
Introduction

Working with children, adolescents, and their families is an honor and a privilege, yet those of us who help youth struggling with difficulties related to their emotions, behavior, and cognition are few in number. The field of child mental health remains young. The American Academy of Child and Adolescent Psychiatry has been in existence for just over 60 years, and still the need for child and family mental health practitioners remains staggering. Given the paucity of child and adolescent psychiatrists and psychologists, there is an enormous demand upon other medical professionals such as pediatricians, social workers, general psychiatrists, and psychologists not trained directly to work with children, along with all manner of physicians, including family practitioners and internists, to help address the mental health needs of children and adolescents.

HISTORY

Prior to the 17th century, children were not generally considered deserving of basic human rights. Recognizing and demarcating childhood itself as a separate and necessary period of time to be cherished and during which time children should be nourished, encouraged, supported, and allowed to move through innate developmental phases appears to be a result of social changes emanating from the Victorian age. Between the 17th and 18th centuries, it is estimated that up to 70% of children died before reaching 5 years of age. In fact, it was not until the mid-1800s in Western societies that all children were presumed to have the right to some level of education and access to health care. This currently unimaginable situation becomes somewhat understandable when we recognize

that because the child mortality rate was remarkably high until 200 years ago, families often did not emotionally invest fully in their children until they had lived past their fifth year, by which point many key developmental milestones had been passed.

Although mental illness was described in adults prior to the 18th century, professional and medical texts rarely discussed children's mental health problems. Essentially all recognized etiologies for disordered behavior in children were based on religious explanations and, perhaps to a lesser degree, magic. The separation between medicine, science, religion, and magic was virtually nonexistent, and mental health practitioners, psychiatrists who were sometimes known as "alienists" because the insane were thought to be estranged or alienated from their normal faculties, had very few tools by which to understand, diagnose, and treat mental illness.

Up until the mid-1800s, the predominant theory utilized to explain most health problems was humoral in nature. Humoral theories were based on the tradition of Galen, a second-century Greek physician who had suggested that disease occurred due to an excess in the production of any one of the four body "humors." As Galen defined them, the humors were blood, yellow bile, black bile, and phlegm. It was believed that the physiological imbalances that resulted from an excess in the production of one of these humors should be treated by nonspecific therapies, such as bleeding, purging, or vomiting.

In Europe the emergence of a social conscience and the effort to treat children with humane care and to provide social protection began to take root following industrialization. Industrialization brought modern thinking but also humanism, and social services became a new consideration. This change likely occurred due to the fact that as cities grew more quickly than their infrastructures could tolerate, injustice and the discrepancy between rich and poor became much more evident. The English philosopher and physician John Locke (1632–1704) advocated individual rights, asserting that children deserved to be cared for sensitively and raised with affection. Locke's ideas contrasted with the prevailing harsh and frequently indifferent childrearing culture of his time. He also suggested that children are born as a *tabula rasa*, or a blank slate without preformed mental content or innate ideas, upon which the environment plays a major role in the development of the personality. Without kindness and care, Locke proposed, children would suffer emotional damage. His ideas, drawn in part from numerous philosophers and probably originating in some form from Aristotle, later became a key tenant of psychoanalytic theory.

Jean-Marc Itard (1775–1838) is probably the first physician who doc-

umented his efforts to help a special-needs child. Victor of Aveyron was found in the French countryside at 11 or 12 years of age, having lived abandoned and alone since the age of 2 or 3. Victor could not speak, was inattentive, and was insensitive to many essential sensations, including temperature. Despite Itard's attempts to socialize Victor, the child was never able to fully rejoin society. Nonetheless, this well-publicized case of an exceptionally deprived child and the subsequent efforts to understand and heal his emotional and cognitive impairments placed an emphasis where heretofore one had not been noted in society.

At the same time, Philippe Pinel (1745–1826), known as the father of French psychiatry, discarded the long-held notion that mental illness was due to possession by demons and began to classify his observations of the mentally ill. He developed the concept of “moral treatment,” the idea that the mentally ill should be provided psychosocially humane care and that an emphasis on moral discipline should accompany all treatment interventions. Pinel also made some of the first efforts into what we now consider to be psychotherapy. He worked solely with adults, but due to his efforts and those of others, such as the American Benjamin Rush (1745–1813), a physician, educator, writer, and humanitarian, the unique difficulties of the mentally ill began to be appreciated.

Benjamin Rush, who lived and practiced in Philadelphia and whose picture adorns the seal of the American Psychiatric Association, advocated the abolition of slavery and signed the Constitution of the United States of America. His practice was aimed at providing care for the poor, and his greatest contributions to medical science were the reforms he instituted in the care of the mentally ill during his 30 years as a senior physician at the Pennsylvania Hospital. He was known as a compassionate physician who replaced routine reliance on archaic procedures with more careful clinical observation and study. The year before he died, he published *Medical Inquiries and Observations Upon the Diseases of the Mind*, the first American textbook on psychiatry.

Also in America, Dorothea Dix (1802–1887) became an important teacher and social reformer for the treatment of the mentally ill. She established over two dozen benevolent mental hospitals for the treatment of mentally ill and disabled children and adolescents, who had previously been kept in asylums and in some cases cellars and cages. Although she did not contribute to our understanding of the nature of mental illness, she was a pioneer in addressing the inequities of care.

As infectious disease became increasingly treatable, physicians accepted the idea of a biological basis of disease, illness, and mental illness. Although the mental effects of some physical illnesses came to be recognized by the late 1800s—for example, syphilis and Huntington's

disease—still little could be done for afflicted individuals. The first efforts at explaining mental illness from a biological vantage point focused on identifying a physical cause within the patient, and often resulted in blaming the individual for the illness. Consequently, attitudes toward the mentally ill and their treatment shifted yet again to contempt, fear, and negativity. During the late 19th and early 20th centuries, emerging ideas of public health and medicine—such as eugenics, sterilization, and institutionalization—were at times paradoxically used against the mentally ill, to prevent the “insane” from interacting with the rest of society (Mash & Wolfe, 2005).

PSYCHOANALYTIC THEORY

By this time, most mental health practitioners had become discouraged by their inability to treat mental illness in children. Although Sigmund Freud (1856–1939) believed that the origin of mental illness was largely biological, he also believed in the importance of experience in the shaping of psychopathology, and he was the first to imbue mental disorders with meaning by bridging them to childhood experiences. Although currently psychoanalysis does not inspire great faith in the majority of psychiatrists and psychologists, and most do not view psychoanalysis as a “hopeful” movement, in its time psychoanalysis and its theory gave true hope to a small and exhausted field that felt its work was, more often than not, futile. A working theory had been advanced that relied on psychotherapy as an innovative treatment and suggested that patients could improve, see relief from symptoms, and perhaps even be cured of mental illness.

While Freud’s theory rested on the drive to develop and reach sexual maturity, other psychoanalytically oriented theories soon followed. Erik Erikson (1902–1994), for example, imagined a developmental theory that emphasized psychosocial development throughout the entire life cycle. Jean Piaget (1896–1980) developed a theory based on cognitive development. Others postulated theories that relied on a genetically determined capacity for the development of patterns or systems of behavior, in which a child acts on the environment from the very beginning of his or her life. The clinical implication of these structural theories is that some kind of reorganization within the child is required for him or her to grow and develop, such as the resolution of an intrapsychic conflict or an alteration of the family homeostasis. Another implication is that without having achieved a certain developmental milestone at a certain time of life, a child will not develop properly and may, therefore, develop mental illness.

Sigmund Freud’s drive theory, the best known of the psychologi-

cal development theories, suggested that aggressive and sexual drives are the primary motivating forces in our quest for pleasure. In Freud's theory, the end goal of development is sexual maturity. He identified five stages beginning in infancy and ending at puberty (see Table 1.1). Jean Piaget identified four stages, which start at infancy and conclude somewhere between 11 and 16 years of age, with the end goal of development being cognitive maturity or adultlike thinking (see Table 1.2). According to Erik Erikson's theory, "normal" development hinges on successfully traversing eight dichotomies beginning at birth and ending in old age. Perhaps most important, Erikson's model of development was the first to suggest that life is an ongoing process and that one is not fully "developed" simply because one has reached puberty, is able to think abstractly, or can effectively separate from one's parents (see Table 1.3).

Margaret Mahler (1897–1985) did not develop a new theory. Rather, she systematically observed and detailed the unfolding of object relations in children and infants (see Table 1.4). Object relations represents a more modern adaptation of psychoanalytic theory that places less emphasis on the drives of aggression and sexuality as motivational forces and more

Table 1.1 Freud's Drive Theory

Freud postulated that aggressive and sexual "drives" are the primary motivating forces in our quest for pleasure and that the end goal of development is sexual maturity. Freud defined five stages on the developmental pathway to sexual maturity:

1. Oral Phase (Infancy, birth to 18 months)
Infants strive to obtain pleasure and relief from discomfort through the most immediate means possible. The greatest source of pleasure is the mouth.
 2. Anal Phase (a.k.a. Sadistic Phase, 18–36 months)
As infants develop, they acquire anal sphincter control. A sense of autonomy emerges and the infants derive pleasure from controlling their bowels.
 3. Phallic-Oedipal Phase (3–6 years)
Children work through the Oedipus complex. They have conflicting feelings about their sexual desires and fear of punishment for these feelings. Children will often repress these desires and identify with the same-sex parent instead. The greatest source of pleasure is the genitals.
 4. Latency Phase (6–12 years)
During the elementary school years, defense mechanisms, which bar from consciousness certain unacceptable impulses, are strengthened. The libido is transferred from parents to friends, and children enjoy being with members of the same sex.
 5. Puberty and Adolescence
Adolescents struggle to control sexual and aggressive urges, to separate from their families, to develop sexual relationships, and to achieve a sense of identity. Development is considered complete.
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Table 1.2 Piaget's Cognitive Development Theory

Piaget identified four major stages of cognitive development:

1. Sensorimotor Stage (birth to 2 years)
Infants' knowledge of the world is limited to their sensory perceptions and motor activities. Behaviors are limited to simple motor responses to sensory stimuli.
 2. Preoperational Stage (2–7 years)
Children develop language, although they do not yet understand concrete logic. They also become adept at using symbols while playing and pretending.
 3. Concrete Operational Stage (7 years to adolescence)
Children begin to think logically about concrete events but have difficulty understanding abstract concepts.
 4. Formal Operational Stage (adolescence)
Adolescents acquire the ability to think about abstract concepts.
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Table 1.3 Erikson's Psychosocial Theory

Erikson's psychoanalytic theory comprised eight stages. "Normal" development hinges on successfully traversing dichotomies at each of these eight stages:

1. Basic Trust vs. Mistrust (Birth to 1 year)
Infants develop the ability to trust based upon the consistency of their caregivers. If trust develops successfully, they acquire confidence and security. Unsuccessful completion of this stage can result in an inability to trust.
 2. Autonomy vs. Shame and Doubt (1–3 years)
Children begin to assert their independence. If encouraged, children become more confident in their ability to survive in the world. If overly controlled, children may doubt their own abilities.
 3. Initiative vs. Guilt (3–5 years)
Children assert themselves more frequently and develop a sense of initiative. If criticized, they develop a sense of guilt.
 4. Industry vs. Inferiority (6–11 years)
Children begin to develop a sense of pride in their accomplishments. If encouraged, they will become industrious. If restricted, children begin to doubt their own abilities.
 5. Identity vs. Role Diffusion (11 years–end of adolescence)
Adolescents become more independent and begin to form their own identities.
 6. Intimacy vs. Isolation (21–40 years)
Young adults explore long-term relationships with individuals outside of their families. Avoiding intimacy can lead to isolation and loneliness.
 7. Generativity vs. Stagnation (40–65 years)
Middle-aged adults have established careers and settled down within relationships. If they have not achieved these objectives, they may become stagnant.
 8. Integrity vs. Despair (over 65 years)
Elderly adults reflect on their accomplishments and derive integrity from a successful life. If they perceive their lives as unproductive, the result is despair.
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Table 1.4 Mahler's Observations on Separation and Individuation

Mahler's intent was not to add new theory but to systematically observe and detail the unfolding of object relations in children and infants.

Six stages of development lead to normal object relations, predicated upon a recognition of "separateness":

1. Normal Autism (birth to 2 months)
Infants are detached and self-absorbed. (Mahler eventually abandoned this phase as research in child development disproved the existence of a normally "autistic" phase.)
2. Symbiosis (2–5 months)
Infants are aware of their mother, but there is no sense of individuality.
3. Differentiation (5–10 months)
Infants differentiate between themselves and their mothers. They demonstrate increased alertness and interest in the outside world.
4. Practicing Sub-Phase (10–18 months)
As infants begin to crawl, they explore actively and become more distant from their mothers.
5. Rapprochement (18–24 months)
Children desire to share their discoveries with their mothers and experience conflicting feelings about staying with their mothers or being more independent.
6. Object Constancy (2–5 years)
Children understand that they have separate identities from their mothers. As a result, they internalize the representations that they have formed of their mothers. Deficiencies in positive internalization may lead to low self-esteem in adulthood.

emphasis on human relationships as the primary motivational force in life. In other words, object relations theory suggests that people seek relationships rather than pleasure (e.g., Freud). Mahler identified six stages leading to the development of normal object relations, beginning at birth and ending somewhere around 5 years of age.

Although most of the psychoanalytic or child development theories were focused on understanding adults, both Anna Freud (1895–1982) and Melanie Klein (1882–1960) were particularly important in applying analytic theories to children. The work of Anna Freud and Melanie Klein led to the development of the field of child psychoanalysis and a recognition of the importance of nonverbal communication such as play and drawing in understanding children.

BEHAVIORAL PSYCHOLOGY

The first evidence-based psychotherapies in mental health were rooted in behavioral theory and the early investigations of Ivan Pavlov (1849–1936), John B. Watson (1878–1958), and B. F. Skinner (1904–1990), whose

research first described behavioral conditioning. While psychoanalysis sought to resolve unconscious conflicts, behavioral therapy aimed to shape behavior and improve individual adaptation (Mash & Wolfe, 2005). As the evidence supporting behavioral theory grew, the psychotherapeutic treatments applied in the early 20th century, such as psychoanalysis, became increasingly questioned. In fact, sparse data were generated during this time, other than case reports, which demonstrated the efficacy of psychodynamic treatment interventions in the care of both individuals and groups (e.g., children within group homes and orphanages). In addition, psychoanalytic approaches were acknowledged even by the primary theorists themselves to be most often of little utility for children with developmental disabilities and mental retardation, the very areas where behavioral theorists first demonstrated significant strides.

Throughout the past four decades, research supporting the utility of behavioral therapies has continued to mount, leading to the increased acceptance of behavioral treatments for all manner of difficulties, including anxiety, depression, substance abuse, personality disorders, and disruptive behavior. Since the 1970s, the use of behavioral methods in the treatment of children and adolescents has become and remained more the norm than the exception. Behavioral treatments currently in vogue, such as cognitive behavior therapy (CBT), parent management training (PMT), interpersonal therapy (IPT), dialectical behavior therapy (DBT), applied behavior analysis (ABA), motivational interviewing (MI), and habit reversal training (HRT), will be described in detail throughout this text.

NEUROBIOLOGY OF ATTACHMENT

We now recognize that the brain is hardwired for social learning from day one. Infants are drawn to particular faces, smells, textures, and voices by their own determination. Typically within the first six to eight weeks of life, infants develop a social smile in response to others; the social smile is so vital to our existence that even children born blind at birth develop a social smile in response to a parent's voice (Messenger & Fogel, 2007).

Children make choices from the very first moment of life and are not a tabula rasa or blank slate. At an early age, infants learn primarily through imitation, probably by employing mirror neurons, which are believed to be located in the inferior frontal cortex and superior parietal lobe. These neurons become active when someone performs an action or watches others perform an action, thus "mirroring" the behavior of another as if the observer were also doing the action. It has been sug-

gested that mirror neurons are the neural substrate of not only action recognition, but also understanding others' intentions, which may be akin to empathy (Iacoboni et al., 2005).

Although brain development proceeds in an orderly fashion, it is different for different individuals. For example, some children develop motor skills early and show great proficiency in physical coordination but may lag somewhat behind in literacy skills, or vice versa. Generally, most children "catch up" so that normal milestones are achieved within a specified and typical developmental period (e.g., the vast majority of children walk independently between 10 and 14 months of age). Importantly, the process of attachment appears to promote this healthy neural development.

"Attachment" is a theoretical construct intended to describe a variety of neural systems and behavioral processes whose goal is to aid the infant in bonding or attaching to adult caregivers in order to support social and emotional development and, ultimately, survival of the infant. Attachment theory was proposed by John Bowlby, a British psychiatrist, who studied children orphaned by World War II. He observed that infants become well attached when caregivers are sensitive and responsive to their needs, allowing them to establish what Bowlby called a "secure base" in the world (Ainsworth, Blehar, Waters, & Wall, 1978). The interpersonal relationship or attachment between caregiver and child helps children organize themselves and manage emotion.

Infant attachment has been rigorously studied since the 1960s using the Infant Strange Situation. During this experimental design, the primary caregiver (usually the mother), is briefly separated from her 1-year-old, who is left in a new or strange environment with a stranger. It is believed that upon separation, an infant's attachment system is activated, allowing observation of the child's response at both separation and reunion (when the mother returns to the room). Two broad categories of attachment have been observed, secure and insecure, which are further broken down into four domains: secure, avoidant, resistant, and disorganized. An insecure attachment (e.g., avoidant, resistant, or disorganized) is believed to increase the risk of psychopathology, while a secure attachment is thought to provide an individual with some degree of resilience.

RISK AND RESILIENCE

As we begin to think more about psychopathology, we must consider the multitude of problems that can occur during childhood and interfere with normal child development. We must constantly ask ourselves:

What is normal? What is abnormal? When does an emotional issue or behavioral disturbance become a definable pathology? Which pathologies require clinical treatment and when? Which problems might children simply outgrow? Why do some children struggle more than others with the same symptoms or diagnosis? What accounts for the waxing and waning of symptoms over time? How can one help a child affected by psychopathology to become normal? These are the core questions addressed in this book.

We speak frequently of risk factors in health care, and mental health is no different. A risk factor is defined as a variable (being physically abused as a child, growing up in poverty, etc.) that increases the likelihood of a negative outcome (psychopathology, disability, etc.). Epidemiological studies over the past 50 years have clarified a number of primary risk factors for child psychopathology, including poverty, inconsistent and deficient caregiving, parental mental illness, death of a parent, breakup of the family, homelessness, community disasters, early pregnancy, and neonatal complications. These risk factors are particularly damning in the absence of compensatory strengths and resources on the part of the child, family, and social environment. It is remarkable, however, how some children who have numerous risk factors and numerous psychiatric diagnoses seem to be in some way resilient and can traverse the pitfalls of their illness with success. A resilience factor, then, is a variable that decreases the likelihood of a negative outcome, despite the individual's being at risk for psychopathology. Resilience factors are much more difficult to categorize and may change over time depending on the child and the environment. They may typically include self-confidence, flexibility in one's approach to problem-solving, intelligence, coping skills, and emotional support from trusted family members and friends. Individual, family, and social factors all have an impact on the development of a child's resilience.

Although children are faring better today than in the past, still more than one in five children live in poverty in the United States (DeNavis-Walt, Proctor, & Smith, 2013). One third of youth in the United States experience poverty at some point during their childhood, which is of great concern, given that low income is correlated with many other difficulties that impact mental health, including lower salaries, decreased educational achievement, poor access to health care, inadequate nutrition, a single-parent home, limited resources, and an increased likelihood of exposure to violence. Clearly, poverty takes a tremendous toll on children. Low socioeconomic status confers nearly three times the rate of conduct disorder, two times the rate of chronic illness, and more than twice as high an incidence of school problems, hyperactivity, and

emotional disorders as higher socioeconomic status. Furthermore, the worse the poverty, the greater the incidence of childhood violence, which increases three times in girls and five times in boys over standard rates for those who grow up in poverty (Brooks-Gunn & Duncan, 1997; Mash & Wolfe, 2005; McLoyd, 1998; Ross, Shillington, & Lockhead, 1994; Tremblay, Pihl, Vitaro, & Dobkin, 1994).

Another unfortunate but ubiquitous feature of childhood is abuse. Over 3 million child abuse reports involving more than 6 million youth are made in the United States each year. Over one third of children 10 to 16 years of age in the United States are physically or sexually assaulted during these years by family members or others they know. Unquestionably, abuse and trauma in their many forms (physical, sexual, and emotional) interfere with normal child development and predispose children and adolescents to psychopathology (Mash & Wolfe, 2005; Trocmé & Wolfe, 2001; U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau, 2013).

GENDER, RACE, AND CULTURE

Boys and girls commonly express psychopathology in different ways. Virtually all neurodevelopmental disorders—such as intellectual disability syndromes, autism spectrum disorders, Tourette's syndrome, and ADHD—are more common in boys than in girls for reasons that remain elusive. Some of the differences we see between boys and girls may have to do with the established definitions of these disorders. For example, while boys may demonstrate overtly aggressive behavior, such as fighting and property damage, girls may demonstrate aggression in more covert means, such as gossiping or spreading rumors. Consequently, girls may less commonly receive a diagnosis of conduct disorder or oppositional defiant disorder in part, at least, because the infractions made by boys are much more easily witnessed. In general, girls tend to internalize their distress, resulting more often in difficulties with anxiety, depression, somatization, eating disorders, and emotional withdrawal. Boys, in contrast, tend to demonstrate more externalizing problems, such as aggression, hyperactivity, and delinquency. Figure 1.1, which shows internalizing and externalizing behavior scores from the Child Behavior Checklist (a standardized rating scale of children's behavior), demonstrates that the developmental trajectories of boys and girls differ substantially. At a very early age, boys and girls have roughly the same rate of internalizing troubles, but as they age, females show a greater preponderance. By contrast, the

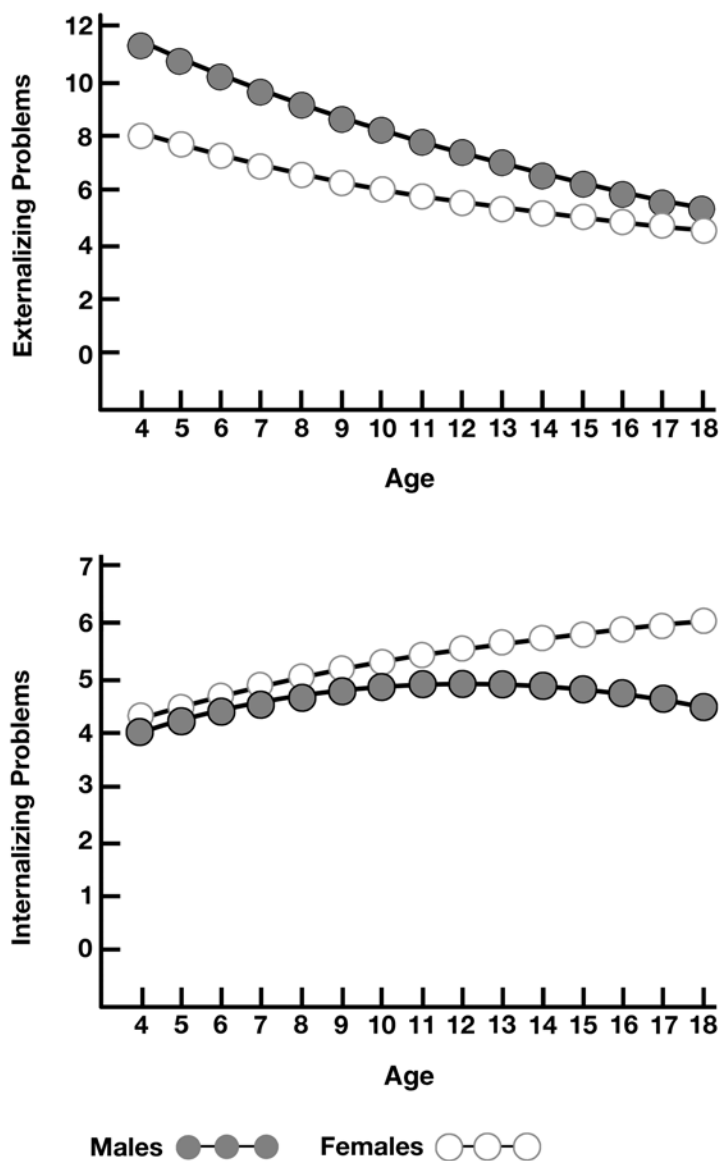


Figure 1.1 Male and female differences in the expression of externalizing and internalizing behaviors. Measures of externalizing disorders on the Child Behavior Checklist are greater for boys than girls at a young age. By adolescence, the differences between the genders diminish. Internalizing problems, on the other hand, occur in roughly the same number of boys and girls at a young age, but by adolescence girls tend to demonstrate more internalizing problems than boys. Source: Adapted from Bongers, Koot, van der Ende, and Verhulst (2003).

externalizing disorders are more common in males at a younger age, but as children reach their late teen years, the proportion of males and females begins to equalize (Bongers, Koot, van der Ende, & Verhulst, 2003).

Understanding and employing resilience is key to preventing and tempering child mental illness. Some resilience factors are shared by the sexes and include positive same-gender role models and emotional support. Resilient girls are generally raised within households where risk-taking and independence are encouraged. These girls also have significant emotional support from a primary female caregiver, such as a mother, older sister, or grandmother. Resilient boys, similarly, are generally raised with a positive male role model, such as a father, older brother, or grandfather. In contrast to girls, however, boys appear to benefit more clearly from significant structure and rules within the home, along with encouragement to express their emotions (Werner, 1995).

There are other differences between males and females that emerge as early as infancy. It has been generally reported that men use far fewer words per day on average than women and that beginning in the teen years, females may receive a larger neurochemical (e.g., dopamine) “rush” from talking and gossiping than males. By 8 weeks in utero, testosterone produced by the testes in males begins to lead to enlargement of the amygdala, a brain structure where aggressive and fear-driven behaviors are believed to be housed. Male babies also generally show more interest in objects, while female babies show more interest in faces. In fact, female babies increase their visual interest in faces by 400% within the first 3 months of life, whereas males demonstrate virtually no change within this time period. In addition, girls’ brains typically mature about 20% faster than boys’ until the midteen years, which may explain why girls frequently tend to develop language quicker, toilet train earlier, and adjust their behavior to societal expectations and norms more rapidly (Brizendine, 2006).

Race and culture also have an impact on the development of child psychopathology. Minorities are overrepresented in many disorders such as substance use, delinquency, and teen suicide (Mash & Wolfe, 2005). These differences, however, are largely a result of coexisting conditions more commonly encountered by racial minorities, such as poverty, limited access to care, and the poor quality of care received by most minority groups. Consequently, once socioeconomic status, age, gender, and referral status are controlled for, few differences remain in the rate of psychological disorders among children of different races (Boney-McCoy & Finkelhor, 1995).

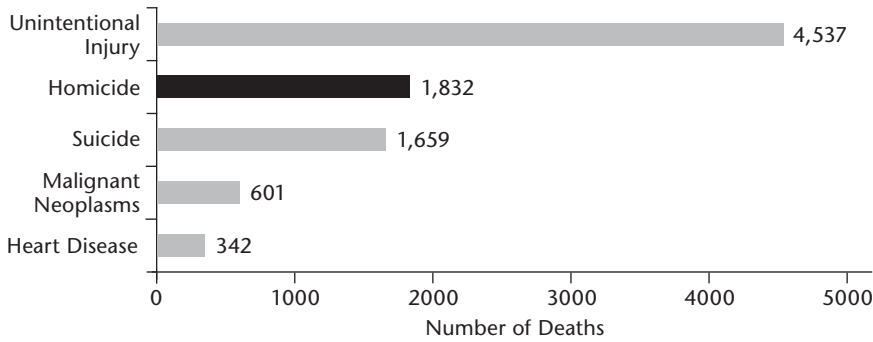
As noted, the barriers to receiving and accessing care are greater among racial minorities. We know, for example, that children without

insurance receive less medical attention and that African American children with ADHD are less likely to receive stimulants than Caucasian children. The reasons for these discrepancies are not exactly clear, though there is no doubt that poor children and those from ethnic minorities reap far fewer benefits from society. To compound the problem, racial and ethnic minorities have historically been neglected in studies of child psychopathology, and most research has not been based on diverse populations. Thus, our understanding of risk and resilience factors, epidemiology, course of illness, and treatment strategies for child and adolescent mental illness is largely limited to the dominant, Caucasian population (Centers for Disease Control and Prevention, 2001; Children's Defense Fund, 2002).

ADOLESCENCE AND RISK TAKING

Adolescence, the period between childhood and adulthood, is the physically healthiest time of life. The improvements in strength, speed, reaction time, reasoning, and immune function, as well as increased resistance to the extremes of heat, cold, hunger, dehydration, and most types of injury, are truly phenomenal. Ironically, however, the overall morbidity and mortality rates increase by 200% between late childhood/early adolescence (10 to 14 years of age) and later adolescence (15 to 19 years of age). The primary reasons for this paradox (e.g., the increases in mortality and morbidity seen in adolescence) are the changes seen in behavior, cognition, and emotion that take place during these years.

The three most common causes of death in adolescence are accidents, homicide, and suicide (see Table 1.5). In addition, sickness or morbidity due to psychopathology increases greatly during this time. Depression, for example, increases from a prevalence of around 4% in school-age children to around 17% among adolescents. Rates of substance abuse, eating disorders, anxiety disorders, and psychotic disorders as well all rise greatly during the teen years and lead to major increases in morbidity, approaching or reaching adult levels in some cases. However, it is the sensation-seeking and risk-taking behavior that is of greatest concern during adolescence. For example, remember Romeo and Juliet. They were only 14 years of age and had known each other for only four days, yet they each committed suicide because they felt they could not live without each other. This type of erratic and emotionally charged behavior is characteristic of adolescents (Centers for Disease Control and Prevention, National Vital Statistics System, National Center for Health Statistics, 2010).

Table 1.5 Five Leading Causes of Death Among Persons Aged 15–19 Years, United States, 2010

Source: Centers for Disease Control and Prevention, 2013

Why adolescents demonstrate such an increase in risk-taking behavior is not entirely clear. A Darwinian or evolutionary argument would posit that in order to become successful and to survive as one approaches adulthood, we must take more risks, become sensation seekers, and embrace adventure so that we are driven to strike out on our own and explore new food sources, mates, and living areas. In current society, there is also peer pressure, and then there is, of course, the growth and development of the brain itself.

We recognize now that cognitive development (i.e., planning, reasoning, problem-solving, logic, and organization) correlates more strongly with age and experience than with sexual and physical maturation. While early theorists postulated that child development is complete by the time of sexual maturity (e.g., Freud) or abstract cognition (e.g., Piaget), neuroscience now tells us otherwise. We currently believe that the brain develops in stages, such that not all structures mature at the same rate. Motor tracks responsible for physical movement and coordination, by example, are fully mature and networked by 15 to 16 years of age, which is why we see some of our best athletic performances in this age range (e.g., consider Olympic gymnasts). The social/emotional brain (or limbic system, involving such structures as the amygdala, hippocampus, and anterior thalamus) also develops early and reaches peak engagement by midadolescence, which explains why adolescents feel such emotions as fear, love, jealousy, and anger so intensely. However, the frontal lobe cognitive tracks (e.g., those associated with executive brain functions, such as planning, organizing, paying attention, problem-solving, and employing past experience in new situations) grow more slowly and are not fully developed and networked with the social/emotional

brain structures until the late 20s (Keverne, 2004; J. C. Larson et al., 2007; Levin & Hanten, 2005; Yakovlev & Lecours, 1967).

Early on in adolescence, we see a great outpouring of emotionally driven behavior, which leads to the high rates of accidental injury and death, homicide, and suicide in this age range. It takes another 10 years or so, until we are in our late 20s, for our higher-level cognitive structures (e.g., the frontal lobe) to reign in our rapidly developing emotional brain (e.g., limbic system; Casey & Jones, 2010). The early development of the limbic system makes good evolutionary sense, because thousands of years ago when humans had a shorter life span, the need to reproduce early, fight others for territory, and explore new lands and sources of food was paramount. Only an animal driven by a strong emotional calling would take such risks. Certainly, many adolescent humans have died because they were driven to extremes by their emotions, and we owe a great debt to these risk-takers for allowing our species to live on. Without someone willing to kill a tiger for food or find new territory, we would have gone extinct long ago. Unfortunately, however, these same instincts and patterns of brain development that led us to be so successful long ago now threaten many of our adolescents today. The same emotions that drove us to explore new territories or fight a tiger thousands of years ago now push our youth to drive under the influence of alcohol or have early and unprotected intercourse. Let's think about these findings for a moment—they clearly help to explain why adolescents are so physically capable and can be such wonderful athletes, while also clarifying why they make such impulsive decisions and are extremely swayed by their emotions to the point of risking illness, injury, or death.

Consider the fact that major league baseball pitchers, the most important players on a team, averaged in age from a low of 27 years on the Houston Astros to a high of 31 years on the Boston Red Sox in 2014 (Statista, 2014). Even though a pitcher in his late 20s or early 30s does not throw a ball as consistently fast as a late teen or early 20s adult and takes longer to recuperate, his planning, problem-solving, focus, and patience are much greater by the time he hits 27 years and beyond. In other words, although a teenager can throw a ball with greater speed, the 30-year-old pitcher can rely on experience, use strategy better, anticipate what a batter is expecting, and ultimately deliver a more successful pitch. It is the older pitcher's ability to use the frontal lobe of the brain to control his limbic emotional centers that makes him a better pitcher and the man you want on your team. Likewise, National Football League quarterbacks, undoubtedly the most important players on the team, averaged 27 years of age in 2013 (Miglio, 2013). Here too, the team leader does best

when he has attained a higher level of brain development even though he is past his physical prime.

The prefrontal cortex, the newest part of the brain and that which more than any other cerebral structure makes us truly “human,” acts to inhibit impulsive and motivational drives. Yet this structure is still somewhat immature in adolescence. Thus, when dopamine increases in the nucleus accumbens (secondary to drug abuse or sexual activity) and a pleasure response occurs in the limbic system, an adolescent may have little ability to inhibit the motivation to continually seek out such pleasurable activities. Likewise, the degree of frontal lobe control needed to inhibit hyperactivity, sit still, and study instead of being distracted by anxiety, or take cognitive control of depressive thoughts, may be more than most adolescents can manage. Other factors also potently influence the adolescent brain, including the onslaught of new hormones, many of which are not understood and have not yet been characterized. The normative pruning of serotonin circuits in the adolescent brain may also lead to an increase in impulsivity, and common maladaptive behaviors of adolescence, such as a decrease in sleep and an increase in the use of caffeine and other substances, undoubtedly contribute to the impairments in judgment that we commonly see during these years.

PSYCHIATRIC DIAGNOSIS

Tolstoy opens *Anna Karenina* (1873–1877/2004) with this statement: “Happy families are all alike; every unhappy family is unhappy in its own way.” While literate and wonderfully thoughtful, Tolstoy’s statement, from a psychiatrist’s point of view, is in error. In contrast to Tolstoy, who believes that happiness is all the same but that unhappiness is always unique, a psychiatrist accepts a great range of “normal” or “happy.” In other words, there are many ways to feel good, many ways to be successful, and many satisfactory ways to experience one’s emotions, behavior, and cognition. However, unhappiness or mental illness increasingly can be traced to specific causes or etiologies and most often expresses itself in characteristic patterns depending on the illness. For example, the symptoms of depression are reproducible in patient after patient and include difficulties with sleep, appetite, energy level, concentration, mood, pleasure-seeking behavior, hopelessness or guilt, slowed or agitated thinking or behavior, and suicidal thoughts. Virtually every individual who appears clinically depressed presents with a constellation of these symptoms. The same holds true for most psychiatric diagnoses, including anxiety, ADHD, schizophrenia, dementia, and so forth. While

the causes of these illnesses have heretofore remained largely hidden, research into disease etiology is also increasingly demonstrating that these illnesses are perhaps more alike than they are dissimilar.

In defining a psychological disorder, we must look for a pattern of behavioral, cognitive, emotional, and physical symptoms demonstrated by an individual that result in some level of disability, a risk of suffering further harm, or distress. In the words of psychiatry, there must be an associated “functional impairment”; that is, a diagnosis is not valid, regardless of symptoms, without impairment or difficulty in achieving one’s milestones or maintaining success in work, school, or relationships.

If an internist believes a patient may have diabetes, the physician takes a complete medical history and then requests a few simple blood and urine tests that can clarify the problem based on abnormal levels of glucose. However, the field of mental health has no such reliable biological tests to determine the presence, severity, or treatment response for mental illness. Consequently, we have had to develop a diagnostic classification system or nosology to help clinicians recognize the existence and severity of mental illness.

The most commonly employed diagnostic code book in the field of mental health is the *Diagnostic and Statistical Manual of Mental Disorders (DSM)* of the American Psychiatric Association. We are currently using the fifth edition of this manual, which was published in 2013. Although not without its faults, as described below, the *DSM* is a vital guidebook that aids us in the diagnosis of mental illness based on symptoms. However, being able to list important symptoms has not further clarified the etiology or our understanding of the origin of mental illness.

The *DSM* is phenomenological in that it builds diagnoses upon symptoms or phenomena, and a certain number of symptoms are required for an individual to meet diagnostic criteria. For example, *DSM-5* lists nine symptoms of depression: (1) depressed or irritable mood, (2) diminished interest or pleasure in nearly all activities, (3) recurrent thoughts of death or suicide, (4) insomnia or hypersomnia, (5) psychomotor agitation or retardation, (6) significant weight loss or gain or change in appetite, (7) difficulty concentrating or making decisions, (8) feelings of guilt or worthlessness, and (9) fatigue or a decrease in energy. While many individuals, perhaps the majority, may experience one or two of these symptoms on any given day, the *DSM* requires that five of these symptoms be present for at least a two-week period in order to establish a diagnosis of depression. Five of nine is not a magical combination of symptoms—it is simply the point at which significant impairment generally appears to result. It is, therefore, the number of symptoms selected as the diagnostic set point.

While extremely useful in helping us to understand or categorize which individuals suffer from which problems, it is important to remember that the diagnoses in the *DSM* are symptom driven and may be the result of biological, psychological, and social factors, many of which may be very difficult to ascertain. Throughout this book, we will refer to the *DSM* for diagnoses, but we will not reprint them here per se, as they are easily found in the *DSM*. This text, rather, will focus on providing the reader with an understanding of the clinical presentation, etiology, epidemiology, and natural history of each disorder, followed by an explanation of *how* to ascertain the diagnosis. This text comprises not simply symptom checklists, as in the case of the *DSM*, but a more thorough understanding of how to determine the presence of symptoms within affected individuals and the evidence-based treatments (including medication, psychotherapy, and psychosocial interventions) that can be utilized to treat each disorder.

Understanding the history of the *DSM* is instructive for the student of psychopathology. The first edition of the *DSM*, *DSM-I*, was published in 1952 (American Psychiatric Association, 1952). This slender volume considered all disorders that did not have a clearly defined cause to be “reactions” or psychologically charged responses to some emotional trauma. There were three primary categories of reaction: (1) schizophrenic reactions, (2) antisocial reactions, and (3) psychoneurotic reactions, which included the anxiety reaction, dissociative reaction, conversion reaction, phobic reaction, obsessive-compulsive reaction, and depressive reaction. The *DSM-I* was well couched within the predominant psychoanalytic theories of the day and upon Freud’s emphasis on the importance of mastering anxieties generated by characteristic conflicts at particular stages of psychosexual development. The authors of *DSM-I* agreed that psychopathology was due to the failure of resolving these conflicts, and consequently it was implied, if not absolutely stated, that anxiety lay at the core of all psychiatric diagnoses. Sixteen years after the publication of *DSM-I*, *DSM-II* was released and provided, for the first time, signs and symptoms of the disorders themselves, although no formal diagnostic criteria were described (American Psychiatric Association, 1968).

Still following upon the leading psychological theories of the day, homosexuality was listed as a Sexual Deviation Disorder in both *DSM-I* and *DSM-II*. This category also included transvestism, pedophilia, fetishism, and sexual sadism (e.g., rape, assault, and sexual mutilation). In 1973, for the sixth printing of *DSM-II*, homosexuality was removed as a mental disorder but changed to Sexual Orientation Disturbance, a category for individuals whose sexual interests were aimed primarily toward those of the same sex and who were either disturbed by, were in conflict

with, or desired to change their sexual orientation. *DSM-III*, published in 1980, further revised the diagnosis by removing Sexual Orientation Disturbance and adding Ego-Dystonic Homosexuality, intending to describe individuals who identified as homosexual but were distressed by their same-sex preference (American Psychiatric Association, 1980). Finally, *DSM-III-R* (revised edition) of 1987 removed all mention of homosexuality from the code book (American Psychiatric Association, 1987). Clearly, psychiatry has had an uneasy relationship with human sexuality.

Absolute symptoms and diagnostic criteria for the disorders were first described in *DSM-III*. This version of the *DSM* demonstrated better interrater reliability, indicating that different examiners were, for the first time, highly likely to arrive at the same diagnosis for the same patient when using these diagnostic parameters. *DSM-III* was also a landmark for child and adolescent mental health by including a group of disorders “usually first present in infancy, childhood, or adolescence,” such as Reactive Attachment Disorder, Autistic Disorder, Separation Anxiety Disorder, Overanxious Disorder, and Avoidant Disorder. In addition, it was now permissible to apply adult anxiety diagnoses to children and adolescents. Finally, *DSM-III* introduced a much-flawed multiaxial system, such that individuals were coded according to five axes. Under Axis I, the primary clinical psychiatric disturbances were coded; Axis II represented personality disorders and mental retardation (e.g., conditions considered to be lifelong and impacting all aspects of an individual’s functioning); Axis III listed the major medical diagnoses, such as asthma, hypertension, and diabetes; Axis IV provided an indication of psychosocial and environmental problems; and Axis V measured the individual’s Global Assessment of Functioning (GAF), a numeric scale from 0 to 100 employed to rate social, occupational, and psychological functioning. The multiaxial system has never proven itself to be valid or necessary in the diagnosis of mental illness and therefore was dropped from *DSM-5* (American Psychiatric Association, 2013; J. B. W. Williams, 1985).

The most fundamental changes to the *DSM* occurred in 1980 with the publication of *DSM-III*. While both *DSM-III* and *DSM-III-R* were criticized by some researchers, particularly because of the inclusion of childhood diagnoses due to incomplete evidence of their validity at that time, *DSM-III* moved the pendulum far away from psychiatry’s psychoanalytic history by taking an entirely atheoretical approach to the diagnosis of psychiatric illness and eliminating altogether the term *neurosis* from the lexicon. Given our incomplete understanding of the pathophysiology of most mental disorders, the authors of *DSM-III* chose to establish diagnostic criteria as the best possible description of how these

disorders are expressed. *DSM-IV*, published in 1994, and *DSM-IV-TR* (the text revision of the fourth edition), published in 2000, largely provided a refinement of *DSM-III* nosology and added clinical significance criteria to over half the diagnoses, requiring that a mental illness cause significant distress in major life domains to meet criteria for diagnosis (American Psychiatric Association, 1994, 2000). Never at a standstill, American psychiatry is now embroiled in controversy surrounding the *DSM*'s most recent iteration, *DSM-5*.

The architects of *DSM-5* set themselves a lofty goal: to move away from categorical diagnoses and toward dimensional diagnoses. That is, *DSM-5* acknowledges that the distinction between various psychiatric diagnoses may not be as clear-cut or profound as was once believed. In other words, organized psychiatry has now recognized the limits imposed by the phenomenological approach of its classification or nosological system since the publication of *DSM-III*. *DSM-5* is intended to recognize the crossover between diagnoses or the "porous boundaries," such as the spectrum of autistic, anxiety, mood, psychotic, and other disorders (American Psychiatric Association, 2013). Such crossover is evident when evaluating the genetic and environmental risk factors shared by so many disorders (e.g., growing up in poverty is a risk factor for just about every psychiatric disorder); the heretofore high rate of "Not Otherwise Specified" (NOS) diagnoses (e.g., NOS is employed as a suffix for any given diagnosis when full symptom criteria are not met but the individual suffers some clinically meaningful and impairing symptoms); and the lack of treatment specificity (e.g., selective serotonin reuptake inhibitors work effectively for depression, anxiety disorders, bulimia nervosa, premenstrual dysphoric disorder, and premature ejaculation).

DSM-5 is organized developmentally, unlike past versions of the *DSM*, such that those diagnoses manifesting early in life appear earlier in the manual. Consequently, neurodevelopmental disorders, such as autism and intellectual disability, appear in the first pages of the text, whereas dementia appears toward the end of the book. Furthermore, disorders are clustered in *DSM-5* by "internalizing" and "externalizing" features. Mood and anxiety disorders, for example, in which individuals internalize their symptoms, are grouped closely together, as are disruptive behavior, addictive, and impulse control disorders, in which individuals externalize their symptoms.

DSM-5 incorporates a more objective measure of the disability caused by psychiatric illness by employing the World Health Organization's Disability Assessment Schedule (WHODAS) in contrast to the more subjective GAF scale coded on Axis V in *DSM-IV*. The WHODAS 2.0 is a 36-item questionnaire completed by self-report or interviewer

administered. The WHODAS covers six domains, including cognition (understanding and communicating), mobility (moving and getting around), self-care (hygiene, dressing, eating, and staying alone), getting along (interacting with other people), life activities (domestic responsibilities, leisure, work, and school), and participation (joining in community activities). Although taking considerably more time to complete and score, the WHODAS produces a more standardized understanding of patient disability due to psychiatric, neurological, or addictive disorders (World Health Organization, 2014).

DSM-5 has expanded the cultural formulation and glossary of culture-bound syndromes (now referred to as “Glossary of Cultural Concepts of Distress”) first included in *DSM-IV*. In the Cultural Formulation Interview (CFI), *DSM-5* provides examples of questions to employ in the evaluation of individuals from outside Western culture. The CFI addresses the cultural definition of the problem the individual is having, cultural perceptions of cause, stressors and supports, cultural identity, coping skills, past efforts to seek help, barriers to care, preferences in care, and the clinician–patient relationship (American Psychiatric Association, 2013).

DSM-5 also makes an effort to provide more consistent data-gathering techniques that employ “cross-cutting symptom measures” to aid clinicians in carrying out comprehensive assessment (American Psychiatric Association, 2013). So-called Level 1 measures are general surveys available online and are intended to provide a review of 13 general psychiatric domains (12 domains in children and adolescents), such as anxiety, sleep, depression, self-injury, and substance abuse. Adults and youth aged 11 to 17 years can complete these forms themselves, while parents are expected to complete the assessment for children under 11 years of age. Depending on how an individual responds to the Level 1 rating scale, Level 2 cross-cutting symptom measures may be used, which are designed to evaluate the severity of symptoms identified in the Level 1 scale. The reliability of the cross-cutting symptom measures has been found to be “good to excellent” among most adults and parents reporting on their children. However, the reliability has not been generally good for child respondents and in assessing suicide in all age groups (Narrow et al, 2013).

Throughout its history, the *DSM* has been no stranger to criticism, and *DSM-5* is no exception. Mental disorders present to us more as symptom complexes than discrete diagnoses whose pathophysiology has been fully elucidated. As a result, some believe that revamping the nosology at this point is premature, given that we do not fully understand the “dimensional” nature of the various psychiatric diagnoses. Beyond this primary concern, which goes to the root of the intended design of

DSM-5 (e.g., establishing dimensional diagnoses), a number of criticisms have been levied at the American Psychiatric Association for not allowing an outside review of the criteria before field-testing and for including new and inadequately substantiated diagnoses, such as Disruptive Mood Dysregulation Disorder, Mild Neurocognitive Disorder, and Binge Eating Disorder.

The National Institute of Mental Health (NIMH) shares concerns about *DSM-5* and is going so far as to move its research away from *DSM* categories and into broad-based “research domain criteria” (RDoC). These RDoC represent an effort to transform psychiatric diagnostic criteria by incorporating neuroimaging findings, genetics, and cognitive neuroscience. Although the NIMH recognizes that it is also far too early to rely on RDoC, it has begun a decade-long project to try to create valid criteria, which is truly what the field needs. The strengths of the *DSM* have increasingly been its high reliability (e.g., clinicians utilizing the same criteria to make the same diagnoses), while its weakness remains its low validity (e.g., the continued use of consensus criteria for establishing diagnoses instead of objective laboratory or other clinical measures). As a result, NIMH pledges to support research into, for example, the spectrum of mood disorders, instead of rigidly supporting studies of depression or bipolar disorder alone, given that we recognize that such a spectrum of diagnoses does exist clinically but is not well accounted for in the *DSM* (Insel, 2013).

However justified the criticisms may be, *DSM-5* is sure to replace its predecessor as the gold standard diagnostic codebook for mental health practitioners worldwide. For the present time, then, the *DSM* remains a necessary and highly useful tool to the practitioner that allows clinicians to agree more often than not on patient diagnoses, even if those diagnoses are not always valid. Flawed though it may be, the ultimate goal of the *DSM*, like any diagnostic system, gallantly remains determining the proper diagnosis so that the best treatment plan for each patient can be established.