Depressive Disorders Continuing Education Course
(6 Hours/Units)

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CE Course Objectives: This course is designed to help you:

1. Identify and diagnose Depressive Disorder

2. Become familiar with the historical framework concerning the inclusion of Depressive Disorder in contemporary mental health and the DSM

3. Identify Depressive Disorder symptoms and related behaviors

4. Become familiar with common causes

5. Learn and apply widely accepted theoretical treatment approaches such as Cognitive Behavioral Therapy

6. Access relevant resources

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1. Definition and Types

Depressive disorders and symptoms may vary and can include:

- **Major depressive episode**
- **Atypical depression**, a cyclical sub-type of major depression where sleep, feeding and perception of pleasure are normal but there is a feeling of lethargy
- **Melancholic depression** a sub-type of major depression characterized by an inability to feel pleasure combined with physical agitation, insomnia, or decreased appetite
- **Psychotic depression**, a sub-type of major depression combined with psychotic or delusional perceptions
- **Depressive Disorder Not Otherwise Specified**

- **Depression** (mood)
- **Postpartum depression**, a depressive episode occurring within a year of childbirth
- **Dysthymic disorder**, a long-term low-grade depressive condition
- Adjustment disorder with depressed mood, previously known as "reactive depression"
- Seasonal affective disorder (SAD), a depressed mood related to the seasons
- Depression is the fourth stage of the Kübler-Ross model (commonly known as the "stages of dying")


Major depressive disorder is also known as clinical depression or major depression. It is a diagnosis contained in the *Diagnostic and Statistical Manual of Mental Disorders by the American Psychiatric Association*. Major depression is a serious illness that affects a person's relationships,
family, work or school life, sleeping and eating habits, social activities, and general health. Those who suffer from a major depressive episode usually exhibit a very low mood pervading all aspects of life and an inability to experience pleasure in previously enjoyable activities. Other symptoms may include the preoccupation with, or ruminating over, thoughts and feelings of worthlessness, inappropriate guilt or regret, helplessness, hopelessness, and self hatred. Other symptoms include poor concentration and memory, withdrawal from social situations and activities, reduced sex drive, and thoughts of death or suicide. Insomnia is common: in the typical pattern, a person wakes very early and is unable to get back to sleep. Hypersomnia, or oversleeping, is less common. Appetite often decreases, with resulting weight loss, although increased appetite and weight gain occasionally occur. The person may report multiple physical symptoms such as fatigue, headaches, or digestive problems; physical complaints are the most common presenting problem in developing countries according to the World Health Organization's criteria of depression. Family and friends may notice that the person's behavior is either agitated or lethargic. Older depressed persons may have cognitive symptoms of recent onset, such as forgetfulness, and a more noticeable slowing of movements. In severe cases, depressed people may have symptoms of psychosis such as delusions or, less commonly, hallucinations, usually of an unpleasant nature (American Psychiatric Association, 2000a. Diagnostic and statistical manual of mental disorders, Fourth Edition, Text Revision: DSM-IV-TR. Washington, DC: American Psychiatric Publishing, Inc).

2. History

The Ancient Greek physician Hippocrates described a syndrome of melancholia as a distinct disease with particular mental and physical symptoms; he characterized all "fears and despondencies, if they last a long time" as being symptomatic of the ailment. It was a similar but far broader concept than today's depression; prominence was given to a clustering of the symptoms of sadness, dejection, and despondency, and often fear, anger, delusions and obsessions were included (Hergenhahn BR, 2005. An Introduction to the History of Psychology, 5th edition ed. Belmont, CA, USA: Thomson Wadsworth).

The term depression originated from the Latin verb deprimere, "to press down". From the 14th century, "to depress" meant to subjugate or to bring down in spirits. It was used in 1665 in English author Richard Baker's
Chronicle to refer to someone having "a great depression of spirit", and by English author Samuel Johnson in a similar sense in 1753. The term also came in to use in physiology and economics. An early usage referring to a psychiatric symptom was by French psychiatrist Louis Delasiauwe in 1856, and by the 1860s it was appearing in medical dictionaries to refer to a physiological and metaphorical lowering of emotional function. Since Aristotle, melancholia had been associated with men of learning and intellectual brilliance, a hazard of contemplation and creativity. The newer concept abandoned these associations and, through the 19th century, became more associated with women (Hergenhahn BR, 2005. An Introduction to the History of Psychology, 5th edition ed. Belmont, CA, USA: Thomson Wadsworth).

While melancholia remained the dominant diagnostic term, depression gained increasing currency in the medical community and was a synonym by the end of the century. German psychiatrist Emil Kraepelin may have been the first to use it as the overarching term, referring to different kinds of melancholia as depressive states. Sigmund Freud compared the state of melancholia to mourning in his 1917 paper Mourning and Melancholia. He theorized that objective loss, such as the loss of a valued relationship through death or a romantic break-up, results in subjective loss as well; the depressed individual has identified with the object of affection through an unconscious, narcissistic process called the libidinal cathexis of the ego. Such loss results in severe melancholic symptoms more profound than mourning; not only is the outside world viewed negatively, but the ego itself is compromised. The patient's decline of self-perception is revealed in his belief of his own blame, inferiority, and unworthiness. He also emphasized early life experiences as a predisposing factor. Meyer put forward a mixed social and biological framework emphasizing reactions in the context of an individual's life, and argued that the term depression should be used instead of melancholia (Hergenhahn BR, 2005. An Introduction to the History of Psychology, 5th edition ed. Belmont, CA, USA: Thomson Wadsworth).

The first version of the DSM (DSM-I, 1952) contained depressive reaction and the DSM-II (1968) depressive neurosis, defined as an excessive reaction to internal conflict or an identifiable event, and also included a depressive type of manic-depressive psychosis within Major affective disorders. In the mid-20th century, researchers theorized that depression was caused by a chemical imbalance in neurotransmitters in the brain, a theory based on observations made in the 1950s of the effects of reserpine and isoniazid in

The term Major depressive disorder was introduced by a group of US clinicians in the mid-1970s as part of proposals for diagnostic criteria based on patterns of symptoms (called the "Research Diagnostic Criteria", building on earlier Feighner Criteria), and was incorporated in to the DSM-III in 1980. To maintain consistency the ICD-10 used the same criteria, with only minor alterations, but using the DSM diagnostic threshold to mark a mild depressive episode, adding higher threshold categories for moderate and severe episodes. The ancient idea of melancholia still survives in the notion of a melancholic subtype. The new definitions of depression were widely accepted, although there remained some conflicting findings and views. There have been some continued empirically-based arguments for a return to the diagnosis of melancholia. There has been some criticism of the expansion of coverage of the diagnosis, related to the development and promotion of antidepressants and the biological model since the late 1950s (Hergenhahn BR, 2005. An Introduction to the History of Psychology, 5th edition ed. Belmont, CA, USA: Thomson Wadsworth).

Sociocultural Aspects

Even today, conceptualizations of depression tend to vary, both within and among cultures. "Because of the lack of scientific certainty," one commentator has observed, "the debate over depression turns on questions of language. What we call it 'disease,' 'disorder,' 'state of mind' affects how we view, diagnose, and treat it." There are cultural differences in the extent to which serious depression is considered an illness requiring personal professional treatment, or is an indicator of something else, such as the need to address social or moral problems, the result of biological imbalances, or a reflection of individual differences in the understanding of distress that may reinforce feelings of powerlessness, and emotional struggle (Hergenhahn BR 2005, An Introduction to the History of Psychology, 5th edition ed. Belmont, CA, USA: Thomson Wadsworth).

The diagnosis is less common in some countries, such as China. It has been argued that the Chinese traditionally deny or somatize emotional depression (although since the early 1980s the Chinese denial of depression may have modified drastically). Alternatively, it may be that Western cultures reframe
and elevate some expressions of human distress to disorder status. Australian professor Gordon Parker and others have argued that the Western concept of depression "medicalizes" sadness or misery. Similarly, Hungarian-American psychiatrist Thomas Szasz and others argue that depression is a metaphorical illness that is inappropriately regarded as an actual disease. There has also been concern that the DSM, as well as the field of descriptive psychiatry that employs it, tends to reify abstract phenomena such as depression, which may in fact be social constructs. American archetypal psychologist James Hillman writes that depression can be healthy for the soul, insofar as "it brings refuge, limitation, focus, gravity, weight, and humble powerlessness." Hillman argues that therapeutic attempts to eliminate depression echo the Christian theme of resurrection, but have the unfortunate effect of demonizing a soulful state of being (Hergenhahn BR 2005, An Introduction to the History of Psychology, 5th edition ed. Belmont, CA, USA: Thomson Wadsworth).

Historical figures were often reluctant to discuss or seek treatment for depression due to social stigma about the condition, or due to ignorance of diagnosis or treatments. Nevertheless, analysis or interpretation of letters, journals, artwork, writings or statements of family and friends of some historical personalities has led to the presumption that they may have had some form of depression. People who may have had depression include English author Mary Shelley, American-British writer Henry James, and American president Abraham Lincoln. Some well-known contemporary people with possible depression include Canadian songwriter and American playwright and novelist Tennessee Williams. Some pioneering psychologists, such as Americans William James and John B. Watson, dealt with their own depression (Hergenhahn BR 2005, An Introduction to the History of Psychology, 5th edition ed. Belmont, CA, USA: Thomson Wadsworth).

There has been a continuing discussion of whether neurological disorders and mood disorders may be linked to creativity, a discussion that goes back to Aristotelian times. British literature gives many examples of reflections on depression. English philosopher John Stuart Mill experienced a several-months-long period of what he called "a dull state of nerves," when one is "unsusceptible to enjoyment or pleasurable excitement; one of those moods when what is pleasure at other times, becomes insipid or indifferent". He quoted English poet Samuel Taylor Coleridge's "Dejection" as a perfect description of his case: "A grief without a pang, void, dark and drear, / a
drowsy, stifled, unimpassioned grief, / Which finds no natural outlet or relief
In word, or sigh, or tear." English writer Samuel Johnson used the term "the black dog" in the 1780s to describe his own depression, and it was subsequently popularized by depression sufferer former British Prime Minister Sir Winston Churchill (Hergenhahn BR, 2005. An Introduction to the History of Psychology, 5th edition ed. Belmont, CA, USA: Thomson Wadsworth).

Social stigma of major depression continues to be widespread. Public opinion on treatment differs from those of health professionals; alternative treatments are held to be more helpful than pharmacological ones, which are viewed poorly. In the UK, the Royal College of Psychiatrists and the Royal College of General Practitioners conducted a joint Five-year Defeat Depression campaign to educate and reduce stigma from 1992 to 1996; a MORI study conducted afterwards showed a small positive change in public attitudes to depression and treatment.

3. Symptoms and Diagnosis

A diagnostic assessment may be conducted by a general practitioner, licensed clinical social worker, or by a psychiatrist or psychologist, who will record the person's current circumstances, biographical history and current symptoms, and a family medical history to see if other family members have suffered from a mood disorder, and discuss the person's alcohol and drug use. The assessment also includes a mental state examination, which is an assessment of the person's current mood and thought content, in particular the presence of themes of hopelessness and/or pessimism, self-harm or suicide, and an absence of positive thoughts or plans. Specialist mental health services are rare in rural areas, and thus diagnosis and management is largely left to primary care clinicians. This issue is even more marked in developing countries. The score on a rating scale alone is not sufficient to diagnose depression, but they provide an indication of the severity of symptoms for a time period, so a person who scores above a given cut-off point can be more thoroughly evaluated for a depressive disorder diagnosis. Several rating scales are used for this purpose. Screening programs have been advocated to improve detection of depression, but there is evidence that they do not improve detection rates, treatment, or outcome (American Psychiatric Association, 2000a. Diagnostic and statistical manual of mental disorders, Fourth Edition, Text

Before diagnosing a major depressive disorder, a doctor generally performs a medical examination and selected investigations to rule out other causes of symptoms. These include blood tests measuring TSH and thyroxine to exclude hypothyroidism; basic electrolytes and serum calcium to rule out a metabolic disturbance; and a full blood count including ESR to rule out a systemic infection or chronic disease. Testosterone levels may be evaluated to diagnose hypogonadism, a cause of depression in men. Subjective cognitive complaints appear in older depressed people, but they can also be indicative of the onset of a dementing disorder, such as Alzheimer's disease. Depression is also a common initial symptom of dementia. Conducted in older depressed people, additional tests such as cognitive testing and brain imaging, can help distinguish depression from dementia. A CT scan can exclude brain pathology in those with psychotic, rapid-onset or otherwise unusual symptoms. No biological tests confirm major depression. Investigations are not generally repeated for a subsequent episode unless there is a medical indication (American Psychiatric Association, 2000a. Diagnostic and statistical manual of mental disorders, Fourth Edition, Text Revision: DSM-IV-TR. Washington, DC: American Psychiatric Publishing, Inc).

Diagnostic Criteria

Criteria used for diagnosing depressive conditions are contained in the American Psychiatric Association's revised fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), and the World Health Organization's International Statistical Classification of Diseases and Related Health Problems (ICD-10) which uses the name recurrent depressive disorder. The latter system is typically used in European countries, while the former is used in the US and many other non-European nations, and the authors of both have worked towards conforming one with the other.

Major depressive disorder is classified as a mood disorder in DSM-IV-TR. The diagnosis hinges on the presence of a single or recurrent major depressive episode. Further qualifiers are used to classify both the episode itself and the course of the disorder. The category Depressive disorder not otherwise specified is diagnosed if the depressive episode's manifestation
does not meet the criteria for a major depressive episode. The ICD-10 system does not use the term *Major depressive disorder*, but lists very similar criteria for the diagnosis of a depressive episode (mild, moderate or severe); the term *recurrent* may be added if there have been multiple episodes without mania *(American Psychiatric Association (2000a). Diagnostic and statistical manual of mental disorders, Fourth Edition, Text Revision: DSM-IV-TR. Washington, DC: American Psychiatric Publishing, Inc.)*.

**Major depressive episode**

A major depressive episode is characterized by the presence of a severely depressed mood that persists for at least two weeks. Episodes may be isolated or recurrent and are categorized as mild (few symptoms in excess of minimum criteria), moderate, or severe (marked impact on social or occupational functioning). An episode with psychotic features—commonly referred to as *psychotic depression*—is automatically rated as severe. If the patient has had an episode of mania or markedly elevated mood, a diagnosis of bipolar disorder is made instead. Depression without mania is sometimes referred to as *unipolar* because the mood remains at one emotional state or "pole" *(American Psychiatric Association (2000a). Diagnostic and statistical manual of mental disorders, Fourth Edition, Text Revision: DSM-IV-TR. Washington, DC: American Psychiatric Publishing, Inc.)*.


The following includes a summary of diagnostic criteria for Major Depressive Disorder, Single Episode:

A diagnosis of Depressive Disorder requires at least one Major Depressive Episode, but no Manic, or Mixed Episodes.

The following is a summary of Diagnostic criteria for 296.2x Major Depressive Disorder, Single Episode:

- A single Major Depressive Episode.
The episode is not better accounted for by Schizoaffective Disorder and is not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified.

There has never been a Manic Episode, a Mixed Episode, or a Hypomanic Episode

**Dysthymic Disorder**

Dysthymic Disorder, formerly referred to as Dysthymia, is a chronic mood disorder and is considered a chronic depression, but with less severity than major depressive disorder. Dysthymic Disorder is often a chronic, long-lasting illness characterized by a low-grade depression. *Harvard Health Publications* states that, “the Greek word dysthymia means ‘bad state of mind’ or ‘ill humor’. As one of the two chief forms of clinical depression, it usually has fewer or less serious symptoms than major depression but lasts longer.” *Harvard Health Publications* says, “at least three-quarters of patients with dysthymia also have a chronic physical illness or another psychiatric disorder such as one of the anxiety disorders, drug addiction, or alcoholism”. *The Primary Care Journal* says that dysthymia “affects approximately 3% of the population and is associated with significant functional impairment”. *Harvard Health Publications* says: "The rate of depression in the families of people with dysthymia is as high as 50% for the early-onset form of the disorder." "Most people with dysthymia can't tell for sure when they first became depressed".

The following provides a summary of Diagnostic criteria for Dysthymic Disorder:

- A sometimes “low grade” depression that may persist for long periods of time, even years
- Moderate intensity is as severe as the symptoms become
- Presence of a depressed mood for the majority of the day, most days for two years (children for at least one year)
- While depressed, at least two or more of the following are present:
  - poor appetite or overeating
  - Insomnia or Hypersomnia
  - low energy or fatigue
  - low self-esteem
poor concentration or difficulty making decisions
feelings of hopelessness

- Throughout the time period of 2 years, (1 year for children or adolescents, the person has never been without the symptoms in Criteria A and B for more than 2 months at a time.
- Major Depressive Episode has not existed throughout the first 2 years of the disturbance
- No Manic Episode, a Mixed Episode, or a Hypomanic Episode, and criteria have been met for Cyclothymic Disorder.
- The symptoms are not due to substance use or dependence or a general medical condition
- Impairment in social, occupational, or other important areas of functioning.
- Early Onset: if onset is before age 21 years
  Late Onset: if onset is age 21 years or older
- In order to receive a diagnosis of Depressive Disorder, the person should have experienced at least one Major Depressive Episode, but no Manic, or Mixed episodes.

**Major Depressive Disorder**

Major depressive disorder is also known as clinical depression, major depression, unipolar depression, or unipolar disorder. It is characterized by low mood, low self-esteem, and loss of interest or pleasure in previously enjoyed activities. The term "major depressive disorder" was selected by the American Psychiatric Association for this symptom cluster under mood disorders in the 1980 version of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)* classification, and has become widely used since. The general term depression is often used to describe the disorder, but as it is also used to describe a depressed mood, more precise terminology is preferred in clinical and research use (*American Psychiatric Association, 2000a. Diagnostic and statistical manual of mental disorders, Fourth Edition, Text Revision: DSM-IV-TR. Washington, DC: American Psychiatric Publishing, Inc.*)

Major depression can be a disabling condition which may negatively impact a person's family, work or school life, sleeping and eating habits, and general health. In the United States, approximately 3.4% of people with
major depression commit suicide, and up to 60% of all people who commit suicide have depression or another mood disorder.

Diagnosis is based on the patient's self-reported experiences, behavior reported by relatives or friends, and a mental status exam. Although there is no laboratory test for major depression, physicians generally request tests for physical conditions that may cause similar symptoms. Typical onset is between the ages of 30 and 40 years, with a later peak between 50 and 60 years. Major depression is reported about twice as frequently in women as in men, although men are at higher risk for suicide (American Psychiatric Association, 2000a. Diagnostic and statistical manual of mental disorders, Fourth Edition, Text Revision: DSM-IV-TR. Washington, DC: American Psychiatric Publishing, Inc.)

Many depression sufferers are treated with antidepressant medication and some with psychotherapy or counseling. Hospitalization may be necessary in cases with associated self-neglect or a significant risk of harm to self or others. A minority are treated with electroconvulsive therapy (ECT). The course of the disorder varies, from one episode lasting months to a lifelong disorder with recurrent major depressive episodes. Depressed individuals have shorter life expectancies than those without depression, in part because of greater susceptibility to medical illnesses (American Psychiatric Association, 2000a. Diagnostic and statistical manual of mental disorders, Fourth Edition, Text Revision: DSM-IV-TR. Washington, DC: American Psychiatric Publishing, Inc.)

The following includes a summary of diagnostic criteria for Major Depressive Disorder, Recurrent

- At least two or more major depressive episodes separated by at least two months
- Other disorders such as Schizoaffective Disorder and are not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified have been ruled out.
- Specify Severity/Psychotic/Remission Specifiers
  - Chronic
  - With Catatonic Features
  - With Melancholic Features
  - With Atypical Features
  - With Postpartum Onset Longitudinal Course Specifiers (With and
Without Interepisode Recovery
With Seasonal Pattern

Subtypes

The DSM-IV-TR identifies five subtypes of MDD, called *specifiers*, in addition to noting the length, severity and presence of psychotic features:

- **Melancholic depression** is characterized by a loss of pleasure in most or all activities, a failure of reactivity to pleasurable stimuli, a quality of depressed mood more pronounced than that of grief or loss, a worsening of symptoms in the morning hours, early morning waking, psychomotor retardation, excessive weight loss (not to be confused with anorexia nervosa), or excessive guilt.

- **Atypical depression** is characterized by mood reactivity (paradoxical anhedonia) and positivity, significant weight gain or increased appetite (comfort eating), excessive sleep or sleepiness, a sensation of heaviness in limbs known as leaden paralysis, and significant social impairment as a consequence of hypersensitivity to perceived interpersonal rejection.

- **Catatonic depression** is a rare and severe form of major depression involving disturbances of motor behavior and other symptoms. Here the person is mute and almost stupors, and either remains immobile or exhibits purposeless or even bizarre movements. Catatonic symptoms also occur in schizophrenia or in manic episodes, or may be caused by neuroleptic malignant syndrome.

- **Postpartum depression** (Mild mental and behavioral disorders associated with the puerperium, not elsewhere classified in ICD-10) refers to the intense, sustained and sometimes disabling depression experienced by women after giving birth. Postpartum depression, which has incidence rate of 10–15% among new mothers, typically sets in within three months of labor, and lasts as long as three months.

- **Seasonal affective disorder** (SAD) is a form of depression in which depressive episodes come on in the autumn or winter, and resolve in spring. The diagnosis is made if at least two episodes have occurred in
colder months with none at other times, over a two-year period or longer.


**Differential diagnoses**

Prior to a formal diagnosis, other potential diagnoses must be considered, including dysthymia, adjustment disorder with depressed mood or bipolar disorder. Dysthymia is a chronic, milder mood disturbance in which a person reports a low mood almost daily over a span of at least two years. The symptoms are not as severe as those for major depression, although people with dysthymia are vulnerable to secondary episodes of major depression (sometimes referred to as double depression). Adjustment disorder with depressed mood is a mood disturbance appearing as a psychological response to an identifiable event or stressor, in which the resulting emotional or behavioral symptoms are significant but do not meet the criteria for a major depressive episode. Bipolar disorder, previously known as manic-depressive disorder, is a condition in which depressive phases alternate with periods of mania or hypomania. Although depression is currently categorized as a separate disorder, there is ongoing debate because individuals diagnosed with major depression often experience some hypomanic symptoms, indicating a mood disorder continuum (American Psychiatric Association (2000a). Diagnostic and statistical manual of mental disorders, Fourth Edition, Text Revision: DSM-IV-TR. Washington, DC: American Psychiatric Publishing, Inc.).

Depressed children often display an irritable rather than a depressed mood, and show varying symptoms depending on age and situation. Most exhibit a loss of interest in school and a decline in academic performance. They may be described as clingy, demanding, dependent, or insecure. Diagnosis may be delayed or missed when symptoms are interpreted as normal moodiness.

**4. Causes**

Understanding the nature and causes of depression has increased over the centuries. However, many aspects of depression remain incompletely understood and continue to be the focus of discussion and research. Of
course, psychological, psycho-social, evolutionary and biological causes have been proposed. Psychological treatments are based on theories of personality, interpersonal communication, and learning theory. Most biological theories focus on the monoamine chemicals serotonin, norepinephrine, and dopamine that are naturally present in the brain and assist communication between nerve cells. Monoamines have been implicated in depression, and most antidepressants work to increase the active levels of at least one (Shah N, Eisner T, Farrell M, Raeder C, July/August 1999. "An overview of SSRIs for the treatment of depression". Journal of the Pharmacy Society of Wisconsin).

The biopsychosocial model proposes that biological, psychological, and social factors are all integral in varying degrees in causing depression. The diathesis–stress model posits that depression results when a preexisting vulnerability, is activated by stressful life events (Caspi A, Sugden K, Moffitt TE, et al., 2003. "Influence of life stress on depression: Moderation by a polymorphism in the 5-HTT gene". Science.). The preexisting vulnerability can be either genetic, implying an interaction between nature and nurture, or schematic, resulting from views of the world learned in childhood. These interactive models have gained empirical support. For example, a prospective, longitudinal study uncovered a moderating effect of the serotonin transporter (5-HTT) gene on stressful life events in predicting depression. Specifically, depression may follow such events, but is more likely to appear in people with one or two short alleles of the 5-HTT gene. A Swedish study estimated the heritability of depression (the degree to which individual differences in occurrence are associated with genetic differences) to be approximately 40 percent for women and 30 percent for men (Beck, Aaron T.; Rush J, Shaw BF, Emery G (1987) [1979]. Cognitive Therapy of depression. New York, NY, USA: Guilford Press).

**Monoamine Hypothesis**

Most antidepressants increase synaptic levels of serotonin, one of a group of neurotransmitters known as monoamines. Serotonin is hypothesized to help regulate other neurotransmitter systems; decreased serotonin activity may allow these systems to act in unusual and erratic ways. According to this "permissive hypothesis", depression arises when low serotonin levels promote low levels of norepinephrine, another monoamine neurotransmitter. Some antidepressants enhance the levels of norepinephrine directly, whereas others raise the levels of dopamine, a third monoamine neurotransmitter.
These observations gave rise to the monoamine hypothesis of depression. In its contemporary formulation, the monoamine hypothesis postulates that a deficiency of certain neurotransmitters is responsible for the corresponding features of depression: "Norepinephrine may be related to alertness and energy as well as anxiety, attention, and interest in life; [lack of] serotonin to anxiety, obsessions, and compulsions; and dopamine to attention, motivation, pleasure, and reward, as well as interest in life.” The proponents of this theory recommend the choice of an antidepressant with mechanism of action that impacts the most prominent symptoms. Anxious and irritable patients should be treated with SSRIs or norepinephrine reuptake inhibitors, and those experiencing a loss of energy and enjoyment of life with norepinephrine and dopamine enhancing drugs (Nutt DJ, 2008. "Relationship of neurotransmitters to the symptoms of major depressive disorder". Journal of Clinical Psychiatry).

Synapses are specialized gaps between neurons. Electrical impulses arriving at the axon terminal trigger release of packets of chemical messengers (neurotransmitters), which diffuse across the synaptic cleft to receptors on the adjacent dendrite temporarily affecting the likelihood that an electrical impulse will be triggered in the latter neuron. Once released the neurotransmitter is rapidly metabolized or pumped back into a neuron. Antidepressants influence the overall balance of these processes (Nutt DJ, 2008. "Relationship of neurotransmitters to the symptoms of major depressive disorder". Journal of Clinical Psychiatry).

Throughout the past two decades, research has revealed several limitations of the monoamine hypothesis, and its explanatory inadequacy has been criticized within the mental health community. Clinical investigation has not
found convincing evidence of a primary dysfunction of a specific monoamine system in patients with major depressive disorders. The medications tianeptine and opipramol have long been known to have antidepressant properties despite lacking any effect on the monoamine system. Experiments with pharmacological agents that cause depletion of monoamines have shown that this depletion does not cause depression in healthy people nor does it worsen symptoms in depressed patients although an intact monoamine system is necessary for antidepressants to achieve therapeutic effectiveness. According to an essay published by the Public Library of Science (PLoS), the monoamine hypothesis, already limited, has been further oversimplified when presented to the general public (Sources: Public Library of Science (PLoS) and Nutt DJ, 2008. "Relationship of neurotransmitters to the symptoms of major depressive disorder". Journal of Clinical Psychiatry PMID 18494537).

Other theories

MRI scans of patients with depression reveal differences in brain structure compared to those without the illness. Although there is some inconsistency in the results, meta-analyses have shown there is strong evidence for smaller hippocampal volumes and increased numbers of hyperintensive lesions. Hyperintensities have been associated with patients with a late age of onset, and have led to the development of the theory of vascular depression (Parker, Gordon; Dusan Hadzi-Pavlovic, Kerrie Eyers, 1996. Melancholia: A disorder of movement and mood: A phenomenological and neurobiological review. Cambridge: Cambridge University Press. ISBN 052147275X).

There may be a link between depression and neurogenesis of the hippocampus, a center for both mood and memory. Loss of hippocampal neurons is found in some depressed individuals and correlates with impaired memory and dysthymic mood. Drugs may increase serotonin levels in the brain, stimulating neurogenesis and thus increasing the total mass of the hippocampus. This increase may help to restore mood and memory. Similar relationships have been observed between depression and an area of the anterior cingulate cortex implicated in the modulation of emotional behavior. One of the neurotrophins responsible for neurogenesis is the brain-derived neurotrophic factor (BDNF). The level of BDNF in the blood plasma of depressed subjects is drastically reduced (more than threefold) as compared to the norm. Antidepressant treatment increases the blood level of
BDNF. Although decreased plasma BDNF levels have been found in many other disorders, there is some evidence that BDNF is involved in the cause of depression and the mechanism of action of antidepressants (Parker, Gordon; Dusan Hadzi-Pavlovic, Kerrie Eyers (1996). Melancholia: A disorder of movement and mood: A phenomenological and neurobiological review. Cambridge: Cambridge University Press).

Major depression may also be caused in part by an overactive hypothalamic-pituitary-adrenal axis (HPA axis) that is similar to the neuro-endocrine response to stress. Investigations reveal increased levels of the hormone cortisol and enlarged pituitary and adrenal glands, suggesting disturbances of the endocrine system may play a role in some psychiatric disorders, including major depression. Over secretion of corticotropin-releasing hormone from the hypothalamus is thought to drive this, and is implicated in the cognitive and arousal symptoms. Depression may be related to abnormalities in the circadian rhythm, or biological clock. For example, the REM stage of sleep, the one in which dreaming occurs, may be quick to arrive, and intense, in depressed people. REM sleep depends on decreased serotonin levels in the brain stem, and is impaired by compounds, such as antidepressants, that increase serotonergic tone in brain stem structures. Overall, the serotonergic system is least active during sleep and most active during wakefulness. Prolonged wakefulness due to sleep deprivation activates serotonergic neurons, leading to processes similar to the therapeutic effect of antidepressants, such as the selective serotonin reuptake inhibitors (SSRIs). Depressed individuals can exhibit a significant lift in mood after a night of sleep deprivation. SSRIs may directly depend on the increase of central serotonergic neurotransmission for their therapeutic effect, the same system that impacts cycles of sleep and wakefulness (Shah N, Eisner T, Farrell M, Raeder C (July/August 1999). "An overview of SSRIs for the treatment of depression" (PDF). Journal of the Pharmacy Society of Wisconsin.).

The helpful effects of light therapy on treating seasonal affective disorder suggests that light deprivation is related to decreased activity in the serotonergic system and to abnormalities in the sleep cycle. Exposure to light also targets the serotonergic system, which may play a role in depression. Sleep deprivation and light therapy both target the same brain neurotransmitter system and brain areas as antidepressant drugs, and are now used clinically to treat depression. Light therapy, sleep deprivation and sleep
time displacement are being used in combination quickly to interrupt a deep depression in hospitalized patients.

Estrogen has been implicated in depressive disorders due to the increase in risk of depressive episodes after puberty, the antenatal period, and reduced rates after menopause. Conversely, the premenstrual and postpartum periods of low estrogen levels are also associated with increased risk. The use of estrogen has been under-researched, and although some small trials show promise in its use to prevent or treat depression, the evidence for its effectiveness is not strong. Estrogen replacement therapy has been shown to be beneficial in improving mood in perimenopause, but it is unclear if it is merely the menopausal symptoms that are being reversed (Parker, Gordon; Dusan Hadzi-Pavlovic, Kerrie Eyers (1996). Melancholia: A disorder of movement and mood: A phenomenological and neurobiological review. Cambridge: Cambridge University Press. ISBN 052147275X).

Other research has explored potential roles of molecules necessary for overall cellular functioning: cytokines and essential nutrients. Major depressive disorder is nearly identical to sickness behavior, the response of the body when the immune system is fighting an infection. This raises the possibility that depression can result from a maladaptive manifestation of sickness behavior as a result of abnormalities in circulating cytokines. Deficiencies in certain essential dietary nutrients, particularly vitamin B12 and folic acid, have been associated with depression; other agents such as the elements copper and magnesium, and vitamin A have also been implicated.

Psychological

Various aspects of personality and its development appear to be integral to the occurrence and persistence of depression. Although depressive episodes are strongly correlated with adverse events, a person's characteristic style of coping may be correlated with their resilience. Additionally, low self-esteem and self-defeating or distorted thinking are related to depression. Depression may be less likely to occur, as well as quicker to remit, among those who are religious. It is not always clear which factors are causes or which are effects of depression; however, depressed persons who are able to make corrections in their thinking patterns often show improved mood and self-esteem (Beck, Aaron T.; Rush J, Shaw BF, Emery G (1987) [1979]. Cognitive Therapy of depression. New York, NY, USA: Guilford Press).
Aaron T. Beck developed a cognitive model of depression in the early 1960s. He proposed three concepts which underlie depression: a triad of negative thoughts comprising cognitive errors about oneself, one's world, and one's future; recurrent patterns of depressive thinking, or schemas; and distorted information processing. From these principles, he developed the structured technique of cognitive behavioral therapy (Beck, Aaron T.; Rush J, Shaw BF, Emery G (1987) [1979]. Cognitive Therapy of depression. New York, NY, USA: Guilford Press.). According to American psychologist Martin Seligman, depression in humans is similar to learned helplessness in laboratory animals, which remain in unpleasant situations when they are able to escape, but do not because they initially learned they had no control.

Characteristics of depressed individuals include blaming themselves for negative events. In a study of hospitalized adolescents with self-reported depression, those who felt responsible for negative events did not take credit for positive outcomes. This is characteristic of a depressive attributional, or pessimistic explanatory style. According to Albert Bandura, a Canadian social psychologist associated with social cognitive theory, depressed individuals have negative beliefs about themselves, based on experiences of failure, observing the failure of social models, a lack of social persuasion that they can succeed, and their own somatic and emotional states including tension and stress. These influences may result in a negative self-concept and a perceived lack of self-efficacy; that is, they do not believe they can influence events or achieve personal goals (Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall).

Studies which evaluate depression in women indicate that vulnerability factors including early maternal loss, lack of a confiding relationship, responsibility for the care of several young children at home, and unemployment may interact with life stressors and increase the risk of depression. For older adults, the factors are often health problems, changes in relationships with a spouse or adult children due to the transition to a care-giving or care-needing role, the death of a significant other, or a change in the availability or quality of social relationships with older friends because of their own health-related life changes (Freeman, Arthur; Epstein, Norman & Simon, Karen M., 1987. Depression in the Family. Haworth Press).
The understanding of depression has also received contributions from the psychoanalytic, existential, and humanistic branches of psychology. From the classical psychoanalytic perspective of Austrian psychiatrist Sigmund Freud, depression, or *melancholia*, may be related to interpersonal loss and early life experiences. Existential psychologists have connected depression to the lack of both meaning in the present and a vision of the future. The founder of humanistic psychology, American psychologist Abraham Maslow, suggested that depression could arise when people are unable to self-actualize, or to realize their full potential (Hergenhahn BR, 2005. *An Introduction to the History of Psychology* (5th edition ed.). Belmont, CA, USA: Thomson Wadsworth).

**Social**

Poverty and social isolation are associated with increased risk of psychiatric problems in general. Child abuse (physical, emotional, sexual, or neglect) is also associated with increased risk of developing depressive disorders later in life. Disturbances in family functioning, such as parental (particularly maternal) depression, severe marital conflict or divorce, death of a parent, or other disturbances in parenting are additional risk factors. In adulthood, stressful life events are strongly associated with the onset of major depressive episodes; a first episode is more likely to be immediately preceded by stressful life events than are recurrent ones (Freeman, Arthur; Epstein, Norman & Simon, Karen M. (1987). *Depression in the Family*. Haworth Press.).

Lack of social support may increase the likelihood that life stress will lead to depression, or the absence of social support may constitute a form of strain that leads to depression directly. Adverse conditions at work, particularly demanding jobs with little opportunity for decision-making, are associated with depression, although diversity and confounding factors make it difficult to confirm that the relationship is causal (Freeman, Arthur; Epstein, Norman & Simon, Karen M. (1987). *Depression in the Family*. Haworth Press.).

**5. Treatment Strategies**

The three most commonly used treatments for depression are psychotherapy, medication, and electroconvulsive therapy. While psychotherapy is the treatment of choice for people under 18, electroconvulsive therapy is only used as a last resort due to risk factors. Treatment is usually provided on an
outpatient basis, while treatment in an inpatient unit is considered if there is a significant risk to self or others.

Treatment options are much more limited in developing countries, where access to mental health staff, medication, and psychotherapy is often difficult. Development of mental health services is minimal in many countries; depression is viewed as a phenomenon of the developed world despite evidence to the contrary, and not as an inherently life-threatening condition.

**Psychotherapy**

Psychotherapy has many different forms including individual or group and is provided by mental health professionals, including psychotherapists, psychiatrists, psychologists, clinical social workers, counselors, and psychiatric nurses. More chronic forms of depression may require a combination of medication and psychotherapy. Psychotherapy has been shown to be effective in older people. Effective psychotherapy appears to reduce the recurrence of depression.

The most empirically supported form of psychotherapy for depression is cognitive behavioral therapy (CBT), which teaches clients a set of useful cognitive and behavioral skills. Earlier research suggested that CBT was not as effective as antidepressant medication; however, research in 1996 suggests that it can perform as well as antidepressants in patients with moderate to severe depression. Overall, evidence shows CBT to be effective in depressed adolescents, although one systematic review noted there was insufficient evidence for severe episodes (Beck, Aaron T.; Rush J, Shaw BF, Emery G (1987) [1979]. *Cognitive Therapy of depression. New York, NY, USA: Guilford Press*).

There is evidence that interpersonal psychotherapy is an effective treatment. This approach focuses on social and interpersonal triggers which may contribute to depression. Therapy is structured with a determined number of weekly sessions. Emphasis is on relationships with others. Therapy is used to assist the client in developing or improving interpersonal skills to allow him or her to communicate more effectively thereby reducing stress.

Psychoanalysis, a theoretical approach pioneered by Sigmund Freud. It emphasizes the resolution of unconscious mental conflicts. Psychoanalysis is sometimes used to treat clients presenting with major depression. A more
widely practiced, eclectic technique, called psychodynamic psychotherapy, is loosely based on psychoanalysis and has an additional social and interpersonal focus.

**Antidepressants**

Antidepressants are as effective as psychotherapy, although more patients cease medication than cease psychotherapy, most likely due to side effects from the medication. To find the most effective antidepressant medication with tolerable or fewest side effects, the dosages can be adjusted, and, if necessary, combinations of different classes of antidepressants can be tried. Response rates to the first antidepressant administered range from 50–75%, and it can take at least six to eight weeks from the start of medication to remission, when the patient is back to their normal self. Antidepressant medication treatment is usually continued for 16 to 20 weeks after remission, to minimize the chance of recurrence. People with chronic depression may need to take medication indefinitely to avoid relapse. The terms refractory depression or treatment-resistant depression are used to describe cases that do not respond to adequate courses of least two antidepressants. Any antidepressant can cause low serum sodium levels (also called hyponatremia); nevertheless, it has been reported more often with SSRIs (Shah N, Eisner T, Farrell M, Raeder C, July/August 1999. "An overview of SSRIs for the treatment of depression”. Journal of the Pharmacy Society of Wisconsin).

![Serotonin](image)

Selective serotonin reuptake inhibitors (SSRIs), such as sertraline, escitalopram, fluoxetine, paroxetine, and citalopram are the primary medications prescribed and contain relatively mild side effects, and are less
toxic in overdose than other antidepressants. Patients who do not respond to one SSRI can be switched to another, and this results in improvement in almost 50% of cases. Another option is to switch to the atypical antidepressant bupropion. It is not uncommon for SSRIs to cause or worsen insomnia; the sedating antidepressant mirtazapine can be used in such cases. Fluoxetine is the only antidepressant recommended for patients under the age of 18 years (Shah N, Eisner T, Farrell M, Raeder C (July/August 1999). "An overview of SSRIs for the treatment of depression". Journal of the Pharmacy Society of Wisconsin.)

Venlafaxine, and other serotonin-norepinephrine reuptake inhibitors, may be modestly more effective than SSRIs; however, venlafaxine is not recommended in the UK as a first-line treatment because of evidence suggesting its risks may outweigh benefits, and it is specifically discouraged in children and adolescents (Sheldon H. Preskorn, Christina Y. Stanga, Ruth Ross, Selective serotonin reuptake inhibitor, Sheldon H. Preskorn, Christina Y. Stanga, John P. Feighner, Ruth Ross (Editors) 2004, Antidepressants: Past, Present, and Future, Springer).

Amitriptyline is a tricyclic antidepressant, so called because there are three rings in its molecular structure.

Tricyclic antidepressants have more side effects than SSRIs and are usually reserved for the treatment of inpatients, for which the tricyclic antidepressant amitriptyline, in particular, appears to be more effective. Monoamine oxidase inhibitors are an older class of antidepressants that have been plagued by potentially life-threatening dietary and drug interactions. They are still used only rarely, although newer and better tolerated agents of this class have been developed (Shah N, Eisner T, Farrell M, Raeder C, July/August 1999. "An overview of SSRIs for the treatment of depression". Journal of the Pharmacy Society of Wisconsin).
Electroconvulsive Therapy

Electroconvulsive therapy (ECT) is a somewhat controversial treatment. Pulses of electricity are sent through the brain via two electrodes, usually one on each temple, to induce a seizure while the patient is under a general anaesthetic. Hospital psychiatrists may recommend ECT for cases of severe major depression which have not responded to antidepressant medication. ECT does offer the potential to provide a more rapid positive impact than antidepressant therapy. Therefore, it may be the treatment of choice in emergencies such as catatonic depression where the patient has stopped eating and drinking, or where a patient is severely suicidal. ECT is probably more effective than pharmacotherapy for depression in the immediate short-term, although a community-based study revealed lower remission rates in routine practice. Used exclusively, the relapse rate within the first six months is high and is estimated at approximately 50%. However, a more recent controlled trial found rates of 84% even with placebos. The early relapse rate may be reduced by the use of psychiatric medications or further ECT but still remains high. Common initial adverse effects from ECT include short and long-term memory loss, disorientation and headache. Although objective psychological testing shows memory disturbance after ECT has mostly resolved by one month post treatment, ECT remains a controversial treatment, and debate on the extent of cognitive effects and safety continues (Fink, M. & Taylor, A.M., 2007. Electroconvulsive therapy: Evidence and Challenges JAMA).

Alternative Treatments

St John's Wart is available over-the-counter as an herbal remedy although the evidence of its effectiveness for the treatment of major depression lacks consistency. Inconsistency in pharmaceutical quality and in the amounts of active ingredient in different preparations has caused clinical concern. St John’s Wart interacts with numerous prescribed medicines including antidepressants (Müller WE, 2003. "Current St John's wort research from mode of action to clinical efficacy". Pharmacol. Res).
<table>
<thead>
<tr>
<th>Class</th>
<th>Drugs</th>
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<tr>
<td>antiretrovirals</td>
<td>non-nucleoside reverse transcriptase inhibitors, protease inhibitors</td>
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<tr>
<td>benzodiazepines</td>
<td>Alprazolam, midazolam</td>
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<td>hormonal contraception</td>
<td>combined oral contraceptives</td>
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<td>immunosuppressants</td>
<td>calcineurin inhibitors, cyclosporine</td>
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(Reference: Rossi, 2005)

Reviews of short-term clinical trials of S-adenosylmethionine (SAMe) indicate that it may be effective in treating major depression in adults. A 2002 review revealed that tryptophan and 5-hydroxytryptophan appear to be better than placebo, but it did not recommend their widespread use. This was attributed to lack of conclusive evidence on efficacy and safety (Janicak PG, Lipinski J, Davis JM, Altman E, Sharma RP, 1989. "Parenteral S-adenosyl-methionine (SAMe) in depression: literature review and preliminary data", Psychopharmacology bulletin).

Repetitive Transcranial Magnetic Stimulation (TMS) utilizes magnetic fields which are applied to the brain external to the head. Controlled studies support the use of TMS in treatment-resistant depression. Effectiveness has been demonstrated in the treatment of major depressive disorders, especially as an alternative to electroconvulsivotherapy (ECT) in medication-resistant depressions. However, the optimal treatment parameters, such as the strength of stimulation, the number of maintenance sessions, and the ideal patient selection continue to be questionable (Alvaro Pascual-Leone, Nick Davey, John Rothwell, Eric M. Wassermann, Besant K. Puri, January 2002. Handbook of Transcranial Magnetic Stimulation).
Prevention

A 2008 meta-analysis revealed that behavioral interventions are effective in preventing depression. These interventions appear to be effective when provided to individuals or small groups. However, an earlier meta-analysis found preventive programs with a competence-enhancing component to be superior to behaviorally-oriented programs overall, and found behavioral programs to be particularly unhelpful for older people, for whom social support programs were uniquely beneficial. Additionally, most programs that prevent depression require more than eight sessions and are provided by a combination of lay and professional workers.

Prognosis

Interestingly, major depressive episodes often resolve over time whether or not treatment is involved. This is evidenced by a study which measured the outcomes of outpatients on a waiting list who show a 10–15% reduction in symptoms within a few months, with approximately 20% no longer meeting the full criteria for a depressive disorder. The median duration of an episode has been estimated to be 23 weeks, with the highest rate of recovery in the first three months. Studies reveal that approximately half of those who have a major depressive episode recover and remain well, while 35% will have at least one more, and around 15% experience chronic recurrence. Studies about some inpatient sources suggest lower recovery and higher chronicity, while studies of mostly outpatients show that nearly all recover, with median episode duration of 11 months. Around 90% of those with severe or psychotic depression, most of whom also meet criteria for other mental disorders, experience recurrence. Recurrence becomes more likely when symptoms have not completely resolved with treatment (Barlow DH; Durand VM, 2005. Abnormal psychology: An integrative approach, 5th ed. Belmont, CA, USA: Thomson Wadsworth).

Depressed individuals have a shorter life expectancy than the general population partially due to the increased likelihood for suicidality. They are also more susceptible to medical conditions such as heart disease. Up to 60% of people who commit suicide have a mood disorder such as major depression, and the risk is especially high if a person experiences a sense of hopelessness or has both depression and borderline personality disorder. Depressed people also have a higher rate of dying from other causes. The lifetime risk of suicide associated with a diagnosis of major depression in the
US is estimated at 3.4%, which averages two highly disparate figures of almost 7% for men and 1% for women. Suicide attempts are more frequent in women (Barlow DH; Durand VM, 2005. Abnormal psychology: An integrative approach, 5th ed. Belmont, CA, USA: Thomson Wadsworth).

**Comorbidity**

The United States 1990–92 National Comorbidity Survey reports that 51% of those with major depression also suffer from chronic anxiety. Anxiety symptoms can have a major impact on the course of a depressive illness, including delayed recovery, increased risk of relapse, increased disability, and increased suicide attempts. There are increased rates of alcohol and drug abuse and particularly dependence. Approximately a third of individuals diagnosed with attention-deficit hyperactivity disorder also develop comorbid depression. Post-traumatic stress disorder and depression often co-occur as well. Depression and pain often co-occur. One or more pain symptoms is present in 65% of depressed patients, and anywhere from five to 85% of patients with pain will be suffering from depression, depending on the setting; there is a lower prevalence in general practice, and higher in specialty clinics (Source: The United States 1990–92 National Comorbidity Survey).

**Specific Treatments for Episodes of Depression and Mania**

This section describes specific types of pharmacotherapies and psychosocial therapies for episodes of depression and mania. Treatment generally targets symptom patterns rather than specific disorders. Differences in the treatment strategy for unipolar and bipolar depression are described where relevant.

**Treatment of Major Depressive Episodes**

**Pharmacotherapies**

Antidepressant medications are effective across the full range of severity of major depressive episodes in major depressive disorder and bipolar disorder (American Psychiatric Association, 1993; Depression Guideline Panel, 1993; Frank et al., 1993). The degree of effectiveness, however, varies according to the intensity of the depressive episode. With mild depressive episodes, the overall response rate is about 70 percent, including a placebo rate of about 60 percent (Thase & Howland, 1995). With severe depressive episodes, the overall response rate is much lower, as is the placebo rate. For example, with psychotic depression, the overall response rate to any one
drug is only about 20 to 40 percent (Spiker, 1985), including a placebo response rate of less than 10 percent (Spiker & Kupfer, 1988; Schatzberg & Rothschild, 1992). Psychotic depression is treated with either an antidepressant/antipsychotic combination or ECT (Spiker, 1985; Schatzberg & Rothschild, 1992).

There are four major classes of antidepressant medications. The tricyclic and heterocyclic antidepressants (TCAs and HCAs) are named for their chemical structure. The MAOIs and SSRIs are classified by their initial neurochemical effects. In general, MAOIs and SSRIs increase the level of a target neurotransmitter by two distinct mechanisms. But, as discussed below, these classes of medications have many other effects. They also have some differential effects depending on the race or ethnicity of the patient.

The mode of action of antidepressants is complex and only partly understood. Put simply, most antidepressants are designed to heighten the level of a target neurotransmitter at the neuronal synapse. This can be accomplished by one or more of the following therapeutic actions: boosting the neurotransmitter’s synthesis, blocking its degradation, preventing its reuptake from the synapse into the presynaptic neuron, or mimicking its binding to postsynaptic receptors. To make matters more complicated, many antidepressant drugs affect more than one neurotransmitter. Explaining how any one drug alleviates depression probably entails multiple therapeutic actions, direct and indirect, on more than one neurotransmitter system (Feighner, 1999).

Selection of a particular antidepressant for a particular patient depends upon the patient’s past treatment history, the likelihood of side effects, safety in overdose, and expense (Depression Guideline Panel, 1993). A vast majority of U.S. psychiatrists favor the SSRIs as “first-line” medications (Olfson & Klerman, 1993). These agents are viewed more favorably than the TCAs because of their ease of use, more manageable side effects, and safety in overdose (Kapur et al., 1992; Preskorn & Burke, 1992). Perhaps the major drawback of the SSRIs is their expense: they are only available as name brands (until 2002 when they begin to come off patent). At minimum, SSRI therapy costs about $80 per month (Burke et al., 1994), and patients taking higher doses face proportionally greater costs.

Four SSRIs have been approved by the FDA for treatment of depression: fluoxetine, sertraline, paroxetine, and citalopram. A fifth SSRI, fluvoxamine,
is approved for treatment of obsessive-compulsive disorder, yet is used off-label for depression. There are few compelling reasons to pick one SSRI over another for treatment of uncomplicated major depression, because they are more similar than different (Aguglia et al., 1993; Schone & Ludwig, 1993; Tignol, 1993; Preskorn, 1995). There are, however, several distinguishing pharmacokinetic differences between SSRIs, including elimination half-life (the time it takes for the plasma level of the drug to decrease 50 percent from steady-state), propensity for drug-drug interactions (e.g., via inhibition of hepatic enzymes), and antidepressant activity of metabolite(s) (DeVane, 1992). In general, SSRIs are more likely to be metabolized more slowly by African Americans and Asians, resulting in higher blood levels (Lin et al., 1997).

The SSRIs as a class of drugs have their own class-specific side effects, including nausea, diarrhea, headache, tremor, daytime sedation, failure to achieve orgasm, nervousness, and insomnia. Attrition from acute phase therapy because of side effects is typically 10 to 20 percent (Preskorn & Burke, 1992). The incidence of treatment-related suicidal thoughts for the SSRIs is low and comparable to the rate observed for other antidepressants (Beasley et al., 1991; Fava & Rosenbaum, 1991), despite reports to the contrary (Breggin & Breggin, 1994).

Some concern persists that the SSRIs are less effective than the TCAs for treatment of severe depressions, including melancholic and psychotic subtypes (Potter et al., 1991; Nelson, 1994). Yet there is no definitive answer (Danish University Anti-depressant Group, 1986, 1990; Pande & Sayler, 1993; Roose et al., 1994; Stuppaecck et al., 1994).

Side effects and potential lethality in overdose are the major drawbacks of the TCAs. An overdose of as little as 7-day supply of a TCA can result in potentially fatal cardiac arrhythmias (Kapur et al., 1992). TCA treatment is typically initiated at lower dosages and titrated upward with careful attention to response and side effects. Doses for African Americans and Asians should be monitored more closely, because their slower metabolism of TCAs can lead to higher blood concentrations (Lin et al., 1997). Similarly, studies also suggest that there may be gender differences in drug metabolism and that plasma levels may change over the course of the menstrual cycle (Blumenthal, 1994b).
In addition to the four major classes of antidepressants are bupropion, which is discussed below, and three newer FDA-approved antidepressants that have mixed or compound synaptic effects. Venlafaxine, the first of these newer antidepressants, inhibits reuptake of both serotonin and, at higher doses, norepinephrine. In contrast to the TCAs, venlafaxine has somewhat milder side effects (Bolden-Watson & Richelson, 1993), which are like those of the SSRIs. Venlafaxine also has a low risk of cardiotoxicity and, although experience is limited, it appears to be less toxic than the others in overdose. Venlafaxine has shown promise in treatment of severe (Guelfi et al., 1995) or refractory (Nierenberg et al., 1994) depressive states and is superior to fluoxetine in one inpatient study (Clerc et al., 1994). Venlafaxine also occasionally causes increased blood pressure, and this can be a particular concern at higher doses (Thase, 1998).

Nefazodone, the second newer antidepressant, is unique in terms of both structure and neurochemical effects (Taylor et al., 1995). In contrast to the SSRIs, nefazodone improves sleep efficiency (Armitage et al., 1994). Its side effect profile is comparable to the other newer antidepressants, but it has the advantage of a lower rate of sexual side effects (Preskorn, 1995). The more recently FDA-approved antidepressant, mirtazapine, blocks two types of serotonin receptors, the 5-HT² and 5-HT³ receptors (Feighner, 1999). Mirtazapine is also a potent antihistamine and tends to be more sedating than most other newer antidepressants. Weight gain can be another troublesome side effect.

Figure 4-2 presents summary findings on newer pharmacotherapies from a recent review of the treatment of depression by the Agency for Health Care Policy and Research (AHCPR, 1999). There have been few studies of gender differences in clinical response to treatments for depression. A recent report (Kornstein et al., in press) found women with chronic depression to respond better to a SSRI than a tricyclic, yet the opposite for men. This effect was primarily in premenopausal women. The AHCPR report (1999) also noted that there were almost no data to address the efficacy of pharmacotherapies in post partum or pregnant women.

Alternate Pharmacotherapies
Regardless of the initial choice of pharmacotherapy, about 30 to 50 percent of patients do not respond to the initial medication. It has not been established firmly whether patients who respond poorly to one class of antidepressants should be switched automatically to an alternate class (Thase
Several studies have examined the efficacy of the TCAs and SSRIs when used in sequence (Peselow et al., 1989; Beasley et al., 1990). Approximately 30 to 50 percent of those not responsive to one class will respond to the other (Thase & Rush, 1997).

Among other types of antidepressants, the MAOIs and bupropion are important alternatives for SSRI and TCA nonresponders (Thase & Rush, 1995). These agents also may be relatively more effective than TCAs or SSRIs for treatment of depressions characterized by atypical or reversed vegetative symptoms (Goodnick & Extein, 1989; Quitkin et al., 1993b; Thase et al., 1995). Bupropion and the MAOIs also are good choices to treat bipolar depression (Himmelhoch et al., 1991; Thase et al., 1992; Sachs et al., 1994). Bupropion also has the advantage of a low rate of sexual side effects (Gardner & Johnston, 1985; Walker et al., 1993).

Bupropion’s efficacy and overall side effect profile might justify its first-line use for all types of depression (e.g., Kiev et al., 1994). Furthermore, bupropion has a novel neurochemical profile in terms of effects on dopamine and norepinephrine (Ascher et al., 1995). However, worries about an increased risk of seizures delayed bupropion’s introduction to the U.S. market by more than 5 years (Davidson, 1989). Although clearly effective for a broad range of depressions, use of the MAOIs has been limited for decades by concerns that when taken with certain foods containing the chemical tyramine (for example, some aged cheeses and red wines); these medications may cause a potentially lethal hypertensive reaction (Thase et al., 1995). There has been continued interest in development of safer, selective and reversible MAOIs.

Hypericum (St. John's Wort). The widespread publicity and use of the botanical product from the yellow-flowering Hypericum perforatum plant with or without medical supervision is well ahead of the science database supporting the effectiveness of this putative antidepressant. Controlled trials, mainly in Germany, have been positive in mild-to-moderate depression, with only mild gastrointestinal side effects reported (Linde et al., 1996). However, most of those studies were methodologically flawed, in areas including diagnosis (more similar to adjustment disorder with depressed mood than major depression), length of trial (often an inadequate 4 weeks), and either lack of placebo control or unusually low or high placebo response rates (Salzman, 1998).
Post-marketing surveillance in Germany, which found few adverse effects of *Hypericum*, depended upon spontaneous reporting of side effects by patients, an approach that would not be considered acceptable in this country (Deltito & Beyer, 1998). In clinical use, the most commonly encountered adverse effect noted appears to be sensitivity to sunlight.

**Figure 4-2. Treatment of depression-newer pharmacotherapies: Summary findings**

- Newer antidepressant drugs* are effective treatments for major depression and dysthymia.
  - They are efficacious in primary care and specialty mental health care settings:
    - Major depression:
      50 percent response to active agent
      32 percent response to placebo
    - Dysthymia (fluoxetine, sertraline, and amisulpride):
      59 percent response to active agent
      37 percent response to placebo
  
- Both older and newer antidepressants demonstrate similar efficacy.

- Drop-out rates due to all causes combined are similar for newer and older agents:
  - Drop-out rates due to adverse effects are slightly higher for older agents.
  - Newer agents are often easier to use because of single daily dosing and less titration.

*SSRIs and all other antidepressants marketed subsequently. Source: AHCPR, 1999.

Basic questions about mechanism of action and even the optimal formulation of a pharmaceutical product from the plant remain; dosage in the randomized German trials varied by sixfold (Linde et al., 1996). Several
pharmacologically active components of St. John's wort, including hypericin, have been identified (Nathan, 1999); although their long half-lives in theory should permit once daily dosing, in practice a schedule of 300 mg three times a day is most commonly used. While initial speculation about significant MAO-inhibiting properties of hypericum have been largely discounted, possible serotonergic mechanisms suggest that combining this agent with an SSRI or other serotonergic antidepressant should be approached with caution. However, data regarding safety of hypericum in preclinical models or clinical samples are few (Nathan, 1999). At least two placebo-controlled trials in the United States are under way to compare the efficacy of Hypericum with that of an SSRI.

**Augmentation Strategies**

The transition from one antidepressant to another is time consuming, and patients sometimes feel worse in the process (Thase & Rush, 1997). Many clinicians bypass these problems by using a second medication to augment an ineffective antidepressant. The best studied strategies of this type are lithium augmentation, thyroid augmentation, and TCA-SSRI combinations (Nierenberg & White, 1990; Thase & Rush, 1997; Crismon et al., 1999). Increasingly, clinicians are adding a noradrenergic TCA to an ineffective SSRI or vice versa. In an earlier era, such polypharmacy (the prescription of multiple drugs at the same time) was frowned upon. Thus far, the evidence supporting TCA-SSRI combinations is not conclusive (Thase & Rush, 1995). Caution is needed when using these agents in combination because SSRIs inhibit metabolism of several TCAs, resulting in a substantial increase in blood levels and toxicity or other adverse side effects from TCAs (Preskorn & Burke, 1992).

**Psychotherapy and Counseling**

Many people prefer psychotherapy or counseling over medication for treatment of depression (Roper, 1986; Seligman, 1995). Research conducted in the past two decades has helped to establish at least several newer forms of time-limited psychotherapy as being as effective as antidepressant pharmacotherapy in mild-to-moderate depressions (DiMascio et al., 1979; Elkin et al., 1989; Hollon et al., 1992; Depression Guideline Panel, 1993; Thase, 1995; Persons et al., 1996). The newer depression-specific therapies include cognitive-behavioral therapy (Beck et al., 1979) and interpersonal psychotherapy (Klerman et al., 1984). These approaches use a time-limited approach, a present tense (“here-and-now”) focus, and emphasize patient
education and active collaboration. Interpersonal psychotherapy centers around four common problem areas: role disputes, role transitions, unresolved grief, and social deficits. Cognitive-behavioral therapy takes a more structured approach by emphasizing the interactive nature of thoughts, emotions, and behavior. It also helps the depressed patient to learn how to improve coping and lessen symptom distress.

There is no evidence that cognitive-behavioral therapy and interpersonal psychotherapy are differentially effective (Elkin et al., 1989; Thase, 1995). As reported earlier, both therapies appear to have some relapse prevention effects, although they are much less studied than the pharmacotherapies. Other more traditional forms of counseling and psychotherapy have not been extensively studied using a randomized clinical trial design (Depression Guideline Panel, 1993). It is important to determine if these more traditional treatments, as commonly practiced, are as effective as interpersonal psychotherapy or cognitive-behavioral therapy.

The brevity of this section reflects the succinctness of the findings on the effectiveness of these interventions as well as the lack of differential responses and “side effects.” It does not reflect a preference or superiority of medication except in conditions such as psychotic depression where psychotherapies are not effective.

**Bipolar Depression**

Treatment of bipolar depression has received surprisingly little study (Zornberg & Pope, 1993). Most psychiatrists prescribe the same antidepressants for treatment of bipolar depression as for major depressive disorder, although evidence is lacking to support this practice. It also is not certain that the same strategies should be used for treatment of depression in bipolar II (i.e., major depression plus a history of hypomania) and bipolar I (i.e., major depression with a history of at least one prior manic episode) (DSM-IV).

Pharmacotherapy of bipolar depression typically begins with lithium or an alternate mood stabilizer (DSM-IV; Frances et al., 1996). Mood stabilizers reduce the risk of cycling and have modest antidepressant effects; response rates of 30 to 50 percent are typical (DSM-IV; Zornberg & Pope, 1993). For bipolar depressions refractory to mood stabilizers, an antidepressant is typically added. Bipolar depression may be more responsive to nonsedating antidepressants, including the MAOIs, SSRIs, and bupropion (Cohn et al.,
The optimal length of continuation phase pharmacotherapy of bipolar depression has not been established empirically (DSM-IV). During the continuation phase, the risk of depressive relapse must be counterbalanced against the risk of inducing mania or rapid cycling (Kukopulos et al., 1980; Wehr & Goodwin, 1987; Solomon et al., 1995). Although not all studies are in agreement, antidepressants may increase mood cycling in a vulnerable subgroup, such as women with bipolar II disorder (Coryell et al., 1992; Bauer et al., 1994). Lithium is associated with increased risk of congenital anomalies when taken during the first trimester of pregnancy, and the anticonvulsants are contraindicated (see Cohen et al., 1994, for a review). This is problematic in view of the high risk of recurrence in pregnant bipolar women (Viguera & Cohen 1998).

Pharmacotherapy, Psychosocial Therapy, and Multimodal Therapy

The relative efficacy of pharmacotherapy and the newer forms of psychosocial treatment, such as interpersonal psychotherapy and the cognitive-behavioral therapies, is a controversial topic (Meterissian & Bradwejn, 1989; Klein & Ross, 1993; Munoz et al., 1994; Persons et al., 1996). For major depressive episodes of mild to moderate severity, meta-analyses of randomized clinical trials document the relative equivalence of these treatments (Dobson, 1989; Depression Guideline Panel, 1993). Yet for patients with bipolar and psychotic depression, who were excluded from these studies, pharmacotherapy is required: there is no evidence that these types of depressive episodes can be effectively treated with psychotherapy alone (Depression Guideline Panel, 1993; Thase, 1995). Current standards of practice suggest that therapists who withhold somatic treatments (i.e., pharmacotherapy or ECT) from such patients risk malpractice (DSM-IV; Klerman, 1990; American Psychiatric Association, 1993; Depression Guideline Panel, 1993).

For patients hospitalized with depression, somatic therapies also are considered the standard of care (American Psychiatric Association, 1993). Again, there is little evidence for the efficacy of psychosocial treatments alone when used instead of pharmacotherapy, although several studies suggest that carefully selected inpatients may respond to intensive cognitive-behavioral therapy (DeJong et al., 1986; Thase et al., 1991). However, in an era in which inpatient stays are measured in days, rather than in weeks, this option is seldom feasible. Combined therapies emphasizing both pharmacologic and intensive psychosocial treatments hold greater promise.
to improve the outcome of hospitalized patients, particularly if inpatient care is followed by ambulatory treatment (Miller et al., 1990; Scott, 1992).

Combined therapies—also called multimodal treatments—are especially valuable for outpatients with severe forms of depression. According to a recent meta-analysis of six studies, combined therapy (cognitive or interpersonal psychotherapy plus pharmacotherapy) was significantly more effective than psychotherapy alone for more severe recurrent depression. In milder depressions, psychotherapy alone was nearly as effective as combined therapy (Thase et al., 1997b). This meta-analysis was unable to compare combined therapy with pharmacotherapy alone or placebo due to an insufficient number of patients.

In summary, the DSM-IV definition of major depressive disorder spans a heterogenous group of conditions that benefit from psychosocial and/or pharmacological therapies. People with mild to moderate depression respond to psychotherapy or pharmacotherapy alone. People with severe depression require pharmacotherapy or ECT and they may also benefit from the addition of psychosocial therapy.

**Preventing Relapse of Major Depressive Episodes**

*Recurrent Depression.* Maintenance pharmacotherapy is the best-studied means to reduce the risk of recurrent depression (Prien & Kocsis, 1995; Thase & Sullivan, 1995). The magnitude of effectiveness in prevention of recurrent depressive episodes depends on the dose of the active agent used, the inherent risk of the population (i.e., chronicity, age, and number of prior episodes), the length of time being considered, and the patient’s adherence to the treatment regimen (Thase, 1993). Early studies, which tended to use lower dosages of medications, generally documented a twofold advantage relative to placebo (e.g., 60 vs. 30 percent) (Prien & Kocsis, 1995). In a more recent study of recurrent unipolar depression, the drug-placebo difference was nearly fivefold (Frank et al., 1990; Kupfer et al., 1992). This trial, in contrast to earlier randomized clinical trials, used a much higher dosage of imipramine, suggesting that full-dose maintenance pharmacotherapy may improve prophylaxis. Indeed, this was subsequently confirmed in a randomized clinical trial comparing full- and half-dose maintenance strategies (Frank et al., 1993).
There are few published studies on the prophylactic benefits of long-term pharmacotherapy with SSRIs, bupropion, nefazodone, or venlafaxine. However, available studies uniformly document 1-year efficacy rates of 80 to 90 percent in preventing recurrence of depression (Montgomery et al., 1988; Doogan & Caillard, 1992; Claghorn & Feighner, 1993; Duboff, 1993; Shrivastava et al., 1994; Franchini et al., 1997; Stewart et al., 1998). Thus, maintenance therapy with the newer agents is likely to yield outcomes comparable to the TCAs (Thase & Sullivan, 1995).

How does maintenance pharmacotherapy compare with psychotherapy? In one study of recurrent depression, monthly sessions of maintenance interpersonal psychotherapy had a 3-year success rate of about 35 percent (i.e., a rate falling between those for active and placebo pharmacotherapy) (Frank et al., 1990). Subsequent studies found maintenance interpersonal psychotherapy to be either a powerful or ineffective prophylactic therapy, depending on the patient/treatment match (Kupfer et al., 1990; Frank et al., 1991a; Spanier et al., 1996).

**Bipolar Depression.** No recent randomized clinical trials have examined prophylaxis against recurrent depression in bipolar disorder. In one older, well-controlled study, recurrence rates of more than 60 percent were observed despite maintenance treatment with lithium, either alone or in combination with imipramine (Shapiro et al., 1989).

**Treatment of Mania**

**Acute Phase Efficacy**

Success rates of 80 to 90 percent were once expected with lithium for the acute phase treatment of mania (e.g., Schou, 1989); however, lithium response rates of only 40 to 50 percent are now commonplace (Frances et al., 1996). Most recent studies thus underscore the limitations of lithium in mania (e.g., Gelenberg et al., 1989; Small et al., 1991; Freeman et al., 1992; Bowden et al., 1994). The apparent decline in lithium responsiveness may be partly due to sampling bias (i.e., university hospitals treat more refractory patients), but could also be attributable to factors such as younger age of onset, increased drug abuse comorbidity, or shorter therapeutic trials necessitated by briefer hospital stay (Solomon et al., 1995). The effectiveness of acute phase lithium treatment also is partially dependent on the clinical characteristics of the manic episode: dysphoric/mixed, psychotic,
and rapid cycling episodes are less responsive to lithium alone (DSM-IV; Solomon et al., 1995).

A number of other medications initially developed for other indications are increasingly used for lithium-refractory or lithium-intolerant mania. The efficacy of two medications, the anticonvulsants carbamazepine and divalproex sodium, has been documented in randomized clinical trials (e.g., Small et al., 1991; Freeman et al., 1992; Bowden et al., 1994; Keller et al., 1992). Divalproex sodium has received FDA approval for the treatment of mania. The specific mechanisms of action for these agents have not been established, although they may stabilize neuronal membrane systems, including the cyclic adenosine monophosphate second messenger system (Post, 1990). The anticonvulsant medications under investigation for their effectiveness in mania include lamotrigine and gabapentin.

Another newer treatment, verapamil, is a calcium channel blocker initially approved by the FDA for treatment of cardiac arrhythmias and hypertension. Since the mid-1980s, clinical reports and evidence from small randomized clinical trials suggest that the calcium channel blockers may have antimanic effects (Dubovsky et al., 1986; Garza-Trevino et al., 1992; Janicak et al., 1992, 1998). Like lithium and the anticonvulsants, the mechanism of action of verapamil has not been established. There is evidence of abnormalities of intracellular calcium levels in bipolar disorder (Dubovsky et al., 1992), and calcium’s role in modulating second messenger systems (Wachtel, 1990) has spurred continued interest in this class of medication. If effective, verapamil does have the additional advantage of having a lower potential for causing birth defects than does lithium, divalproex, or carbamazepine.

Adjunctive neuroleptics and high-potency benzodiazepines are used often in combination with mood stabilizers to treat mania. The very real risk of tardive dyskinesia has led to a shift in favor of adjunctive use of benzodiazepines instead of neuroleptics for acute stabilization of mania (Chouinard, 1988; Lenox et al., 1992). The novel antipsychotic clozapine has shown promise in otherwise refractory manic states (Suppes et al., 1992), although such treatment requires careful monitoring to help protect against development of agranulocytosis, a potentially lethal bone marrow toxicity. Other newer antipsychotic medications, including risperidone and olanzapine, have safer side effect profiles than clozapine and are now being studied in mania. For manic patients who are not responsive to or tolerant of pharmacotherapy, ECT is a viable alternative (Black et al., 1987; Mukherjee
et al., 1994). Further discussion of antipsychotic drugs and their side effects is found in the section on schizophrenia.

**Maintenance Treatment to Prevent Recurrences of Mania**
The efficacy of lithium for prevention of mania also appears to be significantly lower now than in previous decades; recurrence rates of 40 to 60 percent are now typical despite ongoing lithium therapy (Prien et al., 1984; Gelenberg et al., 1989; Winokur et al., 1993). Still, more than 20 studies document the effectiveness of lithium in preventing suicide (Goodwin & Jamison, 1990). Medication noncompliance almost certainly plays a role in the failure of longer term lithium maintenance therapy (Aagaard et al., 1988). Indeed, abrupt discontinuation of lithium has been shown to accelerate the risk of relapse (Suppes et al., 1993). Medication “holidays” may similarly induce a lithium-refractory state (Post, 1992), although data are conflicting (Coryell et al., 1998). As noted earlier, antidepressant cotherapy also may accelerate cycle frequency or induce lithium-resistant rapid cycling (Kukopulos et al., 1980; Wehr & Goodwin, 1987).

With increasing recognition of the limitations of lithium prophylaxis, the anticonvulsants are used increasingly for maintenance therapy of bipolar disorder. Several randomized clinical trials have demonstrated the prophylactic efficacy of carbamazepine (Placidi et al., 1986; Lerer et al., 1987; Coxhead et al., 1992), whereas the value of divalproex preventive therapy is only supported by uncontrolled studies (Calabrese & Delucchi, 1990; McElroy et al., 1992; Post, 1990). Because of increased teratogenic risk associated with these agents, there is a need to obtain and evaluate information on alternative interventions for women with bipolar disorder of childbearing age.

**Service Delivery for Mood Disorders**
The mood disorders are associated with significant suffering and high social costs, as explained above (Broadhead et al., 1990; Greenberg et al., 1993; Wells et al., 1989; Wells et al., 1996). Many treatments are efficacious, yet in the case of depression, significant numbers of individuals either receive no care or inappropriate care (Katon et al., 1992; Narrow et al., 1993; Wells et al., 1994; Thase, 1996). Limitations in insurance benefits or in the management strategies employed in managed care arrangements may make it impossible to deliver recommended treatments. In addition, treatment outcome in real-world practice is not as effective as that demonstrated in
clinical trials, a problem known as the gap between efficacy and effectiveness (see Chapter 2). The gap is greatest in the primary care setting, although it also is observed in specialty mental health practice. There is a need to develop case identification approaches for women in obstetrics/gynecology settings due to the high risk of recurrence in childbearing women with bipolar disorder. Little attention also has been paid to screening and mental health services for women in obstetrics/gynecology settings despite their high risk of depression (Miranda et al., 1998).

Primary care practice has been studied extensively, revealing low rates of both recognition and appropriate treatment of depression. Approximately one-third to one-half of patients with major depression go unrecognized in primary care settings (Gerber et al., 1989; Simon & Von Korff, 1995). Poor recognition leads to unnecessary and expensive diagnostic procedures, particularly in response to patients’ vague somatic complaints (Callahan et al., 1996). Fewer than one-half receive antidepressant medication according to Agency for Health Care Policy Research recommendations for dosage and duration (Simon et al., 1993; Rost et al., 1994; Katon 1995, 1996; Schulberg et al., 1995; Simon & Von Korff, 1995). About 40 percent discontinue their medication on their own during the first 4 to 6 weeks of treatment, and fewer still continue their medication for the recommended period of 6 months (Simon et al., 1993). Although drug treatment is the most common strategy for treating depression in primary care practice (Olfson & Klerman, 1992; Williams et al., 1999), about one-half of primary care physicians express a preference to include counseling or therapy as a component of treatment (Meredith et al., 1994, 1996). Few primary care practitioners, however, have formal training in psychotherapy, nor do they have the time (Meredith et al., 1994, 1996). A variety of strategies have been developed to improve the management of depression in primary care settings (cited in Katon et al., 1997). These are discussed in more detail in Chapter 5 because of the special problem of recognizing and treating depression among older adults.

Another major service delivery issue focuses on the substantial number of individuals with mood disorders who go on to develop a chronic and disabling course. Their needs for a wide array of services are similar to those of individuals with schizophrenia. Many of the service delivery issues relevant to individuals with severe and persistent mood disorders are presented in the final sections of this chapter.

6. Depression and Suicide in Children and Adolescents
In children and adolescents, the most frequently diagnosed mood disorders are major depressive disorder, dysthymic disorder, and bipolar disorder. Because mood disorders such as depression substantially increase the risk of suicide, suicidal behavior is a matter of serious concern for clinicians who deal with the mental health problems of children and adolescents. The incidence of suicide attempts reaches a peak during the midadolescent years, and mortality from suicide, which increases steadily through the teens, is the third leading cause of death at that age (CDC, 1999; Hoyert et al., 1999). Although suicide cannot be defined as a mental disorder, the various risk factors—especially the presence of mood disorders—that predispose young people to such behavior are given special emphasis in this section, as is a discussion of the effectiveness of various forms of treatment. The evidence is strong that over 90 percent of children and adolescents who commit suicide have a mental disorder, as explained later in this section.

Major depressive disorder is a serious condition characterized by one or more major depressive episodes. In children and adolescents, an episode lasts on average from 7 to 9 months (Birmaher et al., 1996a, 1996b) and has many clinical features similar to those in adults. Depressed children are sad, they lose interest in activities that used to please them, and they criticize themselves and feel that others criticize them. They feel unloved, pessimistic, or even hopeless about the future; they think that life is not worth living, and thoughts of suicide may be present. Depressed children and adolescents are often irritable, and their irritability may lead to aggressive behavior. They are indecisive, have problems concentrating, and may lack energy or motivation; they may neglect their appearance and hygiene; and their normal sleep patterns are disturbed (DSM-IV).

Despite some similarities, childhood depression differs in important ways from adult depression. Psychotic features do not occur as often in depressed children and adolescents, and when they occur, auditory hallucinations are more common than delusions (Ryan et al., 1987; Birmaher et al., 1996a, 1996b). Associated anxiety symptoms, such as fears of
separation or reluctance to meet people, and somatic symptoms, such as general aches and pains, stomachaches, and headaches, are more common in depressed children and adolescents than in adults with depression (Kolvin et al., 1991; Birmaher et al., 1996a, 1996b).

*Dysthymic disorder* is a mood disorder like major depressive disorder, but it has fewer symptoms and is more chronic. Because of its persistent nature, the disorder is especially likely to interfere with normal adjustment. The onset of dysthymic disorder (also called dysthymia) is usually in childhood or adolescence (Akiskal, 1983; Klein et al., 1997). The child or adolescent is depressed for most of the day, on most days, and symptoms continue for several years. The average duration of a dysthymic period in children and adolescents is about 4 years (Kovacs et al., 1997a). Sometimes children are depressed for so long that they do not recognize their mood as out of the ordinary and thus may not complain of feeling depressed. Seventy percent of children and adolescents with dysthymia eventually experience an episode of major depression (Kovacs et al., 1994). When a combination of major depression\(^5\) and dysthymia occurs, the condition is referred to as *double depression*.

*Bipolar disorder* is a mood disorder in which episodes of mania alternate with episodes of depression. Frequently, the condition begins in adolescence. The first manifestation of bipolar illness is usually a depressive episode. The first manic features may not occur for months or even years thereafter, or may occur either during the first depressive illness or later, after a symptom-free period (Strober et al., 1995).

The clinical problems of mania are very different from those of depression. Adolescents with mania or hypomania feel energetic, confident, and special; they usually have difficulty sleeping but do not tire; and they talk a great deal, often speaking very rapidly or loudly. They may complain that their thoughts are racing. They may do schoolwork quickly and creatively but in a disorganized, chaotic fashion. When manic, adolescents may have exaggerated or even delusional ideas
about their capabilities and importance, may become overconfident, and may be “fresh” and uninhibited with others; they start numerous projects that they do not finish and may engage in reckless or risky behavior, such as fast driving or unsafe sex. Sexual preoccupations are increased and may be associated with promiscuous behavior.

*Reactive depression*, also known as adjustment disorder with depressed mood, is the most common form of mood problem in children and adolescents. In children suffering from reactive depression, depressed feelings are short-lived and usually occur in response to some adverse experience, such as a rejection, a slight, a letdown, or a loss. In contrast, children may feel sad or lethargic and appear preoccupied for periods as short as a few hours or as long as 2 weeks. However, mood improves with a change in activity or an interesting or pleasant event. These transient mood swings in reaction to minor environmental adversities are not regarded as a form of mental disorder.

**Conditions Associated With Depression**

Roughly two-thirds of children and adolescents with major depressive disorder also have another mental disorder (Angold & Costello, 1993; Anderson & McGee, 1994). The most commonly associated disorders are dysthymia (see above), an anxiety disorder, a disruptive or antisocial disorder, or a substance abuse disorder. When more than one diagnosis is present, depression is more likely to begin after the onset of the accompanying disorder, except when that disorder is substance abuse (Biederman et al., 1995; Kessler & Walters, 1998). This suggests that, in some cases, depression may arise in response to the associated disorder. In other instances, such as the co-occurrence of conduct disorder and depression, the two may arise independently in response to inadequate maternal supervision and control, raising the possibility that parental behavior may be a risk factor for both conditions (Downey & Coyne, 1990; Rutter & Sandberg, 1992; Harrington, 1994).

**Prevalence**
**Major Depression**

Population studies show that at any one time between 10 and 15 percent of the child and adolescent population has some symptoms of depression (Smucker et al., 1986). The prevalence of the full-fledged diagnosis of major depression among all children ages 9 to 17 has been estimated at 5 percent (Shaffer et al., 1996c). Estimates of 1-year prevalence in children range from 0.4 and 2.5 percent and in adolescents, considerably higher (in some studies, as high as 8.3 percent) (Anderson & McGee, 1994; Lewinsohn et al., 1994a; Garrison et al., 1997; Kessler & Walters, 1998). For purposes of comparison, 1-year prevalence in adults is about 5.3 percent (Murphy et al., 1988; Rorsman et al., 1990; Regier et al., 1993).

**Dysthymic Disorder**

The prevalence of dysthymic disorder in adolescents has been estimated at around 3 percent (Garrison et al., 1997). Before puberty, major depressive disorder and dysthymic disorder are equally common in boys and girls (Rutter, 1986). But after age 15, depression is twice as common in girls and women as in boys and men (Weissman & Klerman, 1977; McGee et al., 1990; Linehan et al., 1993).

**Suicide**

In 1996, the age-specific mortality rate from suicide was 1.6 per 100,000 for 10- to 14-year-olds, 9.5 per 100,000 for 15- to 19-year-olds (i.e., about six times higher than in the younger age group; in this age group, boys are about four times as likely to commit suicide than are girls, while girls are twice as likely to attempt suicide), compared with 13.6 per 100,000 for 20- to 24-year-olds (CDC, 1999). Hispanic high school students are more likely than other students to attempt suicide (CDC, 1998). There have been some notable changes in these rates over the past few decades: since the early 1960s, the reported suicide rate among 15- to 19-year-old males increased threefold but remained stable among females in that age group and among 10- to 14-year-olds (National Center for Health Statistics, 1998); the rate among white adolescent males reached a peak in
the late 1980s (18.0 per 100,000 in 1986) and has since declined somewhat (16.0 per 100,000 in 1997), whereas among African American male adolescents, the rate increased substantially in the same period (from 7.1 per 100,000 in 1986 to 11.4 per 100,000 in 1997 (CDC, 1998). From 1979 to 1992, the Native American male adolescent and young adult suicide rate in Indian Health Service Areas was the highest in the Nation, with a suicide rate of 62.0 per 100,000 (Wallace et al., 1996).

It has been proposed that the rise in suicidal behavior among teenage boys results from increased availability of firearms (Boyd, 1983; Boyd & Moscicki, 1986; Brent et al., 1987; Brent et al., 1991) and increased substance abuse in the youth population (Shaffer et al., 1996c; Birckmayer & Hemenway, 1999). However, although the rate of suicide by firearms increased more than suicide by other methods (Boyd, 1983; Boyd & Moscicki, 1986; Brent et al., 1987), suicide rates also increased markedly in many other countries in Europe, in Australia, and in New Zealand, where suicide by firearms is rare.

**Course and Natural History**

Most children with depression experience a recurrence. Twenty to 40 percent of depressed children relapse within 2 years, and 70 percent will do so by adulthood (Garber et al., 1988; Velez et al., 1989; Harrington et al., 1990; Fleming et al., 1993; Kovacs et al., 1994; Lewinsohn et al., 1994a; Garrison et al., 1997). The reasons for relapse are not known, but there is some evidence that experiencing a depression leaves behind psychological “scars” that may increase vulnerability throughout early life (see below).

The age of first onset of depression appears to play a role in its course. Children who first become depressed before puberty are at risk for some form of mental disorder in adulthood, while teenagers who first become depressed after puberty are most likely to experience another episode of depression (Harrington et al., 1990; McCracken, 1992a; Lewinsohn et al., 1994a,
These differences in outcome suggest that different mechanisms may lead to superficially similar but inherently different clinical conditions. Factors that worsen the prognosis for depressed children and adolescents include depression occurring in the context of conduct disorder (Harrington et al., 1990; Asarnow et al., 1994) and living in conflict-ridden families (Asarnow et al., 1994). Children and particularly adolescents who suffer from depression are at much greater risk of committing suicide than are children without depression (Shaffer et al., 1996b).

The prognosis for dysthymia (Klein et al., 1997a) is unfavorable, with most patients continuing to feel depressed and to have social difficulties even after they have apparently recovered. The prognosis for double depressives (major depressive disorder plus dysthymia) is worse than that for either condition alone (Kovacs et al., 1994).

Twenty to 40 percent of adolescents with depression eventually develop bipolar disorder. Factors that predict later bipolar disorder include young age at the time of the first depressive episode, psychotic features in the initial depression, a family history of bipolar illness, and symptoms of hypomania developing during treatment with antidepressant drugs (Garber et al., 1988; Strober et al., 1993).

**Causes**
The precise causes of depression are not known. Extensive research on adults with depression generally points to both biological and psychosocial factors (Kendler, 1995). However, there has been substantially less research on the causes of depression in children and adolescents. Further discussion of the risk factors for depression can be found in Chapter 4, as well as the preceding Overview of Risk Factors and Prevention section.

**Family and Genetic Factors**
Much of the research on children and adolescents with depression has been conducted with those who attend mental health clinics and with patients who tend to have the more
severe and recurrent forms of depression, and thus they may not be representative of all children and adolescents with depression. With this limitation, research has shown that between 20 and 50 percent of depressed children and adolescents have a family history of depression (Puig-Antich et al., 1989; Todd et al., 1993; Williamson et al., 1995; Kovacs, 1997b). Family research has found that children of depressed parents are more than three times as likely as children with nondepressed parents to experience a depressive disorder (see Birmaher et al., 1996a, 1996b for a review). They also are more vulnerable to other mental and somatic disorders (Downey & Coyne, 1990). Conversely, estimates of the proportion of depressed parents who have a depressed child or adolescent vary from approximately one in six to just under a half (Hammen et al., 1990). It is not clear whether the relationship between parent and childhood depression derives from genetic factors, or whether depressed parents create an environment that increases the likelihood of a mental disorder developing in their children (see below).

**Gender Differences**
One reason advanced to explain the greater prevalence of depression in adolescent girls (see above) is that they are more socially oriented, more dependent on positive social relationships, and more vulnerable to losses of social relationships than are boys (Allgood-Merten et al., 1990). This would increase their vulnerability to the interpersonal stresses that are common in teenagers. There is also evidence that the methods girls use to cope with stress may entail less denial and more focused and repetitive thinking about the event (Nolen-Hoeksema & Girgus, 1994). The higher prevalence, therefore, could be a result of greater vulnerability, combined with coping mechanisms different than those of boys.

**Biological Factors**
Some of the core symptoms of depression, such as changes in appetite and sleep patterns, are related to the functions of the hypothalamus. The hypothalamus is, in turn, closely tied to the function of the pituitary gland. Abnormalities of pituitary function, such as increased rates of circulating cortisol and
hypo- or hyperthyroidism, are well established features of
depression in adults (Goodwin & Jamison, 1990). However, far
less research has been done in this area among children and
adolescents (see Birmaher et al., 1996a, 1996b for a review). It
is in the neuroendocrine area that most research has been done
on child and adolescent depression (see Birmaher et al., 1996a,
b). In suicidal adults dysregulation of the serotonergic system is
common (Mann, 1998; Pine et al., 1995), making them
typically impulsive, intense, and given to extreme reactions.
However, little is known about the association between
abnormal serotonin metabolism and suicidal behavior in
children and adolescents.

Cognitive Factors
For over two decades there has been considerable interest in the
relationship between a particular “mindset” or approach to
perceiving external events and a predisposition to depression.
The mindset in question is known as a pessimistic “attribution
bias” (Abramson et al., 1978; Beck, 1987; Hops et al., 1990). A
person with this mindset is one who readily assumes personal
blame for negative events (“All the problems in the family are
my fault”), who expects that one negative experience is part of
a pattern of many other negative events (“Everything I do is
wrong”), and who believes that a currently negative situation
will endure permanently (“Nothing I do is going to make
anything better”). Such pessimistic individuals take a
characteristically negative view of positive events (i.e., that
they are a result of someone else’s effort, that they are isolated
events, and that they are unlikely to recur). Individuals with
this mindset react more passively, helplessly, and ineffectively
to negative events than those without a pessimistic mindset
(Seligman, 1975).

There is uncertainty over whether this mindset precedes
depression (and represents a permanent style of thinking as part
of an individual’s personality), is a manifestation of depression
that is only present when the patient is depressed, and/or is a
consequence or “scar” of a previous, perhaps unnoticed,
depressive episode (Lewinsohn et al., 1981). This pessimistic
mode of thinking does not occur in children under age 5, which
could be one of the reasons why depression and suicide are rare in early childhood (Rholes et al., 1980; Rotenberg, 1982).

There is evidence that children and adolescents who previously have been depressed may learn, during their depression, to interpret events in this fashion. This may make them prone to react similarly to negative events experienced after recovery, which could be one of the reasons why previously depressed children and adolescents are at continuing risk for depression (Nolen-Hoeksema et al., 1993).

Perceptions of hopelessness, negative views about one’s own competence, poor self-esteem, a sense of responsibility for negative events, and the immutability of these distorted attributions may contribute to the hopelessness that has been repeatedly found to be associated with suicidality (Overholser et al., 1995).

**Risk Factors for Suicide and Suicidal Behavior**

There is good evidence that over 90 percent of children and adolescents who commit suicide have a mental disorder before their death (Shaffer & Craft, 1999). The most common disorders that predispose to suicide are some form of mood disorder, with or without alcoholism or other substance abuse problem, and/or certain forms of anxiety disorder (Shaffer et al., 1996b). Psychological postmortem studies also show that a significant proportion of suicide victims suffered from an anxiety disorder at the time of their death, but the number of victims has been too small to yield precise odds ratios for the calculation of an effect. Although the rate of suicide is greatly increased in schizophrenia, because of its rarity, it accounts for very few suicides in the child and adolescent age group.

Controlled studies of completed suicide suggest similar risk factors for boys and girls (Shafiī et al., 1985; Brent et al., 1988; Groholt et al., 1997), but with marked differences in their relative importance (Shaffer et al., 1996c).

Among girls, the most significant risk factor is the presence of major depression, which, in some studies, increases the risk of
suicide 12-fold. The next most important risk factor is a previous suicide attempt, which increases the risk approximately threefold. Among boys, a previous suicide attempt is the most potent predictor, increasing the rate over 30-fold. It is followed by depression (increasing the rate by about 12-fold), disruptive behavior (increasing the rate by twofold), and substance abuse (increasing the rate by just under twofold) (Shaffer et al., 1996c).

Stressful life events often precede a suicide and/or suicide attempt (de Wilde et al., 1992; Gould et al., 1996). As indicated earlier, these stressful life events include getting into trouble at school or with a law enforcement agency; a ruptured relationship with a boyfriend or a girlfriend; or a fight among friends. They are rarely a sufficient cause of suicide, but they can be precipitating factors in young people.

Controlled studies (Gould et al., 1996; Hollis, 1996) indicate that low levels of communication between parents and children may act as a significant risk factor. While family discord, lack of family warmth, and disturbed parent-child relationship are commonly associated with child and adolescent psychopathology (violent behavior, mood disorder, alcohol and substance abuse disorders) (Brent et al., 1994; Pfeffer et al., 1994), these factors do not play a specific role in suicide (Gould et al., 1998).

Evidence has accumulated that supports the observation that suicide can be facilitated in vulnerable teens by exposure to real or fictional accounts of suicide (Velting & Gould, 1997), including media coverage of suicide, such as intensive reporting of the suicide of a celebrity, or the fictional representation of a suicide in a popular movie or TV show. The risk is especially high in the young, and it lasts for several weeks (Gould & Shaffer, 1986; Phillips et al., 1989). The suicide of a prominent person reported on television or in the newspaper or exposure to some sympathetic fictional representation of suicide may also tip the balance and make the at-risk individual feel that suicide is a reasonable, acceptable, and in some instances even heroic, decision (Gould & Shaffer,
The phenomenon of suicide clusters is presumed to be related to imitation (Davidson, 1989). Suicide clusters nearly always involve previously disturbed young people who knew about each other’s death but rarely knew the other victims personally (Gould, personal communication, 1999).

**Consequences**
Both major depressive disorder and dysthymic disorder are inevitably associated with personal distress, and if they last a long time or occur repeatedly, they can lead to a circumscribed life with fewer friends and sources of support, more stress, and missed educational and job opportunities (Klein et al., 1997). The psychological scars of depression include an enduring pessimistic style of interpreting events, which may increase the risk of further depressive episodes. Impairment is greater for those with dysthymic disorder than for those with major depression (Klein et al., 1997a), presumably because of the longer duration of depression in dysthymic disorder, which is also a prime risk factor for suicide. In a 10- to 15-year followup study of 73 adolescents diagnosed with major depression, 7 percent of the adolescents had committed suicide sometime later. The depressed adolescents were five times more likely to have attempted suicide as well, compared with a control group of age peers without depression (Weissman et al., 1999).

**Treatment**

**Depression**

*Psychosocial Interventions*
To be deemed effective and approved by the American Psychological Association, treatments for mental disorders have to meet very strict criteria. While interpersonal therapy and systemic family therapy show promise, they have not been studied sufficiently to evaluate their effectiveness by these standards. However, in a comprehensive review article (Kaslow & Thompson, 1998) that evaluated interventions for depression in children and adolescents against the American Psychological Association Task Force criteria, two forms of
cognitive-behavioral therapy (CBT) were found to be “probably effective treatments,” although none of the interventions for depression were deemed, as yet, to meet the Association’s higher standard for a well-established intervention.

In studies that focused on relieving symptoms of depression in preadolescents, only one form of CBT met the criteria for a probably effective intervention. In the first study, the relative efficacy of two types of CBT—12-session group interventions based on either self-control therapy or behavior-solving therapy—were compared with a “waiting list” control group (Stark et al., 1987). Children responded to both CBT interventions with fewer symptoms of depression and anxiety, whereas the waiting list group exhibited minimal change. Because improvement was greatest with self-control therapy, this intervention was compared in a later study with a traditional counseling condition. Self-control therapy, enhanced by doubling the number of sessions, entailed social skills training, assertiveness training, relaxation training and imagery, and cognitive restructuring. Monthly family meetings were also added to both the experimental and control conditions. Children receiving self-control therapy reported fewer symptoms at 7-month followup (Stark et al., 1991).

Among the numerous studies of adolescents reviewed by Kaslow and Thomson (1998), one form of CBT—coping skills—was judged probably efficacious. This intervention, based on the “Coping with Depression” course, was developed originally in Oregon for adults by Lewinsohn and colleagues (Lewinsohn et al., 1996) and adapted by Clarke and colleagues (1992) for school-based programs to treat adolescent depression. Compared with controls on the waiting list, adolescents who received CBT had lower rates of depression, less self-reported depression, improvement in cognitions, and increased activity levels (Lewinsohn et al., 1990, 1996). To achieve well-established status, as defined by the American Psychological Association Task Force, the intervention has to be studied by another team of investigators—which has not as
yet been done.

**Pharmacological Treatment**

Prior to 1996, the medications of choice for major depression in children and adolescents were the tricyclic antidepressants, a choice based on numerous studies in adults. However, 13 distinct trials in children and adolescents failed to demonstrate the efficacy of tricyclic antidepressants for younger ages. Tricyclic antidepressants also have a higher risk of toxicity than selective serotonin reuptake inhibitors (SSRIs) (Walsh et al., 1994; Kutcher, 1998). The current consensus is that tricyclic medications are not the medication of choice for depressed children and adolescents (Eisenberg, 1996; Fisher & Fisher, 1996).

Recent research indicates that young people with depressive disorders may respond more favorably to SSRIs than to tricyclic antidepressants. The first SSRI tested in children and adolescents was fluoxetine. In a study of 96 outpatients over 8 weeks, 56 percent receiving fluoxetine and 33 percent receiving placebo were “much” or “very much” improved on the Clinical Global Improvement Scale. Benefits were comparable across age groups. Complete symptom remission occurred for 31 percent of fluoxetine-treated patients compared with 23 percent of placebo-treated patients (Emslie et al., 1997). A recent open trial of fluoxetine for adolescents hospitalized for treatment of major depression found it to decrease depression scores more effectively than imipramine, a tricyclic antidepressant (Strober et al., 1999), with the further advantage that fluoxetine was well tolerated.

The safety of a second SSRI, paroxetine, was demonstrated in a multicenter double-blind placebo-controlled trial. Paroxetine was compared with imipramine and placebo in 275 adolescents who met the DSM-IV criteria for major depression. Preliminary results indicate that, mostly because of side effects, one-third of imipramine patients withdrew from the study, a proportion significantly higher than that for paroxetine (10 percent) and placebo (7 percent) (Wagner et al., 1998). One of the co-investigators of this study noted that paroxetine’s
efficacy was superior to that of imipramine and placebo on the Clinical Global Improvement Scale (Graham Emslie, personal communication, October 1998). However, final conclusions about the benefit of this second SSRI must await publication of the outcomes of this multicenter study.

In summary, psychosocial interventions for depressed children and adolescents indicate great promise, with several types of cognitive-behavioral therapy for the child or adolescent leading the way. With respect to pharmacotherapy, new studies attest to the safety and efficacy of two SSRIs. These promising findings are being extended in the recently begun NIMH-funded Treatment of Adolescents with Depression study.

**Bipolar Disorder**

**Pharmacological Treatment**
The treatment of bipolar disorder entails treating symptoms of both depression and mania. For decades, lithium has been the well-researched mainstay treatment for mania in adults. Mania in bipolar disorder of children is also treated with lithium, although the relevant research on children lags behind that on adults. Only in recent years have researchers begun to study lithium in children and adolescents, with good clinical response. Open trials of lithium were conducted in the late 1980s (Varanka et al., 1988; Strober et al., 1990). More recently, lithium proved to be more effective than placebo in treating adolescents who were bipolar and substance dependent (Geller et al., 1998).

Children experience the same safety problems with lithium as do adults: toxicity and impairment of renal and thyroid functioning (Geller & Luby, 1997). Lithium is therefore not recommended for families unable to keep regular appointments that would ensure monitoring of serum lithium levels and of adverse events. Patients who discontinue taking the drug have a high relapse rate (Strober et al., 1990).

As yet, there are no controlled studies on a number of other psychotropic agents also used clinically in children and
adolescents with bipolar disorder, including valproate, carbamazepine, methylphenidate, and low-dose chlorpromazine (Campbell & Cueva, 1995; Geller & Luby, 1997).

7. Depression and Mood Disorders in Older Adults

Service Delivery

Overview of Services

New perspectives are evolving on the nature of mental health services for older adults and the settings in which they are delivered. Far greater emphasis is being placed on community-based care, which entails care provided in homes, in outpatient settings, and through community organizations. The emphasis on community-based care has been triggered by a convergence of demographic, consumer, and public policy imperatives. In terms of demographics, approximately 95 percent of older persons at a given point in time live in the community rather than in institutions, such as nursing homes (U.S. Department of Health and Human Services, Administration on Aging, and American Association of Retired Persons [U.S.DHHS, AoA & AARP], 1995). Of those living in the community, approximately 30 percent, mostly women, live alone (U.S. DHHS, AoA & AARP, 1995). Most older persons prefer to remain in the community and to maintain their independence. Yet living alone makes them even more reliant on community-based services if they have a mental disorder.

Service delivery also is being shaped by public policy and the emergence of managed care. The escalating costs of institutional care, combined with the recognition of past abuses, stimulated policies to limit nursing home admissions and to shift treatment to the community (Maddox et al., 1996). Mental disorders are leading risk factors for institutionalization (Katz & Parmelee, 1997). Therefore, to keep older people in the community, where they prefer to be, more energies are being marshaled to promote mental health and to prevent or treat mental disorders in the community. In other words, treating mental disorders is seen as a means to stave off costly institutionalization—resulting either from a mental disorder or a comorbid somatic disorder. An untreated mental disorder, for example, can turn a minor medical problem into a life-threatening and costly condition. Problems with forgetting to take medication (e.g., with dementia), developing delusions about medication (e.g., with schizophrenia), or lowering motivation to refill prescriptions (e.g., with depression) can increase the likelihood of having more severe illnesses.
that demand more intensive and expensive institutional care. Therefore, promotion of mental health and treatment of mental disorders are crucial elements of service delivery.

The delivery of community-based mental health services for older adults faces an enormous challenge. Services for older adults are insufficient and fragmented, often divided between systems of health, mental health, and social services (Gatz & Smyer, 1992; Cohen & Cairl, 1996). Under these three systems, services include medical and psychosocial care, rehabilitation, recreation, housing, education, and other supports. Yet although every community has an Administration on Aging to assist with services for older adults generally, there is no administrative body responsible for integrating the daunting array of services needed specifically for individuals with severe mental illnesses. Similar problems are encountered with coordinating services for children, as discussed in Chapter 3. Local mental health authorities and systems of care have been effective in coordinating care for some groups of adults, but no special administrative mental health entities exist for older adults. The fragmentation of service systems for older people in the United States stands in contrast to the United Kingdom and Ireland, where governmental authorities coordinate their care (Reifler, 1997). Older adults eventually may benefit from the local mental health authorities developing in the United States, but thus far these authorities have been focused on services for other adults. Because of ethnic diversity in the United States, systems of care must also deal with the special needs of older Americans who have limited English proficiency and different cultural backgrounds.

The following section describes the nature and settings in which older people receive mental health services. It concentrates on primary care, adult day centers and other community care settings, and nursing homes. A recurrent theme across these settings is the failure to address mental health needs of older people. Selected issues in financing of services for older adults are discussed briefly at the end of this section, but most of the issues related to financing policy (e.g., Medicare, Medicaid) and managed care are discussed in Chapter 6.

**Service Settings and the New Landscape for Aging**

Demographic, consumer, and public policy imperatives have propelled tremendous growth in the diversity of settings in which older persons simultaneously reside and receive care (Table 5-2). Care is no longer the strict province of home or nursing home. The diversity of home settings in suburban and urban communities extends from naturally occurring retirement communities to continuing care retirement
communities to newer types of alternative living arrangements. These settings include congregate or senior housing, senior hotels, foster care, group homes, day centers (where people reside during the day), and others. The diversity of institutional settings includes nursing homes, general hospitals (with and without psychiatric units), psychiatric hospitals, and state mental hospitals, among others. In fact, the range of settings, and the nature of the services provided within each, has blurred the distinction between home and nursing home (Kane, 1995).

Across the range of settings, the duration of care can be short term or long term, depending on patients’ needs. The phrase, “long-term care,” has come to refer to a range of services for people with chronic or degenerative illness or disabilities who require support over a prolonged period of time. In the past, long-term care was synonymous with nursing home care or other forms of institutional care, but the term has come to apply to a full complement of institutional or community-based settings.

Table 5-2. Settings for mental health services for older adults*

<table>
<thead>
<tr>
<th>Communities</th>
<th>Institutions</th>
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<tbody>
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<td>Homes</td>
<td>Nursing homes</td>
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<td>Group homes</td>
<td>General hospitals with psychiatric units</td>
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<tr>
<td>Retirement communities</td>
<td>General hospitals without psychiatric units</td>
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<tr>
<td>Primary care and general medical</td>
<td>State mental hospitals</td>
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<td>sector</td>
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<tr>
<td>Outpatient therapy</td>
<td>Veterans Affairs hospitals</td>
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<tr>
<td>Community mental health centers</td>
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*Two other settings (not included in this table) are board and care homes and assisted living facilities. These are residential facilities that serve as a bridge between community and institutional settings and have elements of each.

Within the continuum of services, one new perspective—conceived as the landscape for aging—strives to tailor the environment to the needs of the person through a combined focus on health and residential requirements (Cohen, 1994).
Whether at home, in a retirement community, or in a nursing home, this health and home perspective is deemed to be crucial to achieving high quality of life for older adults. Over the past 30 years, improvements in the health side of this perspective have occurred, but the home part has lagged. The challenge is to stimulate an interdisciplinary collaboration between systems of care and consumers.

One important area for an interdisciplinary approach is the extent to which a given setting fosters independent functioning versus dependent functioning, an issue influencing mental health and quality of life. Though certainly not a goal, some settings inadvertently foster dependency rather than independence. Nursing homes and hospitals, for example, are understandably more focused on what individuals cannot do, as opposed to what they can do. Yet their major focus on incapacity (the nursing and health focus) runs the risk of overshadowing function and independence (the home and humanities focus). In other settings, the balance between dependence and independence shifts in the other direction, with the risk of nursing and health needs being inadequately addressed. In recent years, the emphasis has been on “aging in place,” either at home or in the community, rather than in alternate settings.

The landscape for aging is a construct within which to examine the depth and breadth of human experience in later life (Cohen, 1998b). A health and humanities focus across this landscape offers a design for dealing with mental health problems as well as with health promotion to harness human potential. The landscape for aging, with its health and humanities orientation, is a construct designed to stir new thinking in research, practice, and policy. It also defines a clear need for new mental health services’ development and delivery, training, research, and policies to address the range of sites, each with its own unique characteristics and growing populations. The service systems, however, have yet to embrace a broader view.

Primary Care
Primary care represents a pivotal setting for the identification and treatment of mental disorders in older people. Many older people prefer to receive mental health treatment in primary care (Unutzer et al., 1997a), a preference bolstered by public financing policies that encourage their increasing reliance on primary, rather than specialty, mental health care (Mechanic, 1998). Primary care offers the potential advantages of proximity, affordability, convenience, and coordination of care for mental and somatic disorders, given that comorbidity is typical.

The potential advantages of primary care, however, have yet to be realized. Diagnosis and treatment of older people’s mental disorders in the primary care
setting are inadequate. The efficacious treatments described in the depression section of this chapter are not being practiced, particularly not in primary care and other general medical settings. As documented earlier, a significant percentage of older patients with depression are underdiagnosed and undertreated. The concern about inadequate treatment of late-life depression in primary care is magnified by growing enrollment in managed care.

Primary care is generally not well equipped to treat chronic mental disorders such as depression or dementia. It has limited capacity to identify patients with common mental disorders and to provide the proactive followup that is required to retain patients in treatment. To ensure better treatment of late-life depression in primary care, there is heightening awareness of the need for new models for mental health service delivery (Unutzer et al., 1997a). New models of service delivery in primary care include mental health teams, consultation-liaison models, and integration of mental health professionals into primary care (Katon & Gonzales, 1994; Schulberg et al., 1995; Katon et al., 1996, 1997; Stolee et al., 1996; Gask et al., 1997). For example, the intervention developed by Katon and colleagues introduced a structured depression treatment program into the primary care setting. The program included behavioral treatment to inculcate more adaptive coping strategies and counseling to enhance compliance with antidepressant medications. Patients were randomized in a controlled trial comparing this structured depression program with usual care by primary care physicians. The investigators found patients participating in the program to have displayed better medication adherence, better satisfaction with care, and a greater decrease in severity of major depression (Katon et al., 1996).

Models that integrate mental health treatment into primary care, while thus far designed largely for depression, also may have utility for other mental disorders seen in primary care. Nevertheless, primary care is not appropriate for all patients with mental disorders. Primary care providers can be guided by a set of recommendations for appropriate referrals to specialty mental health care (American Association for Geriatric Psychiatry, 1997).

**Adult Day Centers and Other Community Care Settings**

Over the past few decades, adult day centers have developed as an important service delivery approach to providing community-based long-term care. Adult day centers, although heterogeneous in orientation, provide a range of services (usually during standard “9 to 5” business hours), including assessment, social, and recreation services, for adults with chronic and serious disabilities. They represent a form of respite care designed to give caregivers a break from the responsibility of
providing care and to enable them to pursue employment. Over the past 30 years, adult day centers have grown in number from fewer than 100 to over 4,000, under the sponsorship of community organizations or residential facilities. A large national demonstration program on adult day centers showed that they can care for a wide spectrum of patients with Alzheimer’s disease and related dementias and can achieve financial viability (Reifler et al., 1997; Reifler et al., in press). There also is evidence that adult day centers are cost-effective in terms of delaying institutionalization, and participants show improvement in some measures of functioning and mood (Wimo et al., 1993, 1994).

There are several approaches to delivering services in adult day centers. There is no research evidence that any one model of service delivery is superior to another. For example, a social model has been developed by Little Havana Activities & Nutrition Centers of Dade County (Florida). The Little Havana “Senior Center” provides mental health, health, social, nutritional, transportation, and recreational services, emphasizing both remedial and preventive services. The center focuses on the predominantly Cuban population of South Florida. Yet much more research is needed to demonstrate the relative effectiveness of different models of adult day services (Reifler et al., 1997).

Beyond adult day centers, other innovative models of community-based long-term care strive to incorporate mental health services. Few have been evaluated and none implemented on a wide scale. These models include the social/health maintenance organization (S/HMO) (Greenberg et al., 1988), On Lok Senior Services Program, and life care communities or continuing care retirement communities (Robinson, 1990b). These new features of the landscape of aging show promise, but there is insufficient evidence of cost-effectiveness and generalizability of these models, particularly the mental health component. Perhaps the lack of a research base and limited market account for the slow pace of their proliferation in the United States.

**Nursing Homes**

Most older adults live in the community and only a minority of them live in nursing homes; of the latter, about two-thirds have some kind of mental disorder (Burns, 1991). The majority have some type of dementia, while others have disabling depression or schizophrenia (Burns, 1991). Despite the high prevalence of people with mental disorders in nursing homes, these settings generally are ill equipped to meet their needs (Lombardo, 1994).

Deinstitutionalization of state mental hospitals beginning in the 1960s encouraged the expanded use of nursing homes for older adults with mental disorders. This
trend was enhanced by Medicaid incentives to use nursing homes instead of mental hospitals. But the shift to nursing homes was not accompanied by alterations in care. In 1986, the Institute of Medicine issued a landmark report documenting inappropriate and inadequate care in nursing homes, including the excessive use of physical and chemical restraints (IOM, 1986). This subsequent visibility of problems prompted the passage in 1987 of the Nursing Home Reform Act (also known as the Omnibus Budget Reconciliation Act of 1987). This legislation restricted the inappropriate use of restraints and required preadmission screening for all persons suspected of having serious mental illness. The purpose of the screening was to exclude from nursing homes people with mental disorders who needed either more appropriate acute treatment in hospitals or long-term treatment in community-based settings. Preadmission screening also was designed to improve the quality of psychosocial assessments and care for nursing home residents with mental disorders. Nursing home placement is appropriate for patients with mental disorders if the disorders have produced such significant dysfunction that patients are unable to perform activities of daily living.

To meet the legislation’s requirements, nursing homes must have the capacity to deliver mental health care. Such capacity depends on trained mental health professionals to deliver appropriate care and treatment. Unfortunately, prior to and even after passage of the Omnibus Budget Reconciliation Act of 1987, Medicaid policies discouraged nursing homes from providing specialized mental health services, and Medicaid reimbursements for nursing home patients have been too low to provide a strong incentive for participation by highly trained mental health providers (Taube et al., 1990). The emphasis on community-based care, combined with inadequate nursing home reimbursement policies, has limited the development of innovative mental health services in nursing homes. Major barriers persist in the delivery of appropriate care to mentally ill residents of nursing homes.

**Services for Persons With Severe and Persistent Mental Disorders**

Older adults with severe and persistent mental disorders (SPMD) are the most frequent users of long-term care either in community or institutional settings. SPMD in older adults includes lifelong and late-onset schizophrenia, delusional disorder, bipolar disorder, and recurrent major depression. It also includes Alzheimer’s disease and other dementias (and related behavioral symptoms, including psychosis), severe treatment-refractory depression, or severe behavioral problems requiring intensive and prolonged psychiatric intervention. Although these groups of disorders have different courses of illness and outcomes, they have many overlapping clinical features, share the common need for mental health long-term care services, and are frequently treated together in long-term care settings.
As a result of the dramatic downsizing and closure of state hospitals in past decades, 89 percent of institutionalized older persons with SPMD now live in nursing homes (Burns, 1991). However, institutions are expected to play a substantially smaller role than community-based settings in future systems of mental health long-term care (Bartels et al., in press). First, the majority of older adults with SPMD presently live in the community (Meeks & Murrell, 1997; Meeks et al., 1997) and prefer to remain there. Second, experience with the Preadmission Screening and Resident Review mandated by the Omnibus Budget Reconciliation Act of 1987 has been mixed. It may have slowed inappropriate admissions to nursing homes, restricted inappropriate use of restraints, and reduced overuse of psychotropic medications, but it did not otherwise improve the quality of mental health services (Lombardo, 1994). Furthermore, states’ opposition to what they perceived to be Federal government interference in local health care policy and a general trend toward deregulation subsequently curtailed Federal nursing home reform. Finally, the growing costs of nursing home care are stimulating dramatic reforms in reimbursement and policy, including state mandates to limit Medicaid expenditures by decreasing nursing home beds and Federal reform by Medicare to implement prospective payment for nursing home services (Bartels & Levine, 1998). To accommodate the mounting number of individuals who have disorders requiring chronic care, future projections suggest the greatest growth in services will be in home and community-based settings (Institute for Health and Aging, 1996), increasingly financed through capitated and managed care arrangements.

Older adults with SPMD are high users of services (Cuffel et al., 1996; Semke & Jensen, 1997) and require mental health long-term care that is comprehensive, integrated, and multidisciplinary (Moak, 1996; Small et al., 1997; Bartels & Colenda, 1998). The mental health care needs of this population include specialized geropsychiatric services (Moak, 1996); integrated medical care (Moak & Fisher, 1991; Small et al., 1997); dementia care (Small et al., 1997; Bartels & Colenda, 1998); home and community-based long-term care; and residential and family support services, intensive case management, and psychosocial rehabilitation services (Aiken, 1990; Robinson, 1990a; Schafft & Randolph, 1994; Lipsman, 1996). With adequate supports, older persons with SPMD can be maintained in the community, sometimes at lower cost, and with equal or improved quality of life in comparison with institutions (Bernstein & Hensley, 1988; Mosher-Ashley, 1989;
However, current mental health policies have left many older persons with SPMD with decreased access to mental health care in both community and institutional settings (Knight et al., 1998). Community-based mental health services for older people are largely provided through the general medical sector, partly due to poor responsiveness to the needs of older people by community mental health organizations (Light et al., 1986). Yet reliance on the general medical sector also has not met their needs because of its focus on acute care (George, 1992). In addition, most home health agencies provide only limited short-term mental health care. The long-term care programs that exist primarily aid older adults with chronic physical disabilities or cognitive impairment but fail to address impairments in mood and behavior (Robinson, 1990a). An additional barrier is that the majority of community-residing older adults do not seek mental health services, except for medication (Meeks & Murrell, 1997), despite continued need (Meeks et al., 1997). Those without family support generally live in nursing homes, assisted living facilities, and board and care homes. These three are forms of residential care that offer some combination of housing, supportive services, and, in some cases, medical care. In short, more resources must be devoted to programs that integrate mental health rehabilitative services into long-term care in both community and institutional settings.

Financing Services for Older Adults

Financing policies furnish incentives that favor utilization of some services over others (e.g., nursing homes rather than state mental hospitals) or preclude the provision of needed services (e.g., mental health services in nursing homes). Details on financing and organizing mental health services, with a special focus on access, are presented in Chapter 6. Selected issues germane to older adults are addressed here.

Historically, Federal financing policy has imposed special limits on reimbursement for mental health services. Medicaid precluded payment for care in so-called “institutions for mental diseases,” Medicaid’s term for mental hospitals and the small percentage of nursing homes with specialized mental health services. This Medicaid policy provided a disincentive for the majority of nursing homes to specialize in delivering mental health services for fear of losing Medicaid payments (Taube et al., 1990). Under Medicare, the most salient limits were higher copayments for outpatient mental health services and a limited number of days for hospital care. Medicare’s special limits on outpatient mental health services were
changed over the past decade, resulting in significantly increased access to and utilization of such services (Goldman et al., 1985; Rosenbach & Ammering, 1997). The concern, however, is that the gains made as a result of policy changes easily could be eroded by the shift to managed care (Rosenbach & Ammering, 1997).

**Increased Role of Managed Care**

Projections are that 35 percent of all Medicare beneficiaries will be in managed care plans by the year 2007, amounting to approximately 15.3 million people (Komisar et al., 1997). Although the managed care industry has the potential to provide a range of integrated services for people with long-term care needs, managed care’s awareness of and response to chronic care are rudimentary (Institute for Health and Aging, 1996). Despite the potential of systems of managed health care, such as HMOs, to provide comprehensive preventive, acute, and chronic care services, their current specialized geriatric programs and clinical case management for older persons tend to be inadequate or poorly implemented (Friedman & Kane, 1993; Pacala et al., 1995; Kane et al., 1997). In addition, older patients are likely to be poorly served in primary care settings (including primary care HMOs) because of minimal use of specialty providers and suboptimal pharmacological management (Bartels et al., 1997). Further, current systems lack the array of community support, residential, and rehabilitative services necessary to meet the needs of older persons with more severe mental disorders (Knight et al., 1995). These shortcomings are unlikely to be remedied until more research becomes available demonstrating cost-effective models for treating older people with mental illness.

**Carved-In Mental Health Services for Older Adults**

The types of mental health services available within managed care organizations vary greatly with respect to how services are provided. In some organizations, mental health care is directly integrated into the package of general health care services (“carved-in” mental health services), while it is provided in others through a contract with a separate specialty mental health organization that provides only these services and accepts the financial risk (“carved-out” mental health services).

Proponents of carved-in mental health services argue that this model better integrates physical and mental health care, decreases barriers to mental health care due to stigma, and is more likely to produce cost-offsets and overall savings in general health care expenditures. These features are particularly relevant to older persons, as they commonly have comorbid somatic disorders for which they take multiple medications that may affect mental disorders, often avoid specialty mental health settings, and incur significant health care expenses related to psychiatric symptoms (George, 1992; Paveza & Cohen, 1996; Moak, 1996; Riley et al., 1997).
Unfortunately, mental health specialty services for older persons tend to be a low priority in managed health care organizations, by comparison with medical or surgical specialty services (Bartels et al., 1997). More importantly, carved-in mental health care may have superior potential for individuals with diagnoses such as minor depression and anxiety disorders but tends to shortchange older patients with SPMD who require intensive and long-term mental health care (Mechanic, 1998). The range of outreach, rehabilitative, residential, and intensive services needed for patients with SPMD is likely to exceed the capacity, expertise, and investment of most general health care providers.

Economic factors also may limit the usefulness of mental health carve-ins in serving the needs of older individuals with SPMD. First, evidence from private sector health plans suggests that without mandated parity, insurers offer inferior coverage of mental health care (Frank et al., 1997b, 1997c). Furthermore, if providers or payers compete for enrollees, there is strong incentive to avoid enrollees expected to have higher costs from mental health problems (e.g., older persons with SPMD). To avoid such discrimination, equal coverage of mental health care would have to be mandated through legislation on mental health parity or through specialized contract requirements with managed care organizations.

**Carved-Out Mental Health Services for Older Adults**

Proponents of mental health service carve-outs for older persons argue that separate systems of financing and services are likely to be superior for individuals needing specialty mental health services, especially those with SPMD. In particular, advocates suggest that carved-out mental health organizations have superior technical knowledge, specialized skills, a broader array of services, greater numbers and varieties of mental health providers with experience treating severe mental disorders, and a willingness and commitment to service high-risk populations (Riley et al., 1997). From an economic perspective, since competition is largely over the carve-out contract with the payer (generally a public organization or an employer), there is less incentive to compete on risk selection, and risk adjustment becomes unnecessary. In addition, mental health carve-out organizations may be better equipped to provide rehabilitative and community support mental health services necessary to care for older persons with SPMD. Finally, growth of innovative outpatient alternatives could be stimulated by reinvestment of savings by the payer from any decrease in inpatient service use.

Unfortunately, research is lacking on outcomes and costs for older persons with SPMD in mental health carve-outs. A carve-out arrangement could lead to adverse clinical outcomes in older patients due to fragmentation of medical and mental
health care services in a population with high risk of complications of comorbidity and polypharmacy. Also, from a financial perspective, the combination of physical and mental comorbidities seen in older adults, especially those with SPMD, may reduce the economic advantages of carved-out services (Bazemore, 1996; Felker et al., 1996; Tsuang & Woolson, 1997). If the provider cannot appropriately manage services and costs associated with the combination of somatic and mental health disorders, anticipated savings may not materialize. Furthermore, fragmentation of reimbursement streams would likely complicate the assessment of cost-effectiveness or cost-offsets. For example, apparent savings of mental health carve-outs under Medicare actually may be due to shifting costs when an individual is also covered under Medicaid. In this situation, Medicaid may cover prescription drugs, long-term care, and other services that are not paid for by Medicare. In order to offer true efficiencies, Medicare mental health carve-outs need to find a way to bridge the fragmentation of financing care for older persons.

Outcomes Under Managed Care
There do not appear to be any studies of mental health outcomes for older adults under managed care. In general, the available research on mental health outcomes for other adults consistently finds that managed care is successful at reducing mental health care costs (Busch, 1997; Sturm, 1997), yet clinical outcomes (especially for the most severely and chronically ill) are mixed and difficult to interpret due to differences in plans and populations served. Several studies suggest that outcomes under managed care for younger adults are as favorable as, or better than, those under fee-for-service (Lurie et al., 1992; Cole et al., 1994). In contrast, others report that the greater use of nonspecialty services for mental health care under managed care is associated with less cost-effective care (Sturm & Wells, 1995), and that older and poor chronically ill patients may have worse health outcomes or outcomes that vary substantially by site and patient characteristics (Ware et al., 1996). A recent review of health outcomes for both older and younger adults in the managed care literature (Miller & Luft, 1997) concluded that there were no consistent patterns that suggested worse outcomes. However, negative outcomes were more common in patients with chronic conditions, those with diseases requiring more intensive services, low-income enrollees in worse health, impaired or frail elderly, or home health patients with chronic conditions and diseases. These risk factors apply to older adults with SPMD, suggesting that this group is at high risk for poor outcomes under managed care programs that lack specialized long-term mental health and support services. To definitively address the question of mental health outcomes for older persons under managed care, appropriate outcome measures for older adults with mental illness will need to be developed and implemented in the evolving health care delivery systems (Bartels et
6 Primary care includes services provided by general practitioners, family physicians, general internists, certain specialists designated as primary care physicians (such as pediatricians and obstetricians - gynecologists), nurse practitioners, physician assistants, and other health care professionals. General medical settings include all primary care settings plus all non-mental health specialty care.

7 Consultation-liaison models provide a bridge between psychiatry and the rest of medicine. In most models, a mental health specialist is called in as a consultant at the request of a primary care provider or works as a regular member of a team of health care providers.

8. Depression and Low Income Women

Report prepared for the Center for Mental Health Services (CMHS) of the Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services

This report reviews the literature on the prevalence, treatment, and consequences of depression in low-income women, highlighting the relationship of depression to welfare and employment. Depression is a debilitating illness, characterized by profound feelings of sadness, low mood, and loss of interest in usual activities, that can have severe adverse effects, not only on the individual woman but also on her job and family life.

Recent changes in welfare policy in the United States, including the five-year lifetime limit on assistance and the requirement that recipients obtain jobs after two years of continuous support, have increased concern about depression and other problems facing many women on welfare. The research findings reviewed here have a range of implications for research and for TANF and welfare-to-work policies and programs, which are outlined in this report.

Prevalence of Depression Nationally

Data from large-scale national and community surveys reveal that:

- In any given year, approximately 4 percent to 10 percent of adults suffer from major depression.
- Rates of depression among women are 1.5 to 3 times that of men.
- Women from low-income groups are about twice as likely as those from higher income groups to be depressed.

These results suggest that low-income women and women on welfare are at
particularly high risk for developing depressive disorder.

**Prevalence of Depression in Women on Welfare**

Studies of women on public assistance that have used comparable and reliable measures of Major Depressive Disorder (MDD) to evaluate high levels of depressive symptoms find:

- Twelve-month prevalence rates of MDD between 12 percent to 36 percent (median: 22 percent).
- High levels of depressive symptoms exist in 25 percent to 57 percent of women (median: 47 percent).

While variation in rates across studies may reflect differences in local caseload characteristics, in timing of the studies, or in assessment strategies, these levels of depression and its symptoms are quite high in welfare samples, as compared to community samples.

**Relationship of Employment and Depression**

Although considerations of depression among welfare recipients generally focus on depression as an obstacle to employment, but other explanations of the association between depression and employment have empirical support in the literature. This report summarizes research on the following possible causes and consequences of depression:

- Depression as a barrier to employment
- Depression as limiting the capacity to retain employment
- Depression as a consequence of poor-quality jobs
- Depression triggered by job loss

Because these possibilities are not mutually exclusive, it is important to better understand the conditions under which they emerge.

**Consequences of Maternal Depression for Children**

For mothers, major depression compromises their ability to respond to their children and places children at considerable risk for psychopathology and developmental difficulties. The problems found in children of depressed mothers include: increased rates of clinical diagnoses, impairments in psychological functioning, difficulties in meeting social and academic demands, more
internalizing and externalizing behaviors, and substantial risk for psychiatric diagnoses later in life. Thus, any intervention aimed at mothers should consider strategies for reaching at risk children.

**Treatment Effectiveness**

A large number of studies document the effectiveness of various treatment and prevention options for depression. Research findings from experimental assignment to treatment show:

- Equal effectiveness of psychopharmacological and psychotherapeutic treatments, as compared with placebo, for mild to moderately severe depression
- Possibly greater effectiveness when drugs and psychotherapy are combined to treat recurrent severe depression

Few studies have specifically focused on low-income populations or women. While little attention has been given to rigorous evaluations of nonmedical or nonpsychotherapeutic interventions in this population, two promising approaches are reviewed:

- Incorporating attention to mental health problems in job search programs
- Offering welfare recipients financial incentives to work

Research suggests that each of these strategies may both reduce depressive symptoms and increase self-sufficiency.

**Treatment Availability**

Despite the availability of effective therapies, depression in the general population remains largely mistreated or altogether untreated. Moreover, income, health insurance type, ethnicity, and gender affect treatment rates and the type of treatment received. A number of disparities are found in the literature, including:

- Individuals with low incomes are less likely to receive treatment from mental health specialists, such as psychiatrists and psychotherapists.
- Medicaid beneficiaries are less likely to receive newer forms of antidepressants, such as Prozac.
- Medicaid beneficiaries are less likely to obtain psychotherapy than are individuals with private insurance.
Additionally, racial disparities are apparent within depressed Medicaid recipients, with nonwhite patients receiving less optimal treatment than white patients.

**Care Received Once Access has been Achieved**

Unfortunately, adequate treatment of depression is not guaranteed by access to health care. In fact, studies consistently reveal:

- High patient attrition rates
- Poor treatment adherence rates
- Subtherapeutic dosing patterns in the management of depression

Many of these problems are exacerbated among individuals with low incomes.

**Barriers to Treatment**

Barriers to effective treatment for depression abound in the low-income population, including:

- High costs
- Lack of medical insurance
- Stigma
- Poor recognition of depression by physicians
- Patient barriers, such as language barriers or mistrust of strangers

**Screening and Assessment - Implications for TANF and Welfare-to-Work Programs**

Identifying and treating those in need of mental health services will require screening individuals to determine whether or not they have symptoms that warrant further (diagnostic) assessment. Currently, screening adults for depression, other mental disorders, or co-morbidity is not standard practice at welfare agencies or in welfare-to-work programs. This raises a number of issues for policymakers, including:

- What (if any) screening tools are available?
- How willing are welfare recipients to reveal information about depression?
- How can the confidentiality of results be insured?
- What system changes may be required to deliver adequate mental health services?
- Evaluate the adequacy of the current diagnostic system for depression.
• Develop longitudinal, nationally representative samples of low-income women to study the onset, causes, and consequences of depression.
• Understand the sources of disparities in treatment.
• Evaluate how treatment of depressed mothers affects their children.
• Compare the costs and benefits of treating depression, including savings for welfare systems.

To ensure that there is timely and effective treatment and preventive intervention for depression faced by low-income women, policymakers and program administrators will want to:

• Ensure access to health insurance.
• Institute adequate coverage for mental health treatment and intervention.
• Develop screening tools and procedures.
• Utilize multiple points of entry to identify at-risk women and children.
• Ensure adequate income support.

9. References


Grace Brooke Huffman. "Cardiac effects in patients using SSRI antidepressants - selective serotonin reuptake inhibitor - Tips from Other Journals". American Family Physician


