Disease Management for Schizophrenia
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Introduction

The Disease Management Association of America defines disease management as a system of coordinated health care interventions and communications for populations with conditions in which patient self-care efforts are significant. Disease management supports the clinician-patient relationship and plan of care, and emphasizes prevention of exacerbations and complications using evidence-based practice guidelines and patient empowerment strategies. It also evaluates clinical, humanistic, and economic outcomes on an ongoing basis with the goal of improving overall health.

More specific goals of disease management include:

• Improving patient self-care through means such as patient education, monitoring, and communication.
• Improving physician performance through feedback and/or reports on patient progress in compliance with protocols.
• Improving communication and coordination of services between the patient, the physician, the disease management organization, and other providers.
• Improving access to services, including prevention services and prescription drugs as needed.

The following functions are components of disease management:

• Identification of patient populations and stratification of patients according to high, medium, and low risk of complications, avoidable adverse events, or other criteria.
• Use of evidence-based practice guidelines.
• Support of adherence to evidence-based medical practice guidelines by providing medical treatment guidelines to physicians and other providers, reporting on the patient’s progress in complying with protocols, and providing support services to assist the physician in monitoring the patient.
• Provision of services designed to enhance the patient’s self-management and adherence to his or her treatment plan.
• Routine reporting and feedback.
• Communication and collaboration among providers and between the patient and his or her providers.
• Collection and analysis of process and outcomes measures.

Disease management programs are widely used for asthma, diabetes mellitus, and heart disease.

Considerations in selecting a disease for disease management include:

• Availability of treatment guidelines with consensus about what constitutes appropriate and effective care.
• Presence of generally recognized problems in therapy that are well documented in the medical literature.
• Large practice variation and a range of drug treatment modalities.
• Large number of patients with the disease whose therapy could be improved.
• Preventable acute events that often are associated with the chronic disease (e.g., emergency department or urgent care visits).
• Outcomes that can be defined and measured in standardized and objective ways and that can be modified by application of appropriate therapy (e.g., decreased number of emergency department visits or hospitalizations).
• Potential for cost savings within a short period (e.g., less than 3 years).

Three major not-for-profit organizations whose mission is to promote quality health care have recognized the contribution of disease management activities to quality health care by establishing disease management certification or accreditation programs. The Joint Commission on Accreditation of Healthcare Organizations, an independent, not-for-profit organization and the nation’s predominant standards-setting and accrediting body in health care, offers disease-specific care program certification. Program certification is based on an assessment of compliance with relevant standards and criteria, effective use of clinical guidelines, and outcomes measurement.

The National Committee for Quality Assurance (NCQA) recently began accrediting disease management programs on the basis of standards that are patient oriented, practitioner oriented, or both. It also offers organizations certification for program design (i.e., content development), systems (i.e., clinical information and other support systems), or patient contact (e.g., for nurse call centers and other organizations without comprehensive activities).

The Utilization Review Accreditation Commission (URAC), also known as the American Accreditation HealthCare Commission, establishes standards for the health care and insurance industries. URAC’s goal is to promote excellence among purchasers, providers, and patients through continuous improvement in the quality and efficiency of health care delivery. It achieves this goal by establishing standards, education and communication programs, and a process of accreditation. URAC has accreditation programs
for disease management as well as case management, claims processing, core accreditation, credential verification, health call centers, health networks, health plans, health provider credentialing, health utilization management, health Web sites, Health Insurance Portability and Accountability Act privacy and security, independent review organizations, vendor certification, and workers’ compensation utilization management.

Why Focus on Schizophrenia?

Schizophrenia is a mental illness characterized by positive and negative symptoms that reflect an excess of or a reduction in normal functions, respectively.7 Positive symptoms include delusions, hallucinations, and disorganized speech and behavior (Appendix A). Negative symptoms include restrictions in range and intensity of emotional expression (e.g., a flat affect), fluency and productivity of thought and speech (alogia), and initiation of goal-directed behavior (i.e., avolition, or inability to begin or continue purposeful activities).7 The symptoms of schizophrenia have a profound impact on an individual’s social and occupational function, resulting in social isolation, unemployment, homelessness, poverty, and substance abuse.8

Schizophrenia affects approximately 1.1% of American adults—2.2 million people.9 It affects men and women equally.9 Schizophrenia has a hereditary component; the risk of schizophrenia in a child with an affected parent is tenfold higher than that in the general population.10 Schizophrenia probably is the result of environmental influences (e.g., prenatal viral infection, stress during adolescence) in a person with a genetic predisposition.10

The economic impact of schizophrenia is large because the illness is a major cause of disability, affects people early in life at a time when they would otherwise be part of the workforce, and often is lifelong.11 Patients with schizophrenia comprise about 10% of the totally and permanently disabled population and consume about 2.5% of total annual health care expenditures.12 In 1990, the estimated annual indirect costs (e.g., due to lost productivity) of schizophrenia in the United States amounted to $15.2 billion.13 The direct medical costs were $17.3 billion.13

Schizophrenia is a chronic illness with no cure, although treatments effective in reducing symptoms and restoring function are available (Appendix B). In the 1990s, recommendations for the treatment of schizophrenia based on existing scientific evidence were developed by the Schizophrenia Patient Outcomes Research Team (PORT) at the University of Maryland School of Medicine and the Johns Hopkins University School of Public Health, with the support of the Agency for Health Care Policy and Research and the National Institute of Mental Health.17,18 An analysis of treatment practices revealed a substantial gap between the treatment recommendations and actual care.19 For example, antipsychotic dosages were consistent with treatment recommendations for only 62% of inpatients and 29% of outpatients.19 The use of psychosocial services also was inadequate.18 The gap between recommended and actual treatment serves as an impetus for schizophrenia disease management initiatives.

Current Status of Disease Management for Schizophrenia

The importance of mental health to overall health and quality of life and the need for mental health services to restore and maintain mental health are increasingly recognized by the government and private sector. Policy makers also have gained a greater understanding of the chronic nature of schizophrenia and the role of drug therapy in managing the illness on a long-term basis. Follow-up after hospitalization for mental illness is among the NCQA 2004 Health Plan Employer Data and Information Set (commonly referred to as HEDIS®) measures, which apply to Medicaid and Medicare recipients as well as participants in commercial health plans.20

Although disease management strategies have the potential to improve therapeutic outcomes, implementation of those strategies has been accomplished to a lesser extent for patients with schizophrenia than for patients with asthma, diabetes, and other chronic illnesses. Some of the reasons for the lack of success to date in developing and implementing disease management programs for patients with schizophrenia are explained in the Challenges in Managing Schizophrenia section of this monograph. Some of the experience to date with schizophrenia disease management programs is described here.

The Program for Assertive Community Treatment

The Program for Assertive Community Treatment (PACT) is a model for around-the-clock, comprehensive, community-based treatment and rehabilitation services for patients with schizophrenia or other serious mental illnesses that was
pioneered in Madison, Wisconsin, in the late 1970s.\textsuperscript{6} The basic elements of the PACT model (also known as the Training in Community Living model) are multidisciplinary teams, service availability 24 hours a day and 7 days a week, small caseloads, ongoing and continuous services (e.g., staff continuity), assertive outreach, and in vivo treatment and rehabilitation (i.e., taking place in the patient’s natural environment).\textsuperscript{21} The PACT model is still useful today, especially for patients at high risk for hospitalization who cannot be managed with usual community-based treatment.\textsuperscript{8} The model has been shown to be cost-effective for these high-risk patients.\textsuperscript{8} The PACT model has been modified for economic reasons or to overcome geographic constraints; the modifications involve the use of small teams on modified schedules, with manageable caseloads and contingency plans for after-hours emergencies.\textsuperscript{21} Favorable results (e.g., improved patient functioning and quality of life, sustained employment) have been achieved with the PACT model or modifications of the PACT model.\textsuperscript{8,22–24} The likelihood of hospitalization in patients with severe chronic mental illness was reduced by 40% through the use of a modified PACT model.\textsuperscript{25} Significant reductions in length of hospital stay also have been reported.\textsuperscript{26} Patient satisfaction with the programs is high.\textsuperscript{5}

The Texas Medication Algorithm Project

The Texas Department of Mental Health and Mental Retardation, a consortium of Texas medical schools and universities, and consumer advocacy organizations collaborated in developing medication treatment algorithms for patients with schizophrenia, major depressive disorder, or bipolar disorder as part of the Texas Medication Algorithm Project (TMAP).\textsuperscript{27–29} The goals of TMAP are (1) to increase the effectiveness of drug therapy in reducing disease symptoms and improving patient functioning, and (2) to improve the quality of clinical decision-making and practice.\textsuperscript{28} Many of the interventions in TMAP are elements of disease management programs.\textsuperscript{28} These interventions include developing and using evidence-based treatment algorithms, training and providing technical support to clinicians in using the algorithms, measuring treatment outcomes, and educating patients and family members to promote patient adherence and assumption of responsibility for self-care.\textsuperscript{28}

The TMAP medication treatment algorithms were developed using expert panels, literature reviews, and consensus conferences.\textsuperscript{30} The Texas Implementation of Medication Algorithms (TIMA) is the practical application of the treatment algorithms in the clinical setting. The patient and family education program was developed to determine the educational needs of patients and family members, and to create educational materials for them.\textsuperscript{28} Extensive TIMA user manuals for physicians and consumers (i.e., patients and family members) were developed and are available on the Internet (http://www.mhmr.state.tx.us/CentralOffice/MedicalDirector/TIMA.html) to facilitate implementation of the algorithms. The antipsychotic algorithm provides stepwise strategies for cases of partial response or nonresponse.\textsuperscript{30} Separate algorithms facilitate decisions and solve problems related to side effects (e.g., extrapyramidal side effects) and coexisting symptoms (e.g., depression, agitation). Information about antipsychotic drug dosages, duration of treatment, adverse effects, and monitoring of response is included in the TIMA physician user manual.

Consumer education materials (e.g., the user manual for consumers) are available in both English and Spanish. The materials address diagnosis, treatment, drug therapy, monitoring of medication side effects and treatment progress, keeping track of the medication schedule, reasons for patient nonadherence (i.e., patient misconceptions), communicating with health care providers, suicide, and family relations. Written, graphic, videotape, and other media were developed for use in individual and group sessions. Mental health advocates and consumers played a large role in developing the materials because the patient and family education program was based on a philosophy in which the importance of the patient’s participation as a partner in his or her own care was recognized.\textsuperscript{28}

Research is under way to compare clinical and economic outcomes from an algorithm-driven disease management program (i.e., TMAP) with outcomes from usual treatment.\textsuperscript{31} These outcomes include schizophrenia symptoms, patient functioning, quality of life, adverse drug effects, patient and physician satisfaction and knowledge, physician adherence to the algorithm, patient adherence to treatment, health service utilization and costs, and contact with the criminal justice system.\textsuperscript{31} Preliminary results suggest that mental health outcomes are improved by the use of algorithms.\textsuperscript{32}

A study of providers’ practice behaviors before and after physician and staff education in the use of a schizophrenia algorithm was conducted at a Texas Department of Mental Health and Mental Retardation state hospital as part of the implementation of TMAP (i.e., TIMA).\textsuperscript{32} Documentation of target symptoms in the progress notes improved significantly after education, although few progress notes were written using the recommended documentation form.
Documentation of physician assessment of the presence and severity of adverse drug effects decreased after education. Documentation was inadequate and inconsistent, making it difficult to assess adherence to the algorithm. The investigators concluded that physician and staff education alone does not affect practice behavior.32

Another disease management initiative which has relied on some of the TIMA concepts is the Hill Country Mental Health and Mental Retardation Center (see http://www.hillcountry.org/enter.htm for more information about their services and history). The focus of this program is on patient recovery, self-management, and family education. The program also supports patients to find employment and housing. Involving support groups and community partners (e.g., churches) are also a key part of the program. This program has reduced hospitalization rates, pharmacy spending, substance abuse use, and legal issues (e.g. incarcerations). There also have been reductions in housing and employment.

**Colorado Medicaid Disease Management Demonstration Project**

Several pharmaceutical companies have entered into a public-private partnership with the Colorado Department of Health Care Policy and Finance (DHCPF) to meet the needs of Medicaid patients in the state of Colorado.33 A pilot program has been implemented by the Colorado DHCPF to improve patient care, allow patients unrestricted access to treatment and services, and decrease overall Medicaid health care costs. The funding arrangement is unusual for a state Medicaid agency because it does not involve any state general funds or federal funds, and pharmaceutical company funding is given directly to a disease management vendor for unrestricted use in implementing the pilot program. A key design component of this initiative is the targeting of individuals with comorbid medical conditions. Patients with schizophrenia and additional medical conditions (e.g., congestive heart failure, chronic obstructive pulmonary disease, diabetes) are the focus of an 18-month disease management demonstration project funded by Eli Lilly and Company.34 The disease management vendor is Specialty Disease Management Services, Inc. (SDMSI), of Jacksonville, Florida.

The disease management services are designed to improve the coordination of care for comorbid medical conditions in patients with schizophrenia in an effort to improve clinical outcomes and control costs. SDMSI and the Medicaid agency view the role of SDMSI as a navigator and coordinator of care for comorbid medical conditions. When issues associated with psychiatric care are identified, they will be referred to the existing capitated Mental Health Assessment and Service Agency (MHASA) provider network for management and resolution. The following services will assist the MHASA providers in managing patients with schizophrenia:

- Educating clients about comorbid medical conditions.
- Coordinating care for medical conditions.
- Serving as a link for the sharing of clinical data (comorbid disease status, prescriptions, utilization rates of other medical services) between MHASA and the professionals providing medical management. Mental health staff will inform medical providers about relevant mental health issues, and medical providers will keep mental health staff apprised about comorbid medical conditions.
- Providing MHASA providers with client medical utilization data.
- Providing continuing education opportunities for staff.

A formal program impact analysis has been developed to measure the impact of the program on patient health and health care costs. It will assist the Medicaid agency in fine-tuning the program. For additional information, see Disease Management News, January 10, 2003, pages 1 and 4–6.

**Schizophrenia Patient Outcomes Research Team Project**

The evidence-based treatment recommendations from the schizophrenia PORT project at the University of Maryland and Johns Hopkins University are currently under revision to reflect recent literature and therapeutic advances (the treatment recommendations developed in the 1990s were based on literature published through 1994).18 Additional research on the quality of care for patients with schizophrenia is planned.

**Additional Schizophrenia Disease Management Resources**

**AstraZeneca (Wilmington, Delaware)**

AstraZeneca, a pharmaceutical company, offers Internet-based patient information about mental illness in general and schizophrenia in particular, including myths, facts, and treatment (http://www.brighterbeginnings.com/home.asp).

**Bristol-Myers Squibb Company (New York, New York)**

An Internet-based Caregivers Roadmap™ for family and friends of patients with schizophrenia is available from Bristol-Myers Squibb Company (http://www.abilify.com/ability/
roadmap/index.jsp?BV_UseBVCookie=Yes&channelName=Left_Navigation/500@Caregivers_Roadmap). This Web site provides information about the illness (including ways to identify and avoid a relapse), treatment, and the role of counseling, training, and support for family and friends.

**Eli Lilly and Company (Indianapolis, Indiana)**
Eli Lilly and Company provides Internet-based patient information about the treatment of schizophrenia (http://www.lilly.com/products/conditions/schizophrenia.html).

**Janssen Pharmaceutica (Titusville, New Jersey)**
Janssen Pharmaceutica provides Internet-based patient information about schizophrenia and the history of mental illness, and a listing of support groups with hyperlinks (http://www.mentalwellness.com/). The company also distributes an electronic newsletter with updates on schizophrenia to subscribers.

**Novartis Pharmaceuticals (East Hanover, New Jersey)**
Internet-based information for patients about schizophrenia, the risk of suicide, and the use of Clozaril (clozapine) is available from Novartis Pharmaceuticals, the manufacturer of Clozaril (http://www.clozaril.com/index.jsp).

### Future of Disease Management for Patients With Schizophrenia

Disease management—an important approach to integrated care—has been shown to improve patient outcomes and quality of life while potentially reducing overall costs. Applying the key components of disease management to the treatment of schizophrenia can help ensure successful treatment. Disease management is a useful, efficient approach to health care. It has continued to gain widespread acceptance over the past 10 years, and health plans that provide multiple services to patients who need coordinated services are seeing the most success in their chronically ill patients.

### Challenges in Managing Schizophrenia

Managing schizophrenia poses a challenge because the illness typically causes greater disability than other chronic mental and physical illnesses. The needs of patients with schizophrenia are complex and involve training in basic skills that allow them to live and work in the community (i.e., to avoid institutionalization and homelessness) as well as improvement in clinical outcomes (e.g., reduction in symptoms). In the past, patients with schizophrenia were cared for in the public mental health system (i.e., by the Veterans Administration and state Medicaid agencies). The transition to a managed care system in recent years has been difficult because managed care providers lacked the networks of social support services required to provide comprehensive care for patients with schizophrenia. State mental health and Medicaid agencies with limited experience contracting for managed care services have had problems with some managed care providers who were not accountable for providing comprehensive care to patients with schizophrenia on a long-term basis.

Measuring mental health managed care outcomes is a challenge because a variety of health care professionals are involved in patient care, making it difficult to relate causes and effects. Care often is provided in more than one setting (e.g., inpatient settings, ambulatory clinics), causing problems with coordination of care. Inadequate documentation of care and a lack of resources also present challenges.

Patients with schizophrenia are at increased risk for a variety of comorbid medical conditions, including diabetes mellitus, dyslipidemia, and coronary artery disease. These medical conditions are associated with considerable morbidity and mortality, and have the potential to add to the costs of schizophrenia.

Schizophrenia usually initially affects people at an age when they lack an established relationship with the health care system because they are young and otherwise healthy. The illness often impairs patients’ ability to recognize that they are ill. Frequently, patients do not enter the health care system until after symptoms have been present for a substantial amount of time because of the insidious onset of the illness (patients usually present with acute psychosis after a prodromal period). Treatment is less likely to be effective at this late stage than at an earlier stage.

Drug therapy for schizophrenia has become increasingly complex over the past decade because of the introduction of new agents (e.g., atypical antipsychotic agents). These new therapies are costly, which is a consideration that enters into treatment decisions and influences treatment guidelines and algorithms. Implementation of treatment guidelines and algorithms has the potential to improve practice and patient outcomes by reducing treatment variation. However, implementation has been impeded by several factors. A lack of clinician familiarity or agreement with (i.e., acceptance of) guidelines can pose a barrier. Clinicians may view treatment
guidelines as a threat to their autonomy, and consumers and clinicians may perceive algorithms as a bureaucratic tool that interferes with the ability to individualize care. A lack of system support (e.g., computerized clinical information-tracking capabilities, a means for documenting the decision-making process, tools for measuring the response to treatment) also can deter the use of treatment guidelines and algorithms. Patients often provide unreliable information about their medical history, and the lack of a reliable patient medication history may make it difficult to use algorithms when treatment decisions hinge on past response to medications. Patients, family members, or both may be reluctant to switch to a medication with the potential to improve response because of a history of poor response (especially episodes of violence) to another medication. The rate of relapse in patients with schizophrenia is high, and patient nonadherence to the treatment regimen is a common cause of relapse. Lack of knowledge about the course and management of the disease is a common reason for nonadherence. Social pressure and adverse drug effects (especially motor side effects, weight gain, and sexual side effects) are other possible reasons for nonadherence. Adherence is associated with a feeling of trust in the physician.

Strategies for Overcoming Barriers to the Management of Schizophrenia

State mental health and Medicaid agencies can minimize problems with managed care providers by establishing contracts that hold providers accountable for long-term patient outcomes. Accountability is promoted by providing financial incentives and requiring providers to assume some of the financial risk associated with poor care. Using the PACT model or a modification to provide extensive support and assertive case management in the community has the potential to improve patient functioning and quality of life, and reduce hospitalization. A structured treatment program may help overcome patient nonadherence problems because participants in clinical trials (which are highly structured and closely monitored) tend to

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**Table 1. Authoritative Guidelines for Managing Schizophrenia**

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<th>Authoritative Guidelines for Managing Schizophreniaa</th>
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<tr>
<td><strong>1. American Psychiatric Association</strong></td>
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<td><strong>2. The Expert Consensus Guideline Series</strong></td>
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<tr>
<td><strong>3. Texas Department of Mental Health and Mental Retardation</strong></td>
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<td><strong>4. Canadian Psychiatric Association</strong></td>
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<td><strong>5. American Academy of Child and Adolescent Psychiatry</strong></td>
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<td><strong>6. Forensic Algorithm Project</strong></td>
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*aClinical practice is subject to constant change, and the guidelines in this list may become outdated or be superseded by newer ones. The reader is encouraged to consult the National Guideline Clearinghouse (http://www.guideline.gov/), a public resource for evidence-based clinical practice guidelines sponsored by the Agency for Healthcare Research and Quality (formerly the Agency for Health Care Policy and Research), in partnership with the American Medical Association and the American Association of Health Plans, for the most current guidelines.*
have better response rates than nonparticipants. Providing patient support (e.g., a telephone support service) decreases patient isolation and the burden on family members and health care providers.

Involvement of clinicians, patients, and family members in development of evidence-based treatment guidelines or algorithms (e.g., TMAP) can help overcome resistance to use of these guidelines and algorithms. Use of the resources available from the Texas Department of Mental Health and Mental Retardation (Table 1) can facilitate efforts to implement evidence-based treatment guidelines or algorithms.

Early detection and treatment of schizophrenia may improve the natural course of the illness and reduce morbidity. Patients may present with less severe symptoms if the illness is detected early. The potential cost savings from avoided hospitalizations are substantial. However, there are concerns about creating a stigma for patients who never develop the disease (i.e., false-positive diagnoses). Public information campaigns can help reduce the stigma associated with schizophrenia and increase the likelihood that undiagnosed patients will seek medical attention.

Establishing a rapport between the patient and health care provider is a recommended strategy for improving the management of schizophrenia because of the link between patients’ trust in their physician and patients’ adherence to the treatment plan. Educating patients and family members also is recommended. Table 2 lists resources with information for patients and family members. Receiving information about the diagnosis and medication management was judged helpful by patients with schizophrenia who participated in a self-management program. Adherence to the treatment plan is more likely when patients have realistic expectations about benefits from and risks associated with medications (including the delay in onset of therapeutic effects and the possible adverse effects) than when expectations are unrealistic. Patients also should understand the importance of continuing medication even after remission occurs (i.e., after symptoms improve).

Simplifying the medication regimen (i.e., using as few medications and as few daily doses as possible) also promotes adherence.

Programs that facilitate the coordination of care between mental health specialists and primary care providers may allow the early detection of comorbid medical conditions and improve outcomes in patients with schizophrenia. Proper management of both medical conditions and mental illnesses is important in controlling health care costs.

### Table 2. Mental Health Associations With Information for the Public

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<tr>
<th>Association</th>
<th>Address</th>
<th>Phone</th>
<th>Website</th>
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<tr>
<td>National Alliance for Research on Schizophrenia and Depression</td>
<td>60 Cutter Mill Road, Suite 404, Great Neck, NY 11021</td>
<td>(800) 829-8289</td>
<td><a href="http://www.narsad.org">www.narsad.org</a></td>
</tr>
<tr>
<td>National Alliance for the Mentally Ill</td>
<td>Colonial Place Three, 2107 Wilson Boulevard, Suite 300, Arlington, VA 22201-3042</td>
<td>(703) 524-7600</td>
<td>(800) 969-NAMI [6264] <a href="http://www.nami.org">www.nami.org</a></td>
</tr>
<tr>
<td>National Institute of Mental Health</td>
<td>6001 Executive Boulevard, Room 8184, MSC 9663, Bethesda, MD 20892-9663</td>
<td>(866) 615-NIMH [6464]</td>
<td><a href="http://www.nimh.nih.gov/publicat/schizmenu.cfm">www.nimh.nih.gov/publicat/schizmenu.cfm</a></td>
</tr>
<tr>
<td>National Mental Health Association</td>
<td>2001 North Beauregard Street, 12th Floor, Alexandria, VA 22311</td>
<td>Mental Health Resource Center: (800) 969-NMHA [6642]</td>
<td><a href="http://www.nmha.org">www.nmha.org</a></td>
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Conclusion

Schizophrenia is a potentially disabling and costly illness. Disease management efforts for schizophrenia are less well established than are efforts for other chronic illnesses. Early detection of the illness, the use of structured treatment programs and evidence-based treatment guidelines or algorithms, and efforts to educate patients and family members and promote patient adherence to the treatment plan are among the strategies for improving schizophrenia management and patient outcomes.
Appendix A.
Diagnostic Criteria for Schizophrenia

A. Characteristic symptoms: Two (or more) of the following, each present for a significant portion of time during a 1-month period (or less if successfully treated):
   (1) Delusions
   (2) Hallucinations
   (3) Disorganized speech (e.g., frequent derailment or incoherence)
   (4) Grossly disorganized or catatonic behavior
   (5) Negative symptoms (i.e., affective flattening, alogia, or avolition)

   Note: Only one Criterion A symptom is required if delusions are bizarre or hallucinations consist of a voice keeping up a running commentary on the person's behavior or thoughts, or two or more voices conversing with each other.

B. Social/occupational dysfunction: For a significant portion of time since the onset of the disturbance, one or more major areas of functioning such as work, interpersonal relations, or self-care are markedly below the level achieved prior to the onset (or when the onset is in childhood or adolescence, failure to achieve expected level of interpersonal, academic, or occupational achievement).

C. Duration: Continuous signs of the disturbance persist for at least 6 months. This 6-month period must include at least 1 month of symptoms (or less if successfully treated) that meet Criterion A (i.e., active-phase symptoms) and may include periods of prodromal or residual symptoms. During these prodromal or residual periods, the signs of the disturbance may be manifested by only negative symptoms or two or more symptoms listed in Criterion A present in an attenuated form (e.g., odd beliefs, unusual perceptual experiences).

D. Schizoaffective and Mood Disorder exclusion: Schizoaffective Disorder and Mood Disorder With Psychotic Features have been ruled out because either (1) no Major Depressive, Manic, or Mixed Episodes have occurred concurrently with the active-phase symptoms; or (2) if mood episodes have occurred during active-phase symptoms, their total duration has been brief relative to the duration of the active and residual periods.

E. Substance/general medical condition exclusion: The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition.

F. Relationship to a Pervasive Developmental Disorder: If there is a history of Autistic Disorder or another Pervasive Developmental Disorder, the additional diagnosis of Schizophrenia is made only if prominent delusions or hallucinations are also present for at least a month (or less if successfully treated).

Classification of longitudinal course (can be applied only after at least 1 year has elapsed since the initial onset of active-phase symptoms):

   Episodic With Interepisode Residual Symptoms
   (episodes are defined by the reemergence of prominent psychotic symptoms; also specify if: With Prominent Negative Symptoms
   Episodic With No Interepisode Residual Symptoms Continuous
   (prominent psychotic symptoms are present throughout the period of observation); also specify if: With Prominent Negative Symptoms
   Single Episode in Partial Remission; also specify if: With Prominent Negative Symptoms
   Single Episode in Full Remission
   Other or Unspecified Pattern

Source: Reprinted with permission from the Diagnostic and Statistical Manual of Mental Disorders, Text Revision, Copyright 2000. American Psychiatric Association.7
Schizophrenia typically begins in the late teen years or early adulthood. It usually begins earlier in men than in women (i.e., in the late teens or early 20s in men and the 20s or early 30s in women). Schizophrenia usually has a gradual onset, with prodromal symptoms (e.g., deterioration in hygiene, social withdrawal) before an acute psychotic episode (e.g., hallucinations, delusions) occurs. Schizophrenia has been linked with violent behavior, although most patients with the illness are no more violent than the general population. Risk factors for violence in patients with schizophrenia include male sex, young age, history of violence, nonadherence to prescribed medication, and substance abuse. Schizophrenia has a variable course, with exacerbations and remissions in some patients and progressive worsening in others. One in ten patients commits suicide. Factors associated with a good prognosis include acute onset, late age at onset, female sex, lack of a family history of schizophrenia, early treatment with antipsychotic medication, and consistent medication adherence.

The goals of therapy vary with the phase and severity of illness. In the acute phase (i.e., the initial psychotic episode), the goal is to facilitate the alleviation or reduction of acute symptoms and improve functioning. In the stabilization phase (i.e., after the most troublesome acute symptoms are controlled), the goals of treatment include minimization of stress on the patient and the likelihood of relapse, adaptation to life in the community, and continued reduction in symptoms. Maintenance of or improvement in level of functioning and quality of life, effective treatment of symptoms associated with worsening of the illness or relapse (i.e., prodromal symptoms), and monitoring for adverse effects from treatment are goals in the stable (i.e., maintenance) phase.

Pharmacotherapy is indicated during the acute phase for most patients with schizophrenia. Newer atypical antipsychotic agents (e.g., olanzapine, quetiapine, risperidone, ziprasidone) usually are preferred over typical (conventional) antipsychotic agents (e.g., chlorpromazine, fluphenazine, haloperidol, thioridazine) because atypical agents are much less likely than typical agents to cause troublesome motor side effects. Considerations in selecting an antipsychotic agent include past response to drug therapy, adverse effect profile, patient preference, and route of administration. An adequate trial of antipsychotic medication (e.g., 6–7 weeks in the acute phase) is needed. If a response occurs, the medication should be continued for 6 months in the stabilization phase. The need for maintenance antipsychotic drug therapy should be reevaluated at least annually in the stable phase. Patients with multiple psychotic episodes may require treatment for 5 years or longer.

As many as four out of five patients experience a second psychotic episode within 5 years after their first episode, even if they respond to treatment. This high relapse rate is the basis for maintenance antipsychotic drug therapy. The cost savings from avoidance of relapse and hospitalization more than offset the cost of antipsychotic medication.

Psychosocial interventions may be used in conjunction with antipsychotic drug therapy. These interventions are used in the acute phase to reduce excessively stimulating or stressful life events. In the stabilization phase, assistance may be needed with the transition from an inpatient setting to living in the community. Education often is provided for the patient and family about the course of the illness and the importance of treatment adherence. Supportive psychosocial therapy is continued in the stable phase, when specialized treatments (e.g., cognitive rehabilitation, vocational skills training) often are initiated.
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