
Adolescent Mental Health: The Public Health Response

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Introduction

Child and adolescent mental health is defined by the World Health Organization (WHO 2005a, p. 7) as: ‘the capacity to achieve and maintain optimal psychological functioning and wellbeing.’ Child and adolescent mental *ill health*, conversely, refers to the inability of the young person to reach optimal levels of competence and functioning, as manifest in disorders such as depression and psychosis (Patel et al. 2008). The spectrum of mental health problems can range from everyday worries and concerns to serious and debilitating disorders (British Medical Association 2006). Roberts (1999) describes youth mental health problems as ranging in severity from relatively minor *mental health conditions* (e.g., sleep disturbance) to *mental health disorders* (representing marked deviation from normality), to in extreme cases *mental illnesses*, which encompass severe psychiatric disorders also found in adulthood.

Mental health problems in adolescence are of great importance to public health. Mental health problems among adolescents are common, are

associated with substantial suffering and functional impairment, can lead to stigma and discrimination, and increase the risk of premature death (Patel et al. 2007). Mental health problems not only impact on the young individuals affected, they also impact on their family members (Angold et al. 1998). Adolescent mental health problems (especially if left untreated) tend to persist into adulthood, increasing the risk of adult mental health disorders (Copeland et al. 2011), poor psychosocial functioning, and poor physical health years later (Goodman et al. 2011; Patel et al. 2007).

In this chapter, we define the concept of adolescence and its changing parameters. We chart the progression of theories describing normal and abnormal psychological development in this age-group. We describe the prevalence and persistence of adolescent mental health problems. We outline the history of child and adolescent mental health services (CAMHS) and twenty-first century developments. We conclude by examining the potential of preventive approaches for youth mental illness.

Adolescence: Concepts and Definitions

Definitions of adolescence vary both culturally and over time. As far back as ancient Greece philosophers considered adolescence to be a life stage distinct from childhood, though the term

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'adolescence' was only coined in the late nineteenth century (Arnett 2004). The World Health Organization (WHO) describes adolescence as the period in human growth occurring after childhood and before adulthood, that is, from 10 to 19 years of age (WHO 2005b). In Western cultures, individuals in this age-group typically live at home with parents, are undergoing pubertal changes, and are immersed in the 'school-based peer culture' (Arnett 2000). In other cultures however, adolescence is viewed differently or not considered a distinct stage at all. In the Hmong culture of Southeast Asia, for example, the age of 11–12 signifies the end of childhood and the simultaneous onset of adulthood (Tobin and Friedman 1984). In the Indian (Vedic) four stages of life, *Brahamcharya*, the age from birth to 25 is the period of learning and celibacy (WHO 2014).

Societal and biologic changes over the last century mean that the physical, psychological, and cultural expressions of adolescence may begin earlier and end later (Sawyer et al. 2012). While the start of adolescence is traditionally regarded as being commensurate with the onset of puberty (Patel et al. 2007), adolescence is different from puberty; the former refers to a gradual transition from childhood to adulthood (Cicchetti and Rogosch 2002), and the latter is a discrete process of sexual maturation (Pickles et al. 1998). Before the eighteenth century, individuals were expected to marry at the point of reaching puberty. Boys would start employment, and girls would begin raising children of their own. However, during the eighteenth and nineteenth centuries, it became more common for youth in the Western world to remain in education for longer, delaying the typical age for marriage and employment. Young people now started to leave their family homes to study or pursue alternative career choices (Arnett 2004).

While many societies and cultures identify a discrete phase corresponding to 'adolescence' (Richter 2006), some researchers have questioned its validity (Graham 2004). Recently, Jeffrey Arnett has conceptualized *emerging adulthood* as a distinct phase of the life span (i.e., 18–25 years) between adolescence and fully

fledged adulthood (Arnett 2000). Arnett postulates that emerging adulthood may only exist in cultures that allow young people to have a prolonged period of independent role exploration. Consistent with Arnett's developmental delineation, recent research indicates that adolescent brain development continues up until the age of 25 years (Luna et al. 2013). Indeed, there is now consensus among experts that we should consider the needs of 'young people' as a distinct from children and adults (Chanen et al. 2009; Patel et al. 2007) and that emerging adulthood is an unstable phase with increased risk of mental ill health (McGorry et al. 2013). In this chapter, we incorporate this extended definition of adolescence or 'youth' to include young people between 15 and 25 years of age (United Nations, n.d.). We will use the terms childhood, adolescence, and youth as defined in the literature reviewed.

Psychological Theories of Adolescent Development

At the start of the twentieth century, the American psychologist Stanley Hall penned one of the first monographs devoted exclusively to the study of adolescence (Hall 1904). Hall's textbook proposed that adolescent behaviors, including conflict with parents, mood disruptions, and risk taking, originate from feelings of 'storm and stress' (or '*strum and drag*') common during this developmental phase. The psychoanalyst Anna Freud was a great supporter of the 'storm and stress' theory, which she saw as a biologically rooted and inevitable part of growing up. Indeed, she suggested that the absence of such experience was predictive of mental illness (Freud 1958).

In subsequent years, Hall's 'storm and stress' theory of adolescence was criticized for generalizing the behavioral problems of a few individual cases to all adolescents (Arnett 1999). For example, conflict with parents may actually decrease during adolescence (Collins and Laursen 2004), and cases of increased conflict may be attributable to mental health problems rather than

adolescence per se (Smetana 1996). Arnett (1999) proposed that although ‘storm and stress’ is not apparent in all adolescents, it is experienced more by adolescents than any other age-group and more so in Western cultures. It is certainly observable that risk taking (Steinberg 2007) and antisocial behavior (Moffitt 2003) increase during adolescence; however, this behavior persists and becomes pathological in only a subset of youth (Moffitt et al. 2002). The legacy of Hall’s ‘storm and stress’ theory is still evident in clinical practice today as illustrated by confusion regarding pathological versus adolescent-typical mood and behaviors (Laurenssen et al. 2013).

Since Hall’s seminal work, this life stage has become an area of great interest among psychologists. Two main themes emerged from theories of adolescent development from the twentieth century. First, adolescence was considered both biologically and cognitively different to childhood (Heaven 2001). During adolescence, the brain undergoes major reorganization and remodeling, which contributes to age-specific behavioral characteristics and vulnerabilities. Prominent developmental transformations in the prefrontal cortex and limbic brain regions (Spear 2000) affect cognitive control systems which influence self-regulation. However, appreciable improvements in cognitive control and behavioral inhibition do not emerge until the transition from adolescence to adulthood (Steinberg 2007; Yurgelun-Todd 2007). Consequently, adolescents are much more likely to engage in behaviors that increase the likelihood of death or injury than any other age-group (Eaton et al. 2006). The age of peak physical prowess in youth is thus also the period of maximum psychological and emotional vulnerability. We should also recognize, however, that biology is neither static nor destiny. Adolescence is also a period uniquely malleable to social experiences and their context.

The second major emergent theme from the twentieth century was the view of adolescence as a time of newly established independence. Psychoanalysts such as Otto Rank and Erik Erikson proposed that adolescence was an important

stage in which a young person is able to develop an identity separate to the one imposed by their parents. During this time, peer relationships become increasingly salient (Muuss et al. 1988), and as adolescents begin to spend more time with their peers, they are more influenced by the opinions and expectations of peers (Brown and Larson 2009). If adolescent brain development (and concomitant social processing skills) proceeds as they should, they will underpin a positive social and academic school experience (Ogden and Hagen 2013). Deficits in this realm, however, can lead to a lack of social acceptance (Cillessen and Mayeux 2004) and increases in antisocial behavior (Crick and Dodge 1994). We will revisit the intersection between normative and psychopathological developments in a later section.

The Academic and Scientific Roots of Child and Adolescent Psychiatry

The history of child and adolescent psychiatry has been referred to as ‘a collection of services, a body of knowledge, and a profession’ (Rey et al. 2015, p. 3). In this section, we focus on academic developments, which have contributed to our understanding of the etiology of mental disorders and shaped intervention strategies for youth mental health.

In the early nineteenth century, European literature on childhood mental diseases consisted mainly of accounts of unusual cases; the predominant view was that ‘insanity’ did not occur before puberty (Parry-Jones 1989). During the second half of the nineteenth century, the first textbook to include a full chapter on the ‘insanity of early life’ was published (Maudsley 1867). From that point onward, most textbooks included chapters on ‘juvenile insanity,’ which was differentiated from ‘idiocy,’ epilepsy, and the effects of other neurological disorders. Nevertheless, ‘childhood insanity’ was still believed to be rare (Parry-Jones 1989). Toward the end of the nineteenth century, puberty was recognized as a salient cause of psychological disturbance, and pubescent or adolescent insanity was frequently

discussed (Maudsley 1895). Comparable to Hall's (1904) theory of normative adolescent development, mental illnesses of pubescence included abnormalities of feeling and conduct with impaired self-control, waywardness, irritability, and irresponsibility (Tuke 1892).

In 1933, Leo Kanner introduced the term 'child psychiatry' and published the first English language textbook (of the same name) focusing exclusively on this topic (Kanner 1935). Clinical research in child psychiatry had been carried out for some time; however, the establishment of the Institute of Psychiatry in 1949 led to an increase in academic posts in Britain and an increased emphasis on the academic and scientific roots of child psychiatry. In 1952, James Anthony was appointed the first senior lecturer in child psychiatry at the Institute of Psychiatry. However, progress was slow outside of London. In 1973, Michael Rutter was appointed to the first chair in child psychiatry in Great Britain. He has subsequently become a leader of the discipline in Britain and abroad, having great influence on both practice and research (Hersov 1986).

In the 1960s to 1970s, Rutter led the first epidemiological study of child and adolescent mental health in the UK (Rutter et al. 1970). Conducted in the Isle of Wight, it became the standard for subsequent epidemiological research in the field providing a wealth of information on the prevalence of mental disorders and the development of new measures (Hersov 1986). Rutter was also integral in a second key development: a number of landmark papers in the 1980s heralded the arrival of a new paradigm called *developmental psychopathology* (Cicchetti 1984; Garber 1984; Sroufe and Rutter 1984).

Developmental psychopathology describes the study of mental illness from a life span perspective, in which psychopathology is best understood as a deviation from normal development (Wenar and Kerig 2000). As biologic, psychological, and social systems undergo profound developmental changes during adolescence (Spear 2000), this framework increased our knowledge of adolescent psychopathology in particular and developmental processes more generally (Cicchetti and Rogosch 2002).

Early diagnostic manuals considered childhood psychiatric problems to be intrinsically different from disorders in adulthood (El-Gabalawi 2014). Nevertheless, key findings in recent years have changed our understanding of developmental psychopathology. First, large longitudinal studies have confirmed the continuation of childhood psychopathology into adult life, which has been described in terms of homotypic and heterotypic continuity (Moffitt et al. 2007). *Homotypic continuity* describes the persistence of the same disorder over time. In other words, it suggests that a single disease process may manifest across different stages of development. In contrast, *heterotypic continuity* (or sequential comorbidity) is the prediction of one disorder from another, suggesting that an underlying disease process may manifest differently across development (Maughan et al. 2013). Second, it was recognized that a single causal factor may have various outcomes depending on the individual (i.e., *multifinality*) and conversely that several causal factors may have the same outcome (i.e., *equifinality*) (Cicchetti and Rogosch 1996). Third, we now know that disorders with a juvenile onset have a poorer prognosis in adult life (Moffitt et al. 2002). Schizophrenia with an onset in childhood or adolescence, for example, has a particularly malignant course and outcome (Hollis 2014). Similarly, several studies point to the seriousness of early-onset antisocial behavior (Tolan and Thomas 1995).

Regardless of whether continuity is manifest homotypically or heterotypically, mental disorder persists into adulthood for a large proportion of young people. Indeed, studies demonstrate that up to 50 % of mental illness in adult life begins before the age of 15 and 75 % by the age of 25 (Kim-Cohen et al. 2003). Population-based studies suggest that the majority of youth experience some form of mental health problem before the age of 12 (Copeland et al. 2011; Patton et al. 2014). The weight of evidence is such that adult mental health disorders are now being reframed as an 'extension of juvenile disorders' (Kim-Cohen et al. 2003). Thomas Insel, Director of the National Institute of Mental Health

(NIMH) in the USA, has stated that adult ‘mental disorders are the chronic disorders of young people’ (<http://www.nimh.nih.gov/news/science-news/2005/mental-illness-exacts-heavy-toll-beginning-in-youth.shtml>). Because developmental psychopathology can help elucidate disease (and protective) mechanisms, it is an important component in the advancement of prevention and early intervention (EI) efforts (Cicchetti and Rogosch 2002; Institute of Medicine 1994). In contrast to non-developmental approaches which assume that mental disorders present in the same way regardless of age, the developmental psychopathology approach can inform developmentally sensitive therapies (Cicchetti and Rogosch 2002).

The 1990s saw the advent of ‘evidence-based practice’ (EBP) for CAMHS. Prior to that, little attempt was made to systematically examine the quality of clinical treatments within these services (Hoagwood et al. 2014). In 1999, a research agenda on clinical interventions for youths was published highlighting the need for a new model connecting research to practice (Burns et al. 1999). Key tasks outlined in this paper include the synthesis of existing evidence on promising interventions, the assessment of quality indicators to improve standards of clinical practice, and the evaluation of outcome measures used in studies. A number of studies have subsequently been undertaken to answer questions about the effectiveness of manual-based services for young people with serious psychiatric disorders (Hoagwood et al. 2014).

The term EBP in child and adolescent mental health is most often used to differentiate between psychosocial (or pharmacological) treatments that have been tested in randomized controlled trials (RCTs) to those that are used but have not been studied in a systematic way. According to the American Psychological Association, a treatment is considered ‘well established’ if two or more studies show that it is superior to medication, placebo, or an alternative treatment (Hoagwood et al. 2014). Parent training, for example, is identified as a well-established treatment for conduct problems in youth (Bretnan and Eyberg 1998).

EBP in the context of youth versus adult services has different emphases. First, and congruent with the developmental psychopathology paradigm, the evidence base for CAMHS needs to consider developmental issues (e.g., age-related changes, which may impact on treatment efficacy) if it is to be meaningful (Hoagwood et al. 2014). Second, treatments for young people need to be planned within the context of the family, which is central to effective treatment and an understanding of the diagnosis itself. Finally, service venues for young people differ substantially from those for adults (e.g., schools) which will place very different demands on the provider of the treatment (Burns et al. 1999). We will revisit the development of mental health services for young people later in this chapter.

Prevalence and Persistence of Youth Mental Health Problems

The WHO defines *epidemiology* as the study of the distribution and determinants of health-related states or events (including disease) and the application of this study to the control of diseases and other health problems (WHO 2015). In this section, we focus on the distribution (i.e., prevalence) of youth mental health problems. A consideration of the determinants (or causes) of youth mental disorders is beyond the scope of this chapter.

Historically, adolescence was considered a healthy period with low disease burden (Gore et al. 2011). It is now seen as a time of vulnerability for mental disorder (Patton et al. 2014), the point at which much of the disease burden from mental disorder emerges (Gore et al. 2011). Worldwide, neuropsychiatric disorders (including major depression, bipolar disorder, schizophrenia, and substance misuse) are one of the major causes of years lost to disability (YLDs) in young people aged 10–24 years, accounting for approximately 45 % of YLD (Gore et al. 2011).

In May 2014, the WHO released global estimates of mortality and burden of disease in

adolescence (WHO 2014). For adolescents, mental health issues (i.e., depression and self-harm) were among the top five global causes of disability-adjusted life years (DALYs). Unipolar depressive disorders were the top cause of DALYs in high-income countries, the eastern Mediterranean, European, and Western Pacific regions. They were ranked in the top three in all other regions, with the exception of Africa. In 15–19-year-olds, self-harm was the top cause of DALYs in Southeast Asia and was in the top 10 in all other regions with the exception of Africa. Although depression and self-harm ranked lower as a cause of DALYs in Africa, actual DALY rates are high in this region which overall has the highest rates of DALYs among adolescents.

Many of the adolescents who participated in the WHO global consultation consider mental health to be the most important health problem faced by adolescents today (WHO 2014). Because most major mental disorders have their onset in adolescence and early adulthood, they have a disproportionate impact on the most productive decades of life (McGorry et al. 2013).

Prevalence of Youth Mental Disorders

Epidemiological studies over the last few decades reveal the true burden of mental health problems among young people. In an early review, Roberts et al. (1998) identified 52 individual prevalence studies (12 focusing on adolescent populations) dating back to 1963. Most studies originated from the UK and USA, though there were also studies from Europe, Asia, Africa, and South America. The mean prevalence of psychiatric disorders across adolescent samples (12–13 years of age) was 16.5 % (median 15.0 %, range 6.2–41.3 %). These findings should be interpreted with some caution due to the considerable variation in prevalence rates across studies, which the authors attributed to disparities in methods of case ascertainment (i.e., type of interview) and definition (i.e., diagnostic criteria).

In a subsequent review covering the literature from 1996 to 2007, Patel et al. (2007) identified

fourteen worldwide community studies from a range of countries including Australia, Brazil, the Netherlands, Ethiopia, Hawaii, the USA, India, South Africa, Switzerland, and the UK. They found that within any given year, approximately a quarter of youth (ranging in age from 1 to 24 years) suffered from a mental health disorder (Patel et al. 2007). Two of the studies included utilized high-risk community populations (Beals et al. 1997; Garland et al. 2001), which may have inflated prevalence rates. A careful scrutiny of individual studies within this review revealed an interesting pattern: The prevalence of mental disorder appeared to increase with age. For example, the Australian National Survey of Mental Health and Wellbeing reported that at least 14 % of adolescents younger than 18 years of age had a diagnosable disorder. This figure increased to 27 % in the 18–24-year age-group (Sawyer et al. 2000). Similarly, in the British Child and Adolescent Mental Health Survey 1999, Ford et al. (2003) found that the prevalence of mental disorders increased during adolescence; 7.8 % of 5–7-year-olds compared to 12.2 % of 13–15-year-olds had a diagnosable disorder.

Since publication of this review, a large representative population study suggests that prevalence rates (at least in the USA) may be even higher than previously described (Kessler et al. 2012). Kessler and colleagues examined the prevalence and persistence of DSM-IV disorders in over ten thousand 13–17-year-old adolescents. The estimated prevalence of any disorder at 30 days was 23.4 % and rose to 40.3 % at 12 months. Ratios of 30 days to 12-month prevalence were generally lower than those of 12 months to lifetime prevalence, suggesting that disorder persistence is often attributable to episode recurrence rather than chronicity.

Prospective evidence suggests that *lifetime* (or cumulative) prevalence rates may be higher still. In a study of 1943 Australian school children, Patton et al. (2014) found that 42 % reported a common mental disorder at least once during adolescence. In the Great Smoky Mountains cohort, Copeland and colleagues reported that 61.1 % of participants aged 21 years met criteria

for a well-specified psychiatric disorder at some point since the age of 9 (Copeland et al. 2011). When diagnoses not otherwise specified (NOS) were included, the total cumulative prevalence for any disorder rose to 82.5 %. The authors noted that while the prevalence of mental disorders in young people is relatively low at any given point in time, most youth will experience some form of a mental health problem by the time they reach early adulthood.

There is a meager body of evidence (especially large-scale studies) describing the prevalence of youth mental health disorders in low- and middle-income countries (LAMICs) (Patel et al. 2007, 2008). Mental health research in LAMICs contributes only 3–6 % of all published mental health research worldwide, with research in child and adolescent mental health representing a smaller fraction still (Patel et al. 2008). Prevalence figures appear largely comparable, though slightly lower, to those in high-income countries (HICs) ranging from 6.3 % in India to 18 % in Ethiopia (Patel et al. 2008). As Patel et al. (2008) point out, however, the studies they identified represent only a few LAMIC countries and may therefore not be wholly representative.

Prevalence of Individual Mental Disorders

Evidence from the large study of over 10,000 individuals in the USA suggests that in mid-to-late adolescence (i.e., 13–17 years), anxiety disorders are most common (24.9 %), followed by behavior (16.3 %), mood (10 %), and substance-use disorders (8.3 %) (Kessler et al. 2012). Conversely, data from the Great Smoky Mountains Study indicates that by the time youth reach early adulthood, they are most likely to suffer from a substance-use disorder (Copeland et al. 2011).

Some important mental health problems (perhaps due to the stigma associated with these disorders in youth) were not assessed in the prevalence studies we have described. Smaller-scale studies, however, suggest that these may be relatively common. In a

representative community-based sample of 568 youths, the prevalence of any DSM-IV personality disorder was 14.6 % at 14 years, 12.7 % at 16 years, and 13.9 % at 22 years. The cumulative prevalence was higher still reaching 18.1 % at 16 years and 25.7 % at 22 years (Johnson et al. 2008). Similarly, subclinical psychotic symptoms appear relatively common in young people, though symptoms appear to decrease from childhood through adolescence. In a recent meta-analysis of population-based studies, Kelleher et al. (2012) reported that the median prevalence of psychotic symptoms in children 9–12 years of age was 17 %, decreasing to 7.5 % in adolescents 13–18 years of age. While subclinical in nature, recognition of these symptoms is important as they may increase risk of psychotic disorder in early adulthood (Poulton et al. 2000) and are correlated with non-psychotic psychopathology, such as depression and suicide (Johns et al. 2004).

Gender Variations in Prevalence of Mental Disorder

Similar to adult populations (Hartung and Widiger 1998; Piccinelli and Wilkinson 2000), gender differences in the prevalence of youth mental disorders are apparent. In a recent longitudinal study in Australia, Patton et al. (2014) found that females between the age of 15.5 and 17 years were more likely than males (54 % vs. 29 %) to experience mental health difficulties at some point during adolescence. In a younger population, the inverse pattern was observed; Meltzer and Gatward (2000) found that 11 % of male versus 8 % of female 5–15-year-olds suffered from a mental illness. This finding may be partly explained by the observation that generally most childhood-onset disorders have a preponderance of male cases, while most adolescent-onset disorders have a preponderance of female cases (Costello et al. 2006a, b).

Gender differences according to type of mental disorder are also observed in adolescence. Girls suffer more from mood, anxiety (Gau et al. 2005; Kessler et al. 2012), and eating disorders,

while boys have higher odds of almost all behavior (Ford et al. 2003; Kessler et al. 2012) and substance-use (Kessler et al. 2012) disorders. Furthermore, homotypic and heterotypic continuity and concurrent comorbidity appear more marked in girls than boys (Costello et al. 2003).

Increases in Prevalence Over Time

It is not entirely clear whether rates of youth mental disorder have increased over recent decades. Conclusions have been somewhat clouded by methodological differences such as changes in diagnostic criteria (e.g., DSM-III to DSM-IV) and assessment methods and differences in official reporting practices (Collishaw et al. 2004; Costello et al. 2006a, b). Overall, there is some evidence that mental health in youth is worsening, with young people being referred to as the ‘miners’ canaries’ of society (Eckersley 2008).

It appears that rates may have increased for some, but not other, mental disorders. Collishaw et al. (2004) examined potential increases in the prevalence of behavioral and emotional disorders in three different cohorts of adolescents with assessments spanning 25 years. By using the National Child Development Study (assessment in 1974), the 1970 British Cohort Study (assessment in 1986), and the British Child and Adolescent Mental Health Survey (assessment in 1999), the authors could avoid relying on retrospective reports of prevalence. Furthermore, by conducting a calibration study, they could be confident that comparable questionnaires were administered in all three cohorts. Conduct (fighting; bullying; stealing; lying; disobedience), emotional (misery; worries; fearful of new situations), and hyperactivity (fidgeting; restlessness; inattention) problems were assessed via parental report when youth were 15–16-year-olds. There was a significant increase in conduct problems over the 25-year study period, ranging from 6.8 % in 1974 to 14.9 % in 1999. There was also a significant increase in emotional problems from 10.2 % in 1986 to 16.9 % in 1999. Interestingly, an increase in

hyperactivity problems was only observed in boys.

Findings regarding an increase in youth depression seem more uncertain. While some studies suggest that youth depression is a growing problem (Kessler et al. 1996, 2003), there are major methodological concerns regarding available evidence. The estimates of first episode depression in older cohorts were based on retrospective recall, which may have led to an underestimation of depression rates in the older, compared to younger, cohorts. Indeed, a more recent meta-analysis combining evidence from 26 child and adolescent cohort studies from the 1960s–1990s seems to confirm these suspicions (Costello et al. 2006a, b). The authors found no evidence for an increase in depression over the last 30 years.

Persistence of Youth Mental Disorders

The length and number of episodes of mental illness during adolescence appear to be predictive of future psychiatric problems in adult life. In Patton et al. (2014) 14-year longitudinal study, almost 60 % of Australian adolescents with a mental health disorder reported a further episode in early adulthood (mean age 29). Girls were particularly affected; 70 % of those who had a persistent mental disorder in adolescence continued to experience mental ill health in adulthood. Outcome was a little better for those experiencing one episode of less than six months in duration, with just over half of this sample receiving no further diagnoses in adulthood. Similarly, Lewinsohn et al. (2000) found that multiple episodes of major depressive disorder in adolescence predicted recurrent major depressive disorder in adulthood.

The findings from these two studies, however, only demonstrate the persistence of mental illness into *young* adulthood. Colman et al. (2007) explored the impact of adolescent disorder on later mental health at several time periods in adulthood. Approximately 70 % of adolescents with anxiety or depression at both 13 and

15 years of age reported a mental disorder at 36, 43, or 53 years of age in comparison with only 25 % of those who did not report an earlier problem. This result was not replicated for those suffering from an adolescent mental illness at only one time point, suggesting that the length or number of episodes of mental ill health is a key predictor of adult mental health.

Prevalence of Suicide and Suicidal Behavior

Psychiatrists now assert that suicide should be viewed as a disease in its own right rather than a behavioral consequence of mental disorder (Perroud et al. 2013). Global estimates reveal that suicide is a major cause of mortality for both male and female adolescents, particularly in the 15–19-year-old age range (WHO 2014). Because of its status as a leading cause of death in youth and its strong association with mental illness (Bridge et al. 2006; Wasserman et al. 2005), we include a brief discussion of suicide in this chapter.

Suicide rates are low in childhood, but begin to increase from the age of eleven onward (British Medical Association 2006). In a nationally representative US survey of 5877 respondents, Kessler et al. (1999) found that the onset of suicide ideation, plans, and attempts peaked in the late teens to early 20s.

With adolescence comes an increased risk of psychopathology, along with more independence and cognitive resources. These factors converge to heighten risk of suicide (Bridge et al. 2006). Suicidal behavior is found to exist on a continuum; it ranges from suicide ideation (thinking or communicating about suicide) to suicide attempts and, in the most severe cases, successful completion of suicide (Bridge et al. 2006). Suicide ideation predicts suicide attempt (Jackson and Nuttall 2001; Lewinsohn et al. 1994); thus, tackling both suicide ideation and behavior is universally important.

Approximately 15–25 % of adolescents engage in suicide ideation (Bridge et al. 2006), and approximately 2–4 % attempt suicide (Vyas

et al. 2015). Gender patterns vary according to the type of behavior. More young males than females commit suicide (Wasserman et al. 2005); however, more young females engage in suicide ideation (Bridge et al. 2006).

Both psychiatric and environmental risk factors are associated with suicidal behavior in youth (Bridge et al. 2006). The Great Smoky Mountains cohort of 9–16-year-olds indicated that between 60 and 95 % of suicidal adolescents had underlying mental health problems (Foley et al. 2006). A review published in the same year confirmed that approximately 90 % of suicidal adolescents have mental disorders and that psychiatric problems greatly increase risk of suicide in this age-group (by up to nine times in comparison with healthy peers) (Bridge et al. 2006). Individual differences, in the form of personality traits, are also associated with increased risk of suicide in youth. Bridge et al. (2006) identified several personality traits commonly linked to suicidal behavior including impulsive aggression, impulsivity, perfectionism, neuroticism, lower self-esteem, and feelings of hopelessness. Interestingly, two of the personality traits, lower self-esteem and feelings of hopelessness, are no longer associated with increased risk of suicide when depression is controlled statistically. Indirectly, this also suggests that ‘depression’ in children and adolescents should be taken seriously and treated.

Mental disorder (or personality traits) alone cannot fully explain youth suicide. Environmental risk factors also play an important role. Poor physical health and disability (Grossman et al. 1991), sleeping difficulties (Winsper and Tang 2014), academic demands, school dropout (Eggert et al. 1995), being bullied by peers (Winsper et al. 2012), family difficulties, same sex attraction (Borowsky et al. 2001), and belonging to a minority group (Grunbaum et al. 2004) are all associated with increased suicide rates in young people.

Our review of evidence confirms that adolescence and emerging adulthood are periods of great risk for the emergence and persistence of mental disorders. Some of these disorders have become more prevalent in recent years, such as

conduct disorders in boys and eating/emotional disorders in girls. We now consider whether service reform has kept pace with the changing evidence base.

Past and Current Youth Mental Health Services

Historically, child and adult psychiatric services have developed under very different societal needs and demands (Singh et al. 2005). Prior to the twentieth century, there were scant services for mentally disturbed youth. Reports suggest widespread admissions to workhouses and adult asylums. These asylums made no specific provisions for mentally ill children (Parry-Jones 1989; Wilkins 1987) and have been labeled the forerunners of today's adult mental health services (AMHS) (McGorry et al. 2013).

Many scholars trace the origins of child psychiatry back to 1899 when the first Juvenile Court was established in Chicago, and a group of influential and socially concerned women started campaigning for a better understanding and management of juvenile delinquency (Fung and Cai 2008; Schowalter 2000). This led to the opening of the first *Child Guidance Clinic* in Boston in 1909. Child guidance clinics created a model of multidisciplinary working, comprising a team of teachers, judges, social workers, and clinical psychiatrists. These clinics were a branch of psychology rather than medicine; the focus was very much on helping the young individual adjust to their environment, rather than on the treatment of mental illness (Keir 1952). The child guidance movement rapidly extended to Europe and the UK. In 1927, the East London Child Guidance Clinic was established and served as a 'demonstration' and training clinic for psychiatrists, psychologists, and psychiatric social workers (Hersov 1986). The legacy of these team-based institutions can be seen in today's CAMHS (McGorry et al. 2013).

Psychiatric services for young people were also being provided in other settings (Hersov 1986). In the late 1920s, children were

increasingly referred to mental health centers, two major services in the UK being the Tavistock Clinic and Maudsley Hospital. The Tavistock worked primarily on the development and delivery of psychoanalytically based therapies for children and encouraged a family-oriented approach. The Maudsley focused on behavior management and collaboration with other social agencies. In the 1930s, a closer alliance between pediatrics and child psychiatry began to be forged (Kanner 1959), and the initial steps in the formation of outpatient services for children began (Parry-Jones 1989).

Following the Second World War, child psychiatry separated from adult psychiatry to become an independent discipline (Parry-Jones 1989). This marked a period of great advances in the mental health care of young people. During the Second World War, the need for children to be evacuated away from their families brought into sharp focus youth mental health problems. It was now recognized that childhood emotional disturbance was more widespread than was previously thought. The advent of the National Health Service in 1948 meant there was more money for hospital-based services for children, which developed slowly mostly as outpatient units (Hersov 1986).

By the 1950s, there were two main types of psychiatric service for children. First, there were the child guidance clinics run by local education authorities. Second were the hospital-based child psychiatric clinics under different ministries. The former had closer links with the community and were less formal; the latter were in closer contact with other hospital services, such as pediatrics, and thus had wider resources at their disposal. There was somewhat of a rift between the two types of service, though this was partially reduced by the setting up of joint clinics (Hersov 1986).

In the latter half of the 1970s, several reports were published emphasizing the need for services for children. *Fit for the future: Report of the Committee on Child Health Services* devoted a large section to the need for psychiatric services for children (Court 1976). In comparison with

adult mental health care, which increasingly focused on ‘diagnosable’ serious mental disorders, CAMHS continued to provide a range of family-oriented psychotherapeutically focused services for a range of mental health problems, regardless of whether these met strict diagnostic criteria (Singh et al. 2005).

The Emergence of Early Intervention Services for Psychosis: Dawn of a New Service Model

The late 1990s saw the introduction of EI services for psychosis. The first EI programs were established in Australia and the UK and were subsequently extended to Germany, the USA, Canada, and Scandinavia (Kulhara et al. 2008). The development of EI services was underpinned by two factors. First, there was a shift in beliefs concerning the treatability of schizophrenia. Historically, schizophrenia was thought to bring great social and clinical deterioration. Now, the early phase of the disorder was seen as formative and thus a prime period in which to intervene (Birchwood et al. 1997). The second factor driving EI was the reported association between delay in antipsychotic treatment (known as the duration of untreated psychosis: DUP) and poorer illness outcomes (Penttilä et al. 2014).

EI for psychosis describes the delivery of phase-specific treatment to young people (14–35 years of age). Consistent with the *clinical staging framework*, treatment may be delivered at different early stages of the disorder (McGorry et al. 2006). First, early detection (ED) may help prevent the onset of schizophrenia in high-risk individuals (known as *primary prevention*). Second, effective treatment for individuals in the early stages of psychosis (known as *secondary prevention*) may help reduce the severity of the illness (Kulhara et al. 2008).

Generally, the EI approach to psychosis has been considered successful in terms of clinical and cost-effectiveness (McCrone et al. 2010). In the early 2000s, there was a scaling up of EI services across numerous national health systems, particularly in England (McGorry 2013).

Nevertheless, this reform has not been carried out systematically across the developed world. In 2012, a national system of 16 high-fidelity early psychosis services began to be developed in Australia, which by 2015 will enable many more Australian communities to gain access to this evidence-based service model (McGorry et al. 2013). Despite the robust evidence base of EI services in psychosis, several skeptical voices continue to argue that these were not the ‘best buy’ for stretched health resources (Castle and Singh 2015).

Youth Mental Health Services in the Twenty-First Century

Although mental health services have continued to evolve, the mental health services system providing care to young people has been recently labeled ‘manifestly inadequate’ for the unique developmental and cultural needs of young people (McGorry et al. 2013). We have described adolescence as a period of increased risk for mental health problems. It is also a time, however, when mental health problems often go under-recognized and undertreated (McGorry 2013). Studies suggest that only 13 % of youth with mental health problems in Australia (McGorry et al. 2013) and less than a quarter in the UK (Pople 2008) receive help. Thus, there is a growing recognition of the need to improve the accessibility, scale, and developmental appropriateness of mental health services for young people and their families (McGorry et al. 2013).

The economic case for effective EI is unarguable (Suhrccke et al. 2008). The estimated costs of personality disorders (which currently lack an EI approach) to England in 2007 were £7.9 billion. Assume this approach remains unchanged; costs are projected to rise to £12.3 billion in 2026 (Knapp et al. 2011). In comparison, EI services for psychosis have demonstrated great savings. Each young person treated by a specialist EI service saves the British National Health Service approximately £5000 per year (McCrone et al. 2010). Currently, youth mental health services may be broadly categorized into two types:

(1) traditional CAMHS and (2) youth-oriented services (with a focus on EI) for individuals up to the age of 25 years. We will discuss these two types of service in turn.

The structure of CAMHS services, as exemplified by the UK model, is quite complex, providing support at 4 tiers (or levels). Tier 1 (universal) services include general practitioners, health visitors, and schools. Tier 2 (targeted) services include mental health professionals working with young people with mild problems. Tier 3 (specialist) services are a multidisciplinary team of professionals providing a range of interventions for various mental health problems (e.g., substance-misuse teams). Finally, tier 4 (highly specialized) services provide day, inpatient services, and in some cases home treatment as an alternative to admission.

CAMHS have been criticized for not providing sufficient access, or appropriate care to young people (McGorry et al. 2013). Treatment is delivered up until the age of 18 years; then, the young person is expected to transition to AMHS. The drawbacks of this artificial boundary are illustrated by the well-documented difficulties surrounding transitions from CAMHS to AMHS (Lamb and Murphy 2013; Singh et al. 2005, 2010). The transition boundary between CAMHS and AMHS has been described as the ‘cliff edge’ of lost support for young people leaving CAMHS (Lamb and Murphy 2013).

A service boundary at 18 years of age does not sit well with the bulk of evidence demonstrating that most mental health problems begin before the age of 25 and peak in late adolescence (Birchwood and Singh 2013). A boundary at this point in time means that the mental healthcare pathway for young people is weakest where it needs to be at its strongest (McGorry et al. 2013).

A new wave of youth mental health services is being developed, underpinned by the belief that transitioning from youth to adult services at age 25 will result in better outcomes, as youths at this age will have increased capacity and resilience to cope with moving to adult services (Forward 2014). Australia has been at the forefront of the development of these youth-oriented services,

though internationally they remain relatively rare.

Here, we present examples of recently evolving service models from Australia and the UK, which have attempted to redefine service structures for young people up to the age of 25. Broadly speaking, these services may operate on one of two levels. Tier 1 configuration represents an enhanced primary care service extending into a number of community domains. Tier 2 represents a specialist youth mental health service enabling the treatment of more severe forms of mental illness (McGorry et al. 2013).

Australian Services

Australia is currently experiencing a transformation in youth mental health programming with reform occurring at both primary and specialist care levels (McGorry et al. 2013). We describe two service models (Headspace and Origen) which have developed over the last decade or so.

In 2006, the Australian Government initiated ‘Headspace’ as a primary care-level youth mental health service. Headspace was designed to provide a multidisciplinary, community-based EI service for 12–25-year-olds (McGorry et al. 2013). Following the initial launch of 10 centers in 2006–2007, 90 are planned to be in operation by 2015. Reflecting the diversity of Australia (e.g., remote versus highly urbanized), there are local variations in center; however, each has four delivery streams serving mental health, alcohol and other drug use, physical health, and vocational needs (Rickwood et al. 2015). In addition to these four core streams, each Headspace center delivers community awareness campaigns to encourage help-seeking behavior and aid the early identification of mental health problems. Online resources and school-based intervention programs also buttress services. Headspace promotes a youth-friendly environment to provide a soft entry point, attracting youth into services without prematurely labeling (McGorry et al. 2013).

While it is still early days, initial feedback for the Headspace model is encouraging. There has been considerable uptake by young people. As of October 2012, over 75,000 youths had accessed Headspace services (Rickwood et al. 2015). This is impressive considering the documented reluctance of youth to seek help for mental health problems (Rickwood et al. 2005) and may be attributable to the youth-friendly, low-stigma approach adopted by this service model. Indeed, 93 % of young people surveyed reported being satisfied with the care they received, while 62 % reported an improvement in their physical health (Muir et al. 2009).

While Headspace delivers first-tier EI for common mental health problems, second-tier services are also needed for youth with more complex presentations. *Orygen Youth Health* was established in Melbourne in 2002 to fill this need. Orygen is Australia's largest youth-specific (15–25 years) mental health organization catering for a catchment area of approximately one million people (Purcell et al. 2011). By extending the Early Psychosis Prevention and Intervention Centre (EPPIC) model, Orygen delivers specialist EI care to a wider range of mental health problems (McGorry et al. 2013).

Orygen has four specialist clinics: The EPPIC treats young people with first episode psychosis. The Personal Assessment and Crisis Evaluation (PACE) clinic accepts young people who are at ultra-high risk of developing a psychotic disorder. The Youth Mood Clinic is for young people experiencing a range of non-psychotic disorders, such as major depression, and Helping Young People Early (HYPE) caters to youth with emerging borderline personality disorder (BPD). Each clinic offers a 2-year period of care with a range of specialized interventions, alongside a psychosocial recovery program to support social and vocational recovery (McGorry et al. 2013).

These specialized services sit at the interface between EI and prevention by offering *indicated prevention* programs. The HYPE clinic, for example, treats youths with three or more BPD symptoms (the clinical threshold is ≥ 5 symptoms) to intervene before the disorder becomes established and chronic (Chanen et al. 2009).

Developments in the UK

In line with UK mental health policy promoting prevention and EI (Department of Health 2011), two youth service models (Youthspace and the 0–25 service) have been developed in Birmingham. Birmingham is the second largest city in the UK with a population of 1.2 million. It is often characterized as Europe's 'youngest city,' and as such, it seems fitting that it is leading the way in youth mental health provision in the UK (Forward Thinking Birmingham 2015).

Youthspace was created by Birmingham and Solihull Mental Health Foundation Trust (BSMHFT) to initiate the development of youth-sensitive service provision for 16–25-year-olds (McGorry et al. 2013). The service was developed in extensive consultation with young people and using qualitative research on experiences of existing youth services (Lester et al. 2009). Youthspace aims to improve access for youth through the redesign of existing secondary healthcare provision. There are two main pathways to access services. At the primary level, *youth access teams* supply assessment and formulation to the referring general practitioner. The default treatment is brief (evidence-based) cognitive behavioral therapy, while medication is delivered by the general practitioner, in consultation with the teams' psychiatrist. Young people are seen in low-stigma locations of their choice, where they are additionally screened for emerging disorders. Those requiring intensive treatment will have access to specialized streams (e.g., EI for psychosis, eating disorder services) (McGorry et al. 2013).

Similar to Headspace, Youthspace promotes mental health awareness via school-based interventions and utilizes the Internet and social media to maximize engagement with young people. The core Web site (www.youthspace.me) provides young people with advice, education, individualized assessment, and some (e.g., cognitive behavioral) online therapies (McGorry et al. 2013).

In October 2015, *Forward Thinking Birmingham* launched the new 0–25 community mental health service for children, young people,

and young adults. In an innovative move, seamless services will span the 0–25-year-old age-group to bring an end to disjointed care provision and unsuccessful transitions from CAMHS to AMHS. The service is based around the five core principles of (1) prevention, (2) access, (3) choice, (4) integration, and (5) joined-up care. These services are very early in their development, and are now in the process of gradually transferring services and patients between providers (Forward Thinking Birmingham 2015).

Youth Mental Health Services in Low- and Middle-Income Countries

The youth-oriented services we have described so far are in HICs. While EI programs have been adopted in many countries, they are by no means ubiquitous. Fiorillo et al. (2015) surveyed 60 psychiatrists who were early in their career and associated with the World Psychiatric Association—to examine variations in EI services across countries. Of the 35 countries surveyed, EI services only existed in 22 countries (63 %), most frequently for the treatment of schizophrenia (75 %). Overall, there was a significant difference in the availability of EI services between high- and middle-income countries. EI services were available in 85 % of the high-income versus 33 % of the middle-income countries ($p < 0.01$). A breakdown of EI services according to mental disorder treated revealed an interesting pattern. EI services for substance-abuse disorder were actually more common in middle- than high-income countries (86 % vs. 39 %, $p < 0.05$). This reflects the mental health policy priorities of some middle-income countries, which have a high incidence of substance disorders (Dickson-Gómez 2012).

Training programs for EI in mental health disorders were only available in 38 % of countries, including Australia, Brazil, Canada, Cyprus, Croatia, France, Germany, Nigeria, Norway, Serbia, Switzerland, Turkey, and the UK. The authors concluded that EI services for mental health disorders are now relatively

widespread; however, training in EI is still far from satisfactory for psychiatrists early in their career and psychiatric trainees. While the Fiorillo study demonstrates that EI services are beginning to be disseminated throughout high- and some middle-income countries, low- or very-low-income countries were not included in the survey. It seems that EI services may remain somewhat of a chimera in low-income countries where the basic needs of the patient are not being satisfied (Fiorillo et al. 2015).

Until quite recently, the planning of mental health care in low- and lower-middle-income (LAMICs) countries was neglected. In 2002, only 7 % of countries around the world had a specific child and adolescent mental health policy (Shatkin and Belfer 2004). In 2005, the WHO launched the *Atlas Child and Adolescent Mental Health Resources Project* to document the status of service development, training, and policy for child and adolescent mental health worldwide. Sixty-six countries contributed to the survey, 46 of which were LAMICs. Overall, the authors concluded that there is a large gap in CAMHS worldwide, but particularly in LAMICs.

LAMICs face major barriers to youth mental health care including a shortage of mental health professionals generally and a lack of training in child mental health care specifically. As a result, this increases the likelihood that misidentification of mental health problems (e.g., as laziness or misplaced discipline problems) will perpetuate stigma (Rahman et al. 2000). The small number of youths in low-income countries, who do see psychiatrists, are too often lost to follow-up services. Thus, little is known about their outcomes because services are poorly organized (Omigbodun 2008). Inequalities in low-income countries are even greater for the poorest children, who are unable to gain access to services in urban or affluent areas (Saxena et al. 2011).

In 2011, Morris and colleagues reviewed the mental health services received by children and adolescents (17 years of age or younger) in 13 low-income countries, 24 lower-middle-income countries, and 5 upper-middle-income countries. The countries were selected based on criteria used by the World Bank on July 2007 to designate low-,

middle-, and upper-middle-income countries (Morris et al. 2011). There were 7 countries from Africa (5 low-income, 1 lower-middle-income, and 1 upper-middle-income). There were 8 countries from the Americas (5 lower-middle-income and 3 upper-middle-income). Seven countries came from the eastern Mediterranean (1 low-income and 6 lower-middle-income). Eight countries came from Europe (1 low-income, 6 lower-middle-income, and 1 upper-middle-income). Eight countries came from the South-east Asia (4 low-income, 4 lower-middle-income) and 4 from the Western Pacific (2 low-income, 2 lower-middle-income).

Each country completed the WHO Assessment Instrument for Mental Health Systems (WHO-AIMS), which has defined indicators of care to provide data on services actually rendered. The treated child and adolescent prevalence (i.e., sum of number of youth seen in mental health services over one year divided by the estimated total child population for the same period) over one year in low-income countries was 43 per 100,000. In lower-middle-income countries, the number of young people who received mental health services was 295 per 100,000. And, the number seen in higher-middle-income countries was 1432 per 100,000.

Treated youth prevalence figures were much lower than adult treated prevalence rates in low-income countries (290 per 100,000) and adults in lower-middle-income countries (612 per 100,000). On the contrary, in higher-middle-income countries, the rates for adolescents and adults were very similar in higher-middle-income countries (adults 1405 per 100,000; adolescents 1432 per 100,000).

This survey revealed a very low number of mental health services catering exclusively to children and adolescents in these countries. The median percentage of youth-only outpatient services was 3 %, while the mean percentage for other types of youth-only facility was 0 %. Training in child and adolescent mental health was also minimal. Across countries, less than 1 % of mental health professionals (e.g., psychiatrists, nurses, and psychologists) had

received a refresher course on child and adolescent mental health issues, though training was more common in higher-middle-income countries with a median of 8 % (Morris et al. 2011).

Thus, current evidence indicates that mental health services for children and adolescents are extremely rare in low- and (most) middle-income countries, greatly limiting access to care for these young people. This is particularly troublesome as the bulk of young people worldwide (up to 90 %) live in low- and middle-income countries (Barry et al. 2013).

Congruent with the WHO Mental Health Gap Action (mhGAP) program priorities, a ‘scaling up’ of youth mental health services is urgently needed to reduce the large burden of neuropsychiatric disorders in LAMICs (WHO 2008). As Morris et al. (2011) point out, the unprecedented financial resources that are being devoted to children and adolescents must now be used to promote sound and sustainable mental health programming.

Prevention: The Way Forward

As we have highlighted, half of the mental disorders start by age 15 and three-quarters by age 25. Furthermore, the first symptoms of mental illness typically appear two to four years before the full disorder is diagnosed. It is thus clear that prevention programs should take a developmental approach and target young populations (Beardslee et al. 2014).

Scientific evidence supporting the prevention of mental illness has grown over recent years. In 1994, the Institute of Medicine (IOM) published the first report describing models of prevention to encourage the implementation of effective primary prevention programs for mental disorders (Mrazek and Haggerty 1994). This report delineated three levels of prevention to target groups experiencing varying degrees of risk. First, *universal prevention* describes preventive interventions aimed at whole populations. Second, *selective intervention* targets youth at elevated risk of psychiatric problems (e.g., those exposed to family adversity). Finally, *indicated*

prevention supports those with early signs or symptoms of mental illness (as discussed in reference to the HYPE model in Melbourne).

Since the publication of the 1994 IOM report, about 400 randomized controlled prevention trials for mental, emotional, and behavioral disorders have been published and underpin the recommendations presented in the 2009 IOM report (O'Connell et al. 2009).

Reflective of developmental risk and protective factors, there are numerous opportunities for preventive interventions throughout individual development toward young adulthood (i.e., prenatal period, infancy, childhood, and adolescence) (Beardslee et al. 2014). Prior to adolescence, interventions that foster academic development and cultivate social and emotional skills may offer great promise (Greenberg et al. 2003). In adolescence, interventions that are targeted at preventing specific disorders, such as depression, become more appropriate (Barrera et al. 2007).

Systematic reviews incorporating studies from HICs indicate that school- or community-based mental health promotion interventions can lead to significant improvements in mental health, social functioning, academic performance, and health-related behaviors (Nores and Barnett 2010; Weare and Nind 2011). In their examination of 52 systematic reviews and meta-analyses, Weare and Nind (2011) highlighted several key factors for successful school interventions including teaching skills, a focus on positive mental health, starting early with young children, embedding work within a multimodal/whole school approach, liaising with parents, and coordinated work with outside agencies. Also, key to effectiveness was the complete and accurate implementation of the intervention.

Recent research indicates that mental health promotion interventions for young people can also be implemented effectively in LAMIC school and community settings. In a recent systematic review commissioned by the WHO, Barry et al. (2013) identified 22 studies across LAMICs, examining 20 different types of intervention (e.g., combined mental health and physical fitness promotion, cognitive behavioral

techniques, and peer support). Overall, school-based interventions had significant positive effects on students' emotional and behavioral well-being, including reduced depression and anxiety and improved coping skills. Similarly, community-based interventions utilizing a multicomponent approach had positive impacts on youth mental health and social well-being. However, as with other areas of youth mental health research, the majority of studies were implemented in upper- and lower-middle-income countries (18 out of 22), highlighting the paucity of evidence from low-income countries.

While prevention has the potential to impact on the incidence (i.e., new cases) and prevalence of mental disorders, its successful application requires a paradigm shift in mental health care (i.e., the prioritization of prevention to reduce suffering, create healthier families, and save money) (Beardslee et al. 2014). Approaches that begin early in childhood have greater chance of success, as they can sustain existing resilience and strengthen coping abilities (Barry et al. 2013).

Conclusions

Adolescence is a period of intense, profound, and unsettling change. Both brain and body are being transformed, as are emotional, cognitive, and social aspects of one's being. Young people have to leave the sheltered dependency of their parents or caretakers and seek adult roles, develop autonomy and independence, and embark on emotional and sexual intimacies and may need to move to their own accommodation. If they are receiving health care, they will need to move from a child to an adult-oriented system. It is thus a period of multiple transitions: developmental, situational, relational, and health care.

Adolescence and emerging adulthood are best conceptualized as a prolonged stage with different individuals having different developmental trajectories. Adolescence is also a high-risk period for psychological morbidity. Overall rates of mental health problems in young people increase

with age, problems become more complex, and the more serious disorders such as psychosis emerge. Adolescent mental health problems also predict problems in adulthood.

Despite the evident importance of meeting the mental health needs of this group, there are several gaps in current service provision and evidence base, low levels of investment in evaluation of existing services, and until recently a lack of political will and investment necessary to fill these gaps. The health sector represents a great opportunity for mental health promotion and prevention among adolescents. Recent advances in our understanding of the adolescent onset of adult mental health disorders, the robust evidence base for EI in psychosis heralding a paradigm shift in early and assertive management of all mental disorders; and, renewed effort at targeted and indicated prevention are all finally driving a much needed change in service structure and provision, especially in the developing world. Much more needs to be done, especially in the developing world where the bulk of youth live. But the long overdue and very welcome reform of youth mental services has started. Our youth deserve no less.

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