Earn 3.5 Contact Hours

Primary Care for Mental Health Nurses

Evidence-Based Guidelines for Nursing Assessment, Intervention, and Follow Up

Although great strides have been made in delivering evidence-based primary care in the general population, patients living with serious and persistent mental illnesses (SPMI) have been less likely to benefit from such care. Medical comorbidities, such as hypertension and diabetes, often go undiagnosed and untreated in this population (Felker, Yazel, & Short, 1996), and these unmet health care needs not only jeopardize successful mental health treatment but also result in more and earlier deaths (Brown, 1997). Reasons for this underuse of primary care include the cognitive, behavioral, and social factors that characterize SPMI, which may make individuals unwilling or unable to seek treatment or receive routine preventive services (Felker et al., 1996). Even when they do desire these services, many individuals living with SPMI lack access to primary care (Druss & Rosenheck, 1998).

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Update

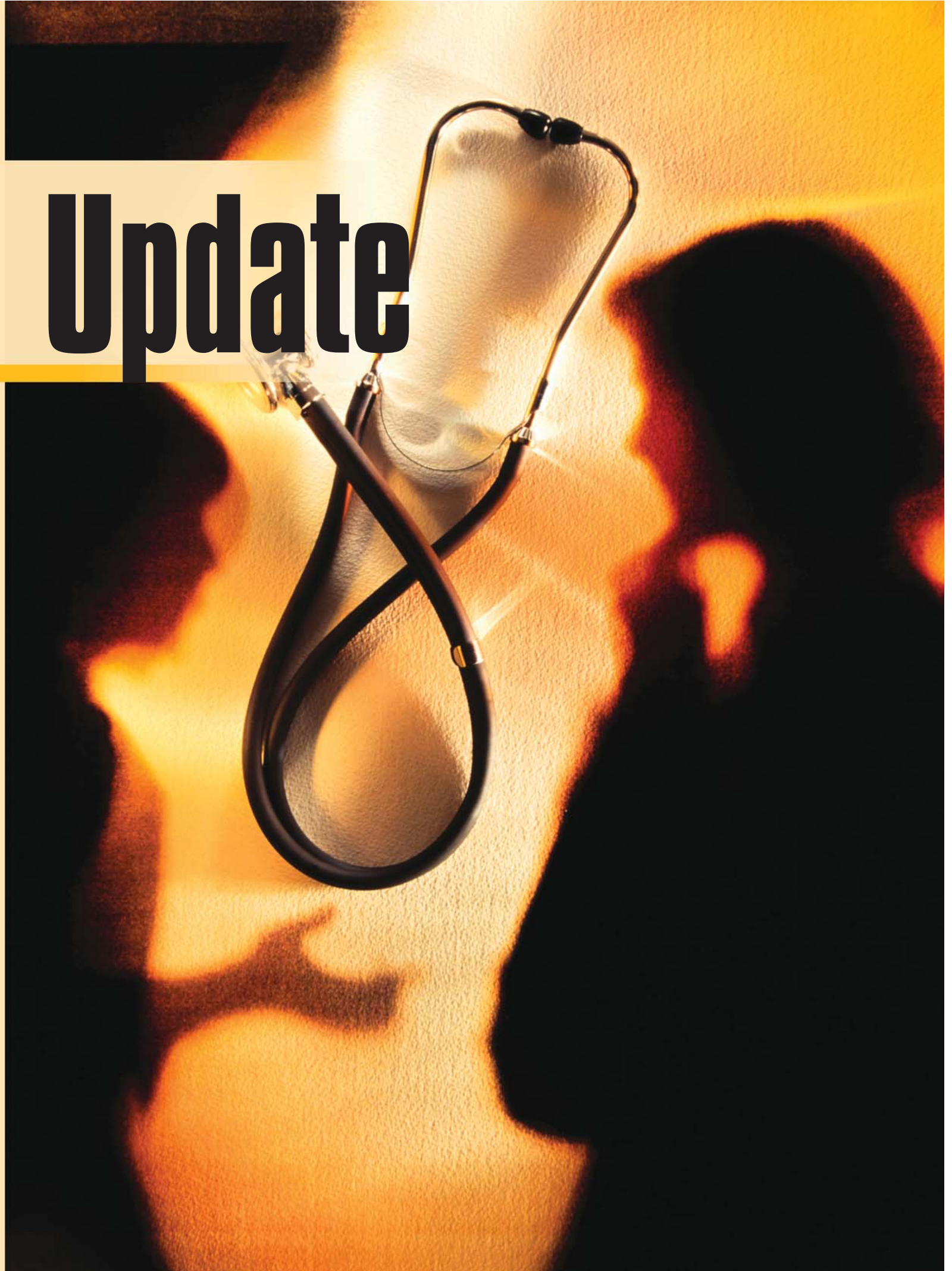


TABLE
HIERARCHY OF RESEARCH EVIDENCE

Level of Evidence	*Research Design*
1	Meta-analysis or systematic review of randomized, controlled trials
2	Randomized, controlled trial
3	Observational studies (i.e., case control, retrospective or prospective cohort)
4	Descriptive studies (i.e., case reports, case series, cross-sectional surveys)
5	Expert opinion

Because mental health programs often provide the only continuing health care for people with mental illness, mental health nurses can make a critical difference by screening for common medical comorbidities and referring for appropriate care. This article provides an update on current evidence-based primary care guidelines as they apply to prevention, screening, and referral to primary care. By strengthening surveillance for common medical comorbidities, intervening when necessary, and integrating more evidence-based disease prevention and health promotion interventions into daily practice, mental health nurses can do much to improve the physical health and well-being of individuals with SPMI.

COMMON MEDICAL COMORBIDITIES

Individuals with chronic mental illnesses have multiple risks for cardiovascular disease. They report higher than expected lifetime rates of hypertension (34.1% versus 28.7% in the general population), diabetes (14.9% versus 6.4% in the general population), and heart problems (15.6% versus 11.5% in the general population) (Dixon, Postrado, Delahanty, Fischer, & Lehman, 1999; National Center for Health Statistics, 2004). The lifetime smoking rate for this population is 59%, which is much higher than the 25% for men and 21% for women in the general population (Lasser et al., 2000; National Center for Health Statistics, 2004). These individuals are also more likely to have a chronic infection, such as HIV (3.1%, approximately 8 times the rate in the general population), hepatitis B (23.4%, approximately 5 times the rate of the general population), and hepatitis C (19.6%, approximately 11 times the rate of the general population) (Rosenberg et al., 2001). These higher rates of HIV and hepatitis are perhaps related to higher rates of illicit drug use among adults with SPMI (28.9% versus 12.7% in the general population) (Substance Abuse and Mental Health Services Administration [SAMHSA], Office of Applied Studies, 2003).

Unfortunately, some health risks may be related to mental health treatment. Many antipsychotic agents are associated with weight gain (Allison et al., 1999), which increases the risk for obesity and obesity-related disorders. The newer atypical antipsychotic agents have fewer extrapyramidal side effects than other neuroleptic agents and are often the treatment of choice for psychotic illness. However, in addition to causing weight gain, they raise glucose and triglyceride levels (Wirshing et al., 2002). Several of the atypical antipsychotic agents also appear to increase the risk of diabetes. In one study of 38,632 patients with schizophrenia, those taking clozapine, olanzapine, or quetiapine were 9% more likely to have a diagnosis of diabetes than those on typical neuroleptic agents (Sernyak, Leslie, Alarcon, Losonczy, & Rosenheck, 2002). In patients younger than age 40, this risk extended to those taking risperidone as well (Sernyak et al., 2002).

Given this picture of overlapping and interacting risks and comorbidities, it is apparent that individuals with SPMI face significant threats to their physical health. As they start and stop antipsychotic medications and change living situations and life circumstances, their risks change, making continual surveillance necessary. An ongoing readiness to intervene when risks appear could make the difference between health and a preventable comorbidity. Because mental health nurses assess these individuals, check their vital signs, and review laboratory reports as part of their clinical practice, they are in an ideal position to provide this surveillance and offer timely interventions.

EVIDENCE-BASED GUIDELINES FOR CARE

The goal of evidence-based practice is to apply scientific knowledge based on systematic research to daily clinical care to improve health outcomes. Research is constantly advancing the health sciences, and with the advent of computers, sophisticated software systems, and the Internet, large, multicenter clinical trials can now test interventions and analyze results efficiently, and disseminate findings quickly. Prospective observational studies, such as the Nurses' Health Study, which involved more than 100,000 nurses who have contributed their data since 1976 (http://www.channing.harvard.edu/NHS/), can exam-

ine important questions about health and aging over time, which contributes to our understanding of health risks and the effects of lifestyle on health. As this scientific evidence accumulates, systematic reviews and meta-analyses synthesize findings, summarizing knowledge as it advances. However, this process does not necessarily yield results that can be used in clinical practice.

As part of their missions, the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), and the Agency for Health Care Quality and Research, as well as large health organizations such as the American Diabetes Association (ADA), provide leadership for applying research to everyday practice, primarily by coordinating the development of clinical practice recommendations and other materials for clinicians and consumers. To develop such recommendations, these agencies convene large panels of representatives from federal agencies and national professional and voluntary health organizations who work together on topic areas over time. Using evidence-based science and consensus, the panels review research, evaluate the strength of the evidence, and develop guidelines for clinical practice. A recent development is for panels evaluating research evidence to rate it in terms of its quality and then indicate the strength of each recommendation based on those ratings.

The design of a research study is perhaps the most important factor in evaluating its quality, because it is through design that researchers control bias and confounding variables that could threaten the validity and reliability of the findings. The Table provides types of study designs arranged in order of their ability to control threats to validity and reliability. Meta-analyses of data from several randomized, controlled trials are considered the strongest evidence because they synthesize findings from more than one study. Expert opinion is considered the weakest evidence because it is based on clinical experience without systematic study of that experience or measures to control bias.

The Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure exemplifies the process of developing evidence-based practice guidelines. Established through the National Heart, Lung, and Blood Institute (NHLBI) in 1972, it recently published "JNC 7," the seventh comprehensive clinical guide for the prevention and treatment of hypertension (National High Blood Pressure Education Program, NHLBI, NIH, 2003). This report will be the standard of clinical care for the next several years. The implications of JNC 7 for mental health nursing practice will be summarized below, along with updates for nursing assessment, intervention, and follow up of other common problems of individuals with SPMI, including diabetes, hyperlipidemia, asthma, chronic obstructive pulmonary disease (COPD), and chronic infections. The article will conclude with current evidence-based practice guidelines for immunizations, cancer screening, and healthy lifestyles, which are applicable to all individuals with SPMI.

RECOMMENDATIONS FOR SCREENING, REFERRAL, AND PREVENTION

The Figure provides a quick reference guide for using the screening, referral, and prevention recommendations outlined in this article in routine clinical care of individuals with SPMI. Each recommendation references the most current evidence-based clinical practice guidelines available and was selected for its relevance to everyday mental health nursing practice.

Diabetes

In our nursing centers that provide integrated primary and mental health care for individuals in psychiatric rehabilitation (McDevitt, Rose, & Marion, 2001), my colleagues and I have found that diabetes is a common problem, affecting approximately 14% of our clients, a rate that is much higher than the 6.4% rate in the general population (National Center for Health Statistics, 2004). Risk factors for diabetes are listed in the Figure and include age older than 45, obesity, sedentary lifestyle, hypertension, low high-density lipoprotein (HDL) levels or elevated triglyceride levels (ADA, 2003), and taking antipsychotic medications (ADA, American Psychiatric Association, American Association of Clinical Endocrinologists, & North American Association for the Study of Obesity, 2004). Polyuria, polydipsia, and unexplained weight loss are the classic symptoms of diabetes, but individuals can develop diabetes without having any of these overt symptoms. Thus, screening with plasma glucose is critically important in identifying diabetes in asymptomatic but high-risk populations, with a fasting glucose level of $\geq$126 diagnostic for diabetes (fasting is defined as no caloric intake for at least 8 hours) (ADA, 2003).

Because diabetes has multisystem effects, there are several important goals for control. The HbA1C is the key indicator of

glycemic control, which is fundamental for successful diabetes management. It measures the percentage of glycated hemoglobin in the blood, which reflects mean blood glucose levels during the preceding 3 months (Figure).

An HbA1C of <7% is the goal for control, indicating a mean glucose level of 170. The ADA (2003) recommends action (e.g., increase or change medications, provide patient education) when the HbA1C is >8 because it is now well established that lowering the HbA1C reduces retinopathy, nephropathy, and neuropathy, and may lower the risk of myocardial infarction. The ADA (2003) notes that a less stringent goal may be appropriate for older adults or those with limited life expectancy or comorbidities, but the general principle is that care should be individualized, with each person achieving the best control possible over the long term.

Other goals for diabetes control include blood pressure <130/<80, cholesterol low-density lipoprotein (LDL) <100, HDL >40, and triglycerides <150, and glucometer readings before meals of 90 to 130. To attain these goals, the ADA (2003) recommends individuals:

- Test their blood glucose levels daily, with assistance if needed, and keep a log of their readings.
- Follow a low-fat, high-fiber diet as recommended by their primary health care provider.
- Exercise daily (e.g., take a brisk walk).
- Take medications, if prescribed.

The risk of hypoglycemia with properly dosed oral medications is low, with drugs currently available to increase the release of insulin from the pancreas (e.g., the sulfonylureas), reduce hepatic glucose production and increase insulin glucose transport in the tissues (biguanides), enhance insulin action in hepatic and peripheral tissues (glitazones), and inhibit carbohydrate uptake in the small intestine (alpha-glucosidase inhibitors). Individuals whose diabetes is not controlled by these medications need insulin, with a regimen of oral medications and bedtime insulin often successful. Glargine is a new, once-a-day insulin with no peak or trough. It is easy for individuals to learn to use and, properly dosed, has a lower risk for hypoglycemia.

Risk factors for diabetes... include age older than 45, obesity, sedentary lifestyle, hypertension, low high-density lipoprotein levels or elevated triglyceride levels, and taking antipsychotic medications.

Besides ensuring that their clients visit their primary health care provider regularly, mental health nurses can check that those individuals with SPMI and diabetes receive the following tests once per year:

- Dilated eye examination, to screen for retinopathy.
- Urinalysis with microscopic and microalbumen testing, to screen for nephropathy.
- Foot examination with a 5.07 monofilament, to screen for neuropathy.
- Annual influenza immunization.

In addition, a daily aspirin is recommended for cardiovascular protection (ADA, 2003).

Because of the complexities of managing diabetes in individuals with SPMI, my colleagues and I developed clinical prac-

Figure. PRIMARY HEALTH CARE GUIDELINES FOR MENTAL HEALTH NURSES

Hypertension (JNC 7)

Stage	Value (mm Hg)	Action Recommended
Normal	<120/< 80	Encourage lifestyle modification
Prehypertension	120-139/ or 80-89	Lifestyle modification needed
Stage 1	140-159/ or 90-99	Lifestyle modification and medication[1]
Stage 2	≥160/ or ≥100	Lifestyle modification and two medications [2]

Note: Use highest blood pressure category to determine action recommended.

[1] Usually a thiazide diuretic or combination.

[2] Usually a thiazide diuretic plus an angiotensin converting enzyme inhibitor, beta-blocker; calcium channel blocker, or angiotensin receptor blocker.

Measuring BP

Patient should:

1. Rest for 5 min
2. No smoking for 30 min
3. No caffeine for 30 min
4. Feet flat on floor
5. Back and arm supported
6. Arm at heart level
7. No talking

Cholesterol (NCEP ATP III Guidelines)

Check fasting lipid profile

LDL (mg/dL) & Classification	
<100	Optimal
100-129	Near/above optimal
130-159	Borderline high
160-189	High
≥ 190	Very high

HDL (mg/dL) & Classification	
< 40	Low
≥ 60	High (protective)

*Is there a **high risk** for CHD?*

- Known CHD or diabetes
- Symptoms of carotid artery disease
- Peripheral arterial disease
- Abdominal aortic aneurysm

*What **major risk factors** are present?*

- Smoking
- Hypertension, even if controlled
- Low HDL
- 1st-degree relative with premature CHD (women < 65 or men < 55)
- Age: men ≥ 45; women ≥ 55

Nurse should:

1. Use the right size cuff
2. Bladder encircles 80%
3. Use calibrated equipment
4. Inflate 30 mm above where radial pulse disappears
5. Deflate cuff *slooowly*
6. 1st visit ⎫ both arms
7. Average 2 or more readings, separated by 5 minutes

*If **high risk** for CHD and LDL > 100* **OR** *if **major risk factors** and LDL > 130, needs further evaluation + TLC*

- TLC = low fat, high-fiber diet, weight management, and increased physical activity

Diabetes (ADA 2003 Clinical Practice Recommendations for Adults)

Symptoms	Polyuria, polydipsia, unexplained weight loss
Risk factors	Age ≥ 45; sedentary; 1st-degree relative with diabetes; African American, Latino, Native American, Asian American, Pacific Islander; GDM or baby > 9 lb; BP ≥ 140/90; HDL ≤ 35 and/or TG ≥ 250; polycystic ovary syndrome; previous impaired glucose tolerance or fasting glucose; clinical condition associated with insulin resistance; history of vascular disease; [on psychotropic medications]

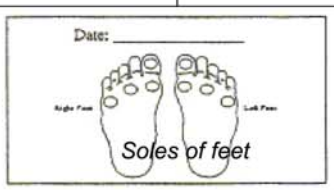
Screening Criteria

- Q 3 yr in all ≥ 45, especially if BMI ≥ 25
- Sooner & more often if overweight (BMI > 25) or if risk factors (see above list)

Diagnostic Criteria

- Symptoms + casual plasma glucose ≥ 200
- Fasting plasma glucose ≥ 126 (no calories for 8 h)
- 2-hour glucose ≥ 200 during a 75-gm oral GTT

Goals for Control		HbA1C (%) and Mean Glucose[a]		Recommended Care	
HbA1C	< 7%	6	135	Daily	SMBG
Pre-meal SMBG	90-130	7	170		Diet, exercise
Blood pressure	< 130/80	8	205		Medications if needed, including daily aspirin
LDL	< 100	9	240		
Triglycerides	< 150	10	275	Q 3-6 mo	See HCP for follow-up
HDL	> 40	11	310		HbA1C testing
		12	345		



Albuminuria (Spot urine, ug/ml Cr)		Yearly	Dilated eye exam
< 30	Normal		U/A (with microscopic)
30-299	Microalbuminuria		Spot microalbumin
> 300	Macro albuminuria (clinical kidney disease)		Flu shot
			5.07 monofilament foot exam (at risk more often)

Figure. PRIMARY HEALTH CARE GUIDELINES FOR MENTAL HEALTH NURSES (Continued)

Asthma Classification by Symptom Frequency		*Preferred Daily Medications*
Mild intermittent	≤ 2 days/wk or ≤ 2 nights/mo	None needed
Mild persistent	> 2 days/wk but < daily OR > 2 nights/mo	Low-dose steroid MDI
Moderate persistent	Daily or > 1 night/wk	Low-/medium-dose steroid MDI + long-acting beta-agonist MDI
Severe	Continual daily symptoms Frequent symptoms at night	High-dose steroid MDI + long-acting beta-agonist MDI + additional medication

Quick Relief for All Patients	*Goals for Asthma Care*
• Short-acting beta-agonist, 2-4 puffs as needed • Repeat up to 3 times at 20-minute intervals • May need course of systemic corticosteroids if exacerbation is severe; see HCP	• Few or no symptoms, day or night • Few or no exacerbations • No functional limitations, all regular activities • Minimal use of rescue (albuterol) inhaler

**NOTE: If your asthma patient is using short-acting "rescue" inhaler more than 2 times a week, needs additional medication!!

Symptoms of COPD	*COPD CARE*
• Chronic cough • Chronic sputum production • Prone to bronchitis • Gets out of breath easily • REFER FOR SPIROMETRY • EARLY DIAGNOSIS PREVENTS COMPLICATIONS	• SMOKING CESSATION • Pneumovax X 1 + yearly flu shot • Watch for harmful drugs and infections • Usually needs inhalers • Needs to see HCP q 3-6 months

CHRONIC INFECTIONS (2002 NIH Consensus Panel and CDC)

Hepatitis C	*HIV*
Most common BB pathogen Screen high risk patients: • Past and current IVDUs • Received blood products before 1992 • Persistently elevated ALT on CMP Positive HCV: needs evaluation and possible treatment	Offer to all: SPMI is a high risk population Cases will be missed if only those with risk factors are tested Informed consent, information, confidentiality Offer anonymous testing Risk factors: Needle sharing; unprotected sex; STD, hepatitis, or TB; FUO; having a "weak immune system"

HEALTH PROMOTION AND DISEASE PREVENTION: 2003 GUIDELINES FOR ADULTS

Immunizations		Cancer Screening	Healthy Lifestyles
Influenza	Every year	• Mammogram q 1-2 yr age ≥ 40 • Pap q 3 y after beginning sexual intercourse, or age ≥ 21 • Fecal occult blood q 1-2 y age 50-80 • Sigmoidoscopy q 5 y ≥ 50 • Digital rectal exam and PSA ≥ 50	• 5-8 fruits/vegetables every day • Water and low-cal beverages • Try the "plate method" • 30 minutes of moderate intensity exercise most days of the week • Smoking cessation, including nicotine replacement • Safer sex & correct condom use
Td	Every 10 years		
Pneumovax	Everyone > 65 or if DM, COPD, cirrhosis, HIV		
Hepatitis A, B	IVDUs, risky sex		
TB screening	Every year		

WEBSITES FOR STAYING UP TO DATE

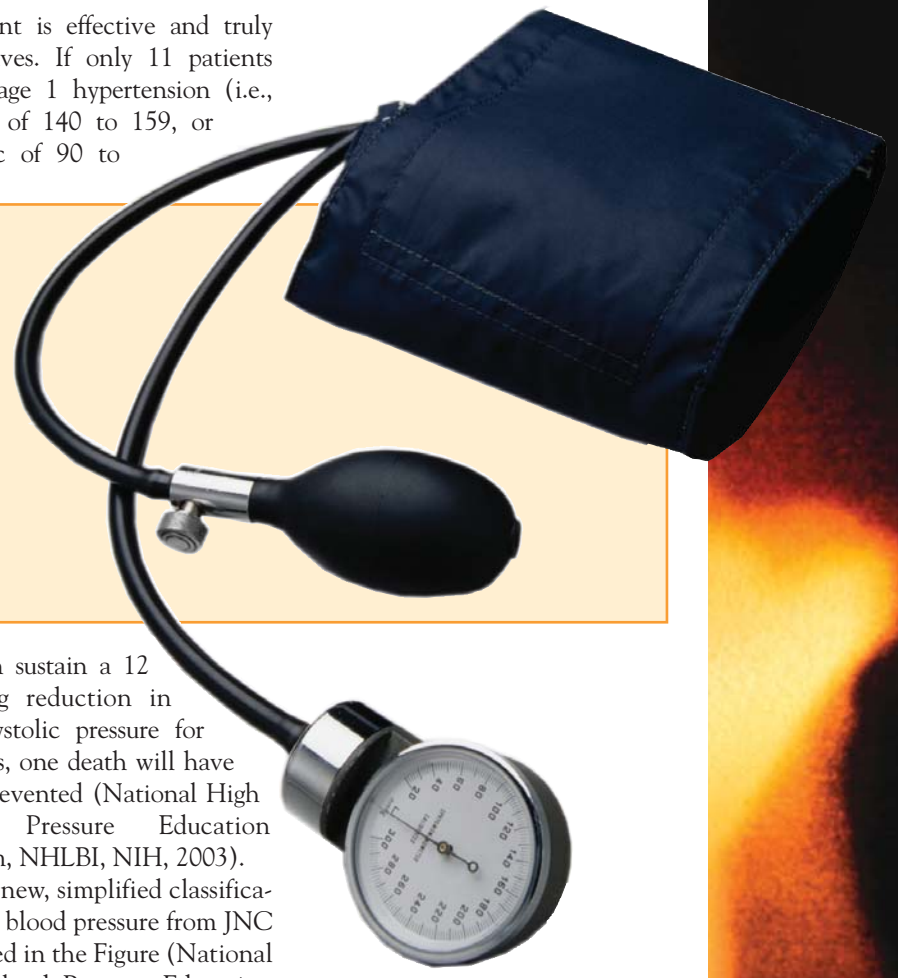
NHLBI Clinical Guidelines	http://www.nhlbi.nih.gov/guidelines/index.htm
ADA Practice Recommendations	http://care.diabetesjournals.org/content/vol26/suppl_1/
Immunizations	http://www.cdc.gov/nip/default.htm)
TB screening	http://www.cdc.gov/nchstp/tb/default.htm
Nutrition	http://www.nhlbi.nih.gov/health/public/heart/obesity/losewt/index.htm
Exercise	http://www.fitness.gov/

[a]"HbA1C (%) and Mean Glucose" copyright ©2003 American Diabetes Association. From Diabetes Care, Vol. 26, Suppl . 1, 2003; S33. Reprinted with permission from the American Diabetes Association.

tice recommendations for integrated care (McDevitt, Snyder, Breitmayer, Paun, & Wojciechowski, 2002). The recommendations provide guidance regarding what is different about managing diabetes in the context of serious mental illness and include a flow sheet for use in clinical practice, which incorporates ADA guidelines and involves integrated care.

Effective diabetes care is important, prevents complications, and improves quality of life. Patients need to know their numbers and what they mean, and they need to return for care whenever their glucose, blood pressure, or lipid levels are not controlled. Even if these levels are well controlled, these individuals need regular diabetes care and HbA1C testing every 3 to 6 months. By staying up to date on diabetes, mental health nurses can better collaborate with their clients for improved care.

Lowering systolic pressure is the primary goal in treating hypertension. Individuals with systolic blood pressure >140 or diastolic >90 need medication, with a thiazide diuretic agent recommended as initial therapy.



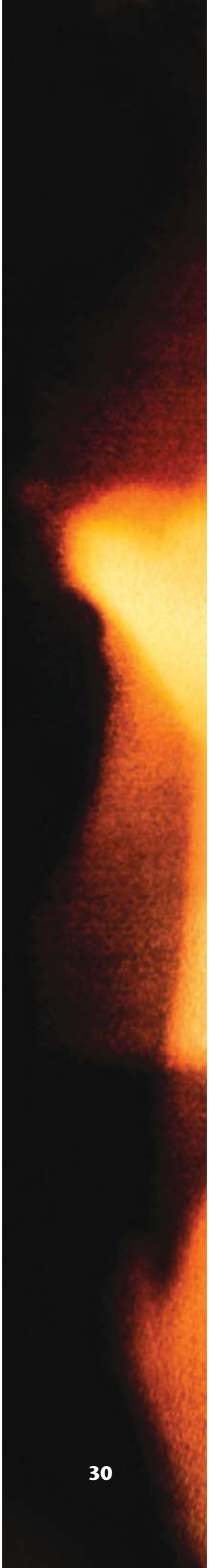
Hypertension

High blood pressure is the most common primary diagnosis among individuals receiving ambulatory care (Woodwell & Cherry, 2004), and is common in those with SPMI as well. It is now well established that the higher the blood pressure, the greater the risk for cardiovascular disease. However, we also know that treatment is effective and truly saves lives. If only 11 patients with stage 1 hypertension (i.e., systolic of 140 to 159, or diastolic of 90 to 99) can sustain a 12 mm Hg reduction in their systolic pressure for 10 years, one death will have been prevented (National High Blood Pressure Education Program, NHLBI, NIH, 2003).

The new, simplified classification for blood pressure from JNC 7 is listed in the Figure (National High Blood Pressure Education Program, NHLBI, NIH, 2003). These guidelines have changed greatly in recent years because long-term observational studies such as the Framingham Heart Study have definitively demonstrated that normal blood pressures are those of <120 mm Hg systolic and <80 diastolic. As a result, systolic pressures of 120 to 139 or diastolic pressures of 80 to 89 are no longer considered "normal" or "high normal." Instead, JNC 7 classifies these as prehypertension because these pressures carry twice the risk of developing hypertension as pressures of <120/<80.

Lowering systolic pressure is the primary goal in treating hypertension. Individuals with systolic blood pressure >140 or diastolic >90 need medication, with a thiazide diuretic agent recommended as initial therapy. Most individuals will need two medications for effective control, defined as <140/90. The goal is even lower for individuals with diabetes or kidney disease: <130/80. These new, lower cutoffs mean that individuals with SPMI who have pressures >140/90 (or >130/80 if they also have diabetes or kidney disease) need to be referred for primary care, placed on medication, and followed on a long-term basis for their hypertension. Of course, all individuals with SPMI can benefit from lifestyle interventions to prevent or control hypertension, including:

- Managing their weight.
- Eating a high-fiber, low-fat diet.
- Engaging in 30 minutes of aerobic activity most days of the week.



- Consuming moderate amounts of alcohol.
- Reducing sodium intake.
- Achieving smoking cessation.

Because classifying blood pressure determines the treatment needed, accurate blood pressure measurement is critical. An assortment of cuffs to fit all sizes of arms should be readily available, and the correct size (i.e., bladder encircles 80% of the arm) should be used and noted for each individual. Aneroid systems do not maintain accuracy well and should be calibrated against a mercury manometer at least once a year. Individuals should be seated in a chair for 5 minutes prior to measurement, with their feet flat on the floor and their arm supported at heart level. Nurses should deflate the cuff slowly, at approximately 2 mm per second, and take at least two measurements. This time provides a perfect teaching opportunity to tell patients their reading, relate it to their blood pressure goal, and write it down for them to keep as a record. Due to the cognitive deficits that often accompany SPMI, discussing this information every time will help maintain awareness.

High Cholesterol

Obesity, sedentary lifestyles, and poor nutrition predispose many individuals with SPMI to dyslipidemias. Lowering cholesterol levels reduces cardiovascular risk and saves lives (National Cholesterol Education Program, NHLBI, NIH, 2001). The general guideline is that adults older than age 20 should have their total cholesterol checked every 5 years. However, knowing one's total cholesterol is no longer considered enough because the differential effects of the lipid fractions can increase or decrease risk. Low-density lipoprotein (LDL) is now the primary target for intervention because it is the lipoprotein involved in coronary artery plaque formation, which can lead to myocardial infarction and stroke.

Individuals with SPMI should have their LDL levels checked with a fasting lipid profile if any of the following apply:

- They have been diagnosed with heart disease, peripheral vascular disease, or diabetes.
- Their total cholesterol is >240.
- Their total cholesterol is 200 to 240, and they have two or more risk factors for cardiovascular disease, such as smoking, hypertension (controlled or not), family history of early heart attack (i.e., in men younger than age 55 or in women younger than age 65), and being in a higher risk age group (men age 45 or older or women age 55 or older).

Given the high prevalence of these factors in individuals with SPMI, many will have two or more, which warrants a fasting lipid profile.

The nursing action plan for LDL is outlined in the Figure. Individuals with an LDL level greater than 130 need further evaluation by their primary health care provider, lifestyle intervention (e.g., improved diet, regular exercise, smoking cessation), and probably medication if their LDL level is >160. For individuals at high risk for heart disease, such as those with diabetes (Figure), the LDL level should be even lower (not greater than 100). The "statins," such as atorvastatin, are the drugs of choice for elevated LDL levels, because they lower LDL levels and raise the levels of cardioprotective HDL. A caution regarding use of these medications is that the individuals need to have liver function tests performed before starting the medication, at 6 and 12 weeks, and periodically thereafter.

Chronic Obstructive Pulmonary Disease

Smokers are at the highest risk for developing chronic obstructive pulmonary disease (COPD), and smoking rates are high among individuals with SPMI (Lasser et al., 2000). However, the progression of COPD can be slowed or prevented with early diagnosis and intervention (NHLBI, NIH, 2001). Mental health nurses can suspect COPD in clients with chronic cough or chronic sputum production; those who seem prone to bronchitis; and those who have dyspnea that worsens with exercise or during respiratory infections. These individuals need to be referred to their primary health care provider for office spirometry to determine whether COPD is present.

For individuals with diagnosed COPD, smoking cessation is a high priority. Nicotine replacement via patch or gum is effective and should be combined with supportive counseling or a support group, which mental health nurses can provide expertly. These individuals need the pneumococcal (Pneumovax®) vaccine (once), annual influenza immunizations, and prompt medical care when respiratory infection occurs. Their medications also need to be monitored, and because mental health nurses often track all of the medications their clients are taking, they are in an excellent position to identify potential interactions. Many over-the-counter and prescribed drugs can exacerbate COPD, including antihistamines, cough suppressants, sedatives and tranquilizers, and beta-blockers.

Like those with asthma, individuals with COPD usually need

inhaled medication to function well. They need to learn how to use their inhalers correctly and to use them consistently for best results. For example, using an inhaler before physical activity can greatly increase exercise tolerance.

Asthma

Asthma is another common medical comorbidity in individuals with SPMI. Unfortunately, inadequate treatment is too common. Current state-of-the-art asthma care is based on a stepped approach and, for many individuals, daily use of steroid inhalers to decrease inflammation (National Asthma Education and Prevention Program, NHLBI, NIH, 2002). Asthma medications are now prescribed according to the frequency of symptoms individuals experience during the day or night, such as wheezing, cough, shortness of breath, and chest tightness. Mental health nurses can assess their clients' asthma by asking about symptom frequency. For example, individuals who do not have symptoms every day but experience them more than twice per week have mild persistent asthma (Figure). Such individuals need to use a low-dose steroid inhaler every day.

Current state-of-the-art asthma care is based on a stepped approach and, for many individuals, daily use of steroid inhalers to decrease inflammation.

The goals for asthma care are few or no symptoms, either day or night; few or no exacerbations; no functional limitations; and minimal use of a short-acting, beta-agonist "rescue" inhaler. The important points for mental health nurses to know are that:

- Individuals who are using albuterol inhalers more than twice per week need additional medication and should be referred for care.
- Individuals with a cold or the flu should be monitored closely and referred for care promptly because respiratory infections often precipitate asthma exacerbations.
- Individuals need to use their inhalers correctly to gain the most benefit from their asthma medications. Nurses should check their technique and reteach correct use as needed.

Chronic Infections

Hepatitis C (HCV). Hepatitis C is prevalent and frequently undetected in individuals with SPMI (Rosenberg et al., 2001). It is the most common bloodborne pathogen, with 35,000 new cases occurring every year. Of those infected, women and younger adults are most likely and African American men are least likely to spontaneously clear it. Approximately 60% to 85% of infected individuals will develop chronic HCV, 10% to 15% will develop cirrhosis, and 1% to 4% will develop liver cancer (NIH Consensus Development Program, 2002). In fact, one third of all liver cancer cases in the United States are associated with HCV (NIH Consensus Development Program, 2002).

Hepatitis C is an RNA virus with six genotypes. In the United States, 70% to 75% of HCV cases are caused by genotype 1, which unfortunately has a lower response to currently available treatments than other genotypes. Transmission is via infected blood, with intravenous drug users at highest risk. Hepatitis C carriers can have normal levels of the liver enzyme ALT and still infect others.

Among individuals with SPMI, those with a current or past history of intravenous drug use and those with a history of homelessness or incarceration should be screened for HCV. A persistently elevated ALT level may indicate HCV (NIH Consensus Development Program, 2002). Individuals who are HCV+ should be referred for evaluation and possible liver biopsy, because all individuals, including those with psychiatric disorders, are now considered

Mental health nurses can provide information about HIV transmission, prevention, and testing even if individuals decline testing. Clients should have individualized prevention counseling for risk reduction if they are at increased risk for HIV.

potential candidates for antiviral therapy. They should be offered testing for HIV and receive hepatitis A and B immunizations. Although the risk of sexual transmission is low and monogamous partners do not need to use condoms, the individuals' sexual partners should also be tested for HCV. Whether any level of alcohol consumption is safe is unknown, and complete abstinence is strongly recommended before and during antiviral therapy. Mental health nurses can help individuals with SPMI and HCV to process this information.

HIV. Individuals with SPMI are likely to be at higher risk for HIV due to greater prevalence of lifetime histories of addictive disorders (Office of Applied Studies, SAMHSA, 2003; Regier et al., 1990). In one recent study, an HIV prevalence of 3.1% was found among individuals with SPMI (Rosenberg et al. 2001). In populations in which HIV is prevalent (defined as a >1% incidence), the CDC advises that screening for HIV should be offered to all individuals because epidemiological studies show that cases will be missed if screening is offered only to individuals in the population with known HIV risk factors.

Principles for HIV counseling, testing, and referral include informed consent, provision of HIV information, and policies and procedures to protect confidentiality, with anonymous testing available and offered as an alternative (CDC, 2001). Mental health nurses can provide information about HIV transmission, prevention, and testing even if individuals decline testing. Clients should have individualized prevention counseling for risk reduction if they are at increased risk for HIV (e.g., have a history of needle sharing; engage in unprotected sex with partners who may be infected; have a sexually transmitted infection, hepatitis, tuberculosis, or fever of unknown origin; have been told they have a "weak immune system"). The CDC is offering free education regarding HIV counseling with continuing nursing education credits until November 9, 2004 at http://www.cdc.gov/mmwr/pdf/rr/rr5019.pdf.

HEALTH PROMOTION AND DISEASE PREVENTION

Current recommendations for immunizations (CDC, 2002) and cancer screening (U.S. Preventive Services Task Force, n.d.) are listed in the Figure. Because individuals with SPMI are at high risk for respiratory infections, annual influenza immunizations and TB skin testing is important to prevent illness. Many individuals who are younger than age 65 should receive the Pneumovax vaccine, and hepatitis A and B immunizations are recommended for those who use intravenous drugs or engage in high-risk sexual practices (e.g., multiple partners, rectal intercourse).

Mental health settings in which food is served or in which individuals with SPMI spend time can do much through programming to help ensure healthy lifestyles for clients. A smoke-free environment helps individuals cut down on their smoking, even if they cannot accomplish total cessation. Fruits and vegetables need to be on the menu so individuals can obtain the recommended 5 to 9 servings per day (National Cancer Institute, n.d.). Water and low-calorie beverages should be available at every meal. The "plate method" used in diabetic education is an easy way to teach patients how to choose and portion helpings for healthier eating (Raidl, 2003). If the plate is divided into quarters, one half is for vegetables, one quarter is for starch (e.g., rice, pasta, potatoes), and one quarter is for protein. Dessert is a fruit. At breakfast, one half of the plate is for starch, one quarter is for optional meat or protein, and one quarter is for fruit. A serving of milk can also be included, with low-fat or skim milk preferable. The other component of healthy lifestyles is exercise. When planning group programming, include time and support so individuals are able to obtain 30 minutes of physical activity most days of the week (Pate et al., 1995).

Finally, the availability of condoms and confidential testing for sexually transmitted diseases is important for individuals who are sexually active. Correct condom use is a worthwhile topic for lifestyle discussion groups because group members may not be aware of the available resources or how to use them. Nurses should remind their clients that condoms must be applied before initiating intercourse, that the tip of the condom must be compressed between the thumb and forefinger before rolling it on to prevent an air bubble (the most common cause of breakage), and that they must hold on to the condom when withdrawing to ensure it is completely removed.

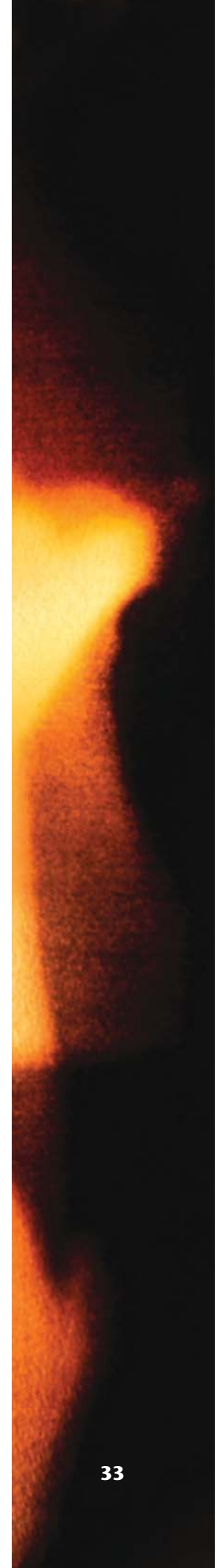
DISCUSSION

The guidelines covered in this review are all available online, and Web addresses are provided in the Figure. Because new guidelines, addenda, updates are published frequently, it is important for nurses to stay up to date by periodically checking the Web addresses. This can be facilitated by bookmarking the important Web sites.

With the exception of the HCV information, which is a consensus statement, the guidelines cited in this article include extensive bibliographies. Many identify levels of evidence and include discussions of major randomized, controlled trials. Although such trials are considered the best evidence, they do have several limitations that must be kept in mind. Most are short in duration, from months to years, whereas chronic illnesses continue over a lifetime. Thus, treatment outcomes over the long term remain unknown. Most trials do not have a true placebo group because the control group is likely to be receiving some form of treatment (e.g., "usual care"), so the true benefit of the experimental intervention may be underestimated. Of particular concern to mental health nurses is that many randomized, controlled trials do not examine quality of life, improvement in comorbid conditions, or other treatment benefits that may be significant for individuals with SPMI. Finally, precisely because such trials are controlled, higher-risk individuals and those with comorbidities such as SPMI are usually excluded. Outcomes in individuals with SPMI may vary.

Unfortunately, even if individuals with SPMI visit their primary health care provider, there is no guarantee that the condition will be controlled. Some primary health care providers may assume that individuals with SPMI are unlikely to adhere to treatment, so their expectations may be low and they may not provide adequate follow up. Even if the goals are appropriate, the short visits typical in ambulatory care often constrain sufficient communication of goals and patient education. This is where mental health nurses can make a difference. By monitoring their clients' vital signs and laboratory reports and asking about symptoms, nurses can assess control of the condition and intervene when indicated. They also can provide the health information and support their clients need.

Several considerations apply to all of the conditions covered in this review. First, like SPMI, these are chronic conditions requiring ongoing care. Individuals with diagnosed hypertension, diabetes, and COPD need to visit their primary health care provider every 3 to 6 months, more often if the condition is not well controlled. Second, as alluded to above, many individuals with SPMI have difficulty negotiating the primary health care system. Mental health nurses can provide the advocacy these individuals may need to access needed primary care. Third, because of cog-



KEY POINTS

1. Physical health comorbidities are often undiagnosed or undertreated in individuals with severe and persistent mental illness.
2. Mental health nurses are in an ideal position to identify, refer, and monitor treatment of these comorbidities.
3. National evidence-based practice guidelines provide key information about common physical health comorbidities that mental health nurses can readily use in their everyday practice.

Do you agree with this article? Disagree? Have a comment or questions? Send an e-mail to Karen Stanwood, Managing Editor, at kstanwood@slackinc.com. We're waiting to hear from you!

nitive and motivational deficits, those with SPMI may not understand or may forget how to care for their physical health. Mental health nurses can provide the tailored health teaching and reinforcement these individuals need to follow through and care for themselves more consistently. Finally, mental health nurses can ensure these diagnoses are included in each individual's record, problem list, and discharge summary, thereby facilitating continuing care.

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