risk factors. These are also conditions that primary care providers are well-versed in treating. Yet, caring for patients with serious mental illnesses presents unique challenges to the health care system and to society in general. It is not unusual for people with these illnesses to be homeless, incompetent, and uninsured. Thus, caring for this population requires the coordinated efforts of people from many sectors and disciplines.

The psychiatric community, for example, needs to take responsibility for knowing more about the health impacts of atypical antipsychotics and using these drugs judiciously; educating patients and families about the importance of a good diet and daily exercise; understanding the relative risks of antipsychotic medications;

Table 4

Age at Death of People with Serious Mental Illnesses* by Diagnosis, 2002-2006

Diagnosis	Median Age at Death
Bipolar affective disorder	51
Schizoaffective disorder	51
Schizophrenia	62

*Reflects those receiving receiving mental health services through Minnesota's health care programs within 36 months of death

Table 5

Health and Process Measures Adopted by the MN 10 By 10 Project

Health Topic	Results: More Healthy	Unhealthy
Body mass index	25 to 29	≥30 or <24
Tobacco use	No tobacco use	Ongoing tobacco use
Alcohol use:		
• men	≤4 drinks/day and ≤14 drinks/week	≥5 drinks/day or ≥12 drinks/week
• women	≤3 drinks/day and ≤7 drinks/week	≥4 drinks/day or ≥8 drinks/week
Blood pressure	<130, <80	≥131, ≥81
LDL cholesterol	<100	≥100
Blood sugar:		
• if not diabetic, fasting blood sugar	<125	≥126
• if diabetic, hemoglobin A1c	<8	≥8

and monitoring patients for worsening health indicators such as body mass index, blood cholesterol levels, glycemic levels, and blood pressure. Psychiatrists should help patients avoid or stop using tobacco and alcohol. Health plan case managers need to be trained so that they too can help patients understand how their medications and their lifestyles might affect their health. They also need to make sure that these patients are regularly seen by their primary care providers. In addition, members of intensive treatment teams and staff at day-treatment facilities, group homes, and community programs all need to be educated and begin helping their patients become healthier. Finally, primary care providers need to become more aware of the significant morbidity and mortality risks in this population. They need to screen patients with serious mental illnesses for the most common causes of mortality.

Conclusion

There has been growing concern that people in Minnesota who have serious mental illnesses have received inadequate attention and care for nonpsychiatric conditions. Data now have confirmed this suspicion and shown the disastrous impact mental illness has on life expectancy. Minnesota's 10 By 10 initiative is raising awareness of this problem and has introduced a way to address it. By enlisting the support of all health care providers, we believe we can help patients with serious mental illnesses live 10, 15, even 25 years longer. What health care issue could be more compelling? MM

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(1/26/10)

Improving Health for Persons with Bipolar Disorder or Schizophrenia

Note to Patients and Family Members:

In addition to following your mental health treatment plan, it is important to pay attention to your physical health in order to live a healthier, longer life.

People with mental health conditions need to work with their primary care physicians and other health care providers to make sure that these basic health issues are addressed.

Lifestyle Tips to Help You Have a Healthier, Longer Life:

- **Try to Maintain a Healthy Weight --** If you need to lose weight, ask for help regarding diet and exercise.
- **Avoid Smoking --** If you don't smoke, don't start because smoking (even second hand smoke) reduces your life expectancy. If you do smoke, get help to quit.
- **Avoid (or Minimize) Alcohol--** Use alcohol sparingly, if at all. If you or your doctor is concerned, get help to quit. Remember, alcohol may not mix well with your medications.
- **Maintain a Healthy Heart --**Try to maintain good cholesterol levels. Ask your doctor to do a blood test for this annually and follow any advice regarding nutrition and exercise.
- **Avoid (or Manage) Diabetes --**Be aware of your blood sugar levels.
    - If you are not diabetic, ask your doctor to do a test of your "fasting blood sugar" annually to make sure that you are not at risk.
    - If you are diabetic, ask your doctor to test your "hemoglobin A1c" at least annually and follow any advice regarding nutrition and exercise.

Please give this sheet to your doctor as a checklist of health topics to review annually.

Patient Name: _____ **DOB:** _____

Primary Care Visit – Date: _____

Health Topic	Date (if different from above)	Results (*Circle One for each Health Topic*)		
		More Healthy		**Unhealthy**
BMI		18.6 to 29.9		≥30 or ≤ 18.5
Tobacco Use		No tobacco use		Ongoing tobacco use
Alcohol Use*		≤ 4 drinks / day and ≤ 14 drinks / week	***Men***	≥ 5 drinks /day or ≥ 15 drinks / week
		≤ 3 drinks / day and ≤ 7 drinks / week	***Women***	≥ 4 drinks per day or ≥ 8 drinks per week
Blood Pressure		≤130 ≤80		≥ 131 ≥ 81
LDL		≤129		≥ 130
Blood Sugar • *If not diabetic Fasting blood sugar*		≤125		≥ 126
• *If diabetic – Hemoglobin A1c*		<8		≥ 8

* A drink is 12 oz of beer, 8 oz of malt liquor, 5 oz of wine, 1 ½ oz hard liquor

Note to Physicians:
Please return results to the patient and to appropriate caregivers. ***Thank you!*** Please see page 2.

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System of Health Care, Care Coordination and Supports

Please identify those (in addition to this client / patient / consumer) with whom to communicate, using your usual forms for consent for release of information.

Psychiatrist
Certified Nurse Specialist
Physician's Assistant
Nurse Practitioner
Primary Care Provider
Therapist
Pharmacist (Medication Therapy Management)
Medical Specialist
Public Health Nurse

IRTS (Intensive Rehab Treatment Services)

Shelter

Housing + Supports

TCM (Targeted Case Management)

ACT (Assertive Community Treatment Team)

Social Services

Emergency Department

Inpatient Psychiatry

Inp

Client / Patient / Consumer + Family and/or Guardian

Support Groups:
Mental Health
Chemical Health
Other

ARMHS (Adult Rehab Mental Health Services)

Certified Peer Specialist

Community Mental Health Center
Day Treatment

Supported Employment

Health Plan
Disease Management
Case Management

Identify individuals and programs that can support continuity of care to help improve health among persons with mental illness