

**INTEGRATED MENTAL HEALTH SERVICES FOR THE DEVELOPMENTAL  
PERIOD (0 TO 25 YEARS)  
A critical review of the evidence**

On behalf of the Healthy London Partnership

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## ABSTRACT

**Background:** The developmental period from 0 to 25 years is a vulnerable time during which children and young people experience many psychosocial and neurobiological changes and an increased incidence of mental illness. New clinical services for children and young people aged 0 to 25 years may represent a radical transformation of mental health care.

**Method:** Critical, non-systematic review of the PubMed literature up to 3<sup>rd</sup> January 2018.

**Results:** *Rationale:* the youngest age group has an increased risk of developing mental disorders and 75% of mental disorders begin by the age of 24 and prodromal features may start even earlier. Most of the risk factors for mental disorders exert their role before the age of 25, profound maturational brain changes occur from mid-childhood through puberty to the mid-20s and mental disorders that persist in adulthood have poor long-term outcomes. The optimal window of opportunity to improve the outcomes of mental disorders is the prevention or early treatment in individuals aged 0 to 25 within a clinical staging model framework.

*Unmet needs:* children and young people face barriers to primary and secondary care access, delays in receiving appropriate treatments, poor engagement, cracks between child and adult mental health services, poor involvement in the design of mental health services and lack of evidence-based treatments.

*Evidence:* the most established paradigm for reforming youth mental services focuses on people aged 12-25 who experienced early stages of psychosis. Future advancements may include early stages of depression and bipolar disorders. Broader youth mental health services have been implemented worldwide, but no single example constitutes best practice. These services seem to improve access, symptomatic and functional outcomes, and satisfaction of children and young people aged 12-25. However, there are no robust controlled trials demonstrating their impact. Very limited evidence is available for integrated mental health services that focus on people aged 0-12.

### **Conclusions:**

Children and young people aged 12-25 need youth-friendly mental health services which are sensitive to their unique stage of clinical, neurobiological and psychosocial development. Early intervention for psychosis services may represent the starting platform to refine the next generation of integrated youth mental health services.

## **INTRODUCTION**

Currently, about a quarter of the world's population comprises young individuals (aged 10 to 24 years), the largest portion of this age group in history<sup>1,2</sup>. The present generation of young people faces more complex challenges to their health and overall development as compared to their parents<sup>3</sup>. For example, unprecedented global forces are shaping the health and wellbeing of the largest generation of children and young people alike in the history of humankind<sup>4</sup>. Population mobility, global communications, economic development, and the sustainability of ecosystems are setting the future course for this generation and, in effect, humankind<sup>4</sup>. Because of these changes, as noted by the World Health Organization, "mental health disorders account for nearly half of the disease burden in the world's adolescents and young adults"<sup>1</sup>. By 2020, mental disorders will be one of the five most common illnesses causing morbidity, mortality, and disability among youths<sup>5</sup>. Mental health problems are highly prevalent among young people, negatively impact on educational, occupational, and social functioning, quality of life, and are associated with significant financial and societal cost. This emphasises the need to identify effective treatment of mental health problems in children and young people<sup>6</sup>. In order to meet this objective, the No Health Without Mental Health report by the UK Government recognised that only a life course approach will allow for the successful attainment of future mental health goals and emphasised the importance for the early years<sup>7</sup>. Similarly, the Future in Mind report by NHS England highlights the pressing need (by 2020) for a wholesome approach, better access and support for front-line staff, adoption of innovative youth mental health approaches which depart from the current tier system split between Child and Adolescent Mental Health Services (CAMHS) and Adult Mental Health Services (AMHS)<sup>8</sup>. This vision was further reinforced by the Five Year Forward View for Mental Health, which has set the key priorities for 2020/2021<sup>9</sup>. These included the urgent need for parity of esteem between physical and mental health services, the need for more children and young people to access evidence-based mental health care interventions, and the need of training staff in children and young people mental health interventions<sup>9</sup>. In order to help achieve the following objectives, robust evidence-based data are needed not only with the involvement of local and national leadership but also through an impetus on multidisciplinary teams working across all sectors. This has begun with NHS England's local transformation plans incorporating local partners across the NHS, public health, social care, and youth justice and education sectors in

order to improve child and adolescent mental health<sup>10</sup>. The forthcoming NHS England Long Term Plan for Mental Health is expected to strongly focus on the mental health of children and young people aged 0 to 25 years, with the aim of reducing the number of young people who experience severe mental illness. A core transformative component will be the development of a new model of care for children and young people aged 0-25 to improve the experience of care, outcomes and continuity of care. In preparation for this objective, Healthy London Partnership is working alongside the London Children and Young People Health Transformation Board and the Mental Health Transformation Board to consider the opportunities and challenges this would accompany. Against this backdrop, the current report provides an initial critical review of the literature to establish mental health services targeting the developmental period. This period includes individuals aged 0 to 25 years and encompassing the following phases: the perinatal period (from 22 completed weeks of gestation to 7 completed days after birth, WHO); infancy (first year of life), childhood (1-10 years); adolescence (the period of time between the onset of puberty and the cessation of physical growth, usually between 10 and 19 years<sup>11</sup>); and young adulthood (distinct from adolescence on a concept of attainment of mental and physical capacity defined from 19 to 25 years)<sup>12</sup>. The core aim of this study is to critically review the rationale, unmet needs and evidence for developing integrated mental health services for people aged 0 to 25.

## **METHOD**

A critical review of the PubMed literature was undertaken up to 3<sup>rd</sup> January 2018. The articles included in this review were not selected on a systematic basis, and there is no assumption that the evidence reviewed is exhaustive. The articles were subsequently used in order to address three core subdomains which are essential to inform the development of mental health services for those belonging to the 0-25 age group: scientific rationale, unmet needs in children and young adults and evidence for integrated mental health services for people aged 0 to 25.

## **SCIENTIFIC RATIONALE FOR INTEGRATED MENTAL HEALTH SERVICES FOR PEOPLE AGED 0 TO 25**

This section will review the core evidence which builds the rationale for establishing mental health services for people aged 0 to 25.

### *Prevalence of mental disorder across ages*

Epidemiological studies based on the WHO World Mental Health Survey suggest that nearly half of the population (at least in the US) will experience a DSM-defined mental health disorder during their lifetime. There is a monotonic increase in prevalence across all mental disorders from the youngest (18-29 years) to a higher (30-44 years) age group, before a decline in the older age group (exception for substance use disorders and bipolar mood disorders). These studies also pointed out that prevalence is always lowest, sometimes substantially so, in the oldest age group (>60 years), thereby suggesting that the youngest age group have an increased risk of developing mental disorders.

### *Age of onset of mental disorders*

There is established evidence indicating that the vast majority of mental disorders have onset in childhood, adolescence, or young adulthood (Figure 1). Half (50%) of these disorders (as illustrated by the 50<sup>th</sup> percentile or median in Table 1) begin by the age of 14 (Table 1) and 75% by the age of 24, with later onsets mostly attributed to comorbid conditions<sup>13</sup>. In addition, over 80% of those suffering from mental health disorder at the age of 26 had a prior diagnosis of any mental illness since the age of 11; in totality, 74% had received a diagnosis before attaining 18 years of age and 50% before 15 years of age<sup>12</sup>. The median onset age tends to be earlier for anxiety disorders (age 11), some of which begin and end in childhood, and for impulse control disorders (age 11) as compared to substance use disorders (age 20 years) and mood disorders (age 30, Table 1)<sup>13</sup>. Correspondingly, 80% of all lifetime attention deficit hyperactivity disorders begin in the age range 4–11, whereas the vast majority of oppositional defiant disorders and conduct disorder begins in the age range of 5-15<sup>14</sup>. Half of all lifetime intermittent explosive disorders begin in childhood or adolescence. Similarly, the median age of the onset of depressive disorders typically lies in the early to mid-20s, although significant proportions of depressive cases have also been known to commence during adulthood and late adulthood<sup>15</sup>. With respect to psychotic disorders, despite being relatively rare before the age of 14<sup>14</sup>; their risk peaks in the age group of 15-35 and declines after the age of 35<sup>16</sup>. Notably, the aforementioned studies define the onset of a disorder as the onset of features that form part of the disorder and that are contiguous with its first expression<sup>12</sup>. Therefore, this figure is

even more dramatic when attenuated and mild symptoms characterising clinical risk syndromes as opposed to established mental disorders are considered (see below). In fact, the age of onset of putative prodromal symptoms is generally even sooner than that of the onset of established mental disorders<sup>17</sup>.

### *Developmental pathophysiology of mental disorders*

The model to have received the strongest empirical support for elucidating the pathophysiology of mental disorders involves direct genetic and environmental effects, along with their interaction. For example, as illustrated in Figure 2, the diagnosis of schizophrenia, which operationally corresponds to the first episode of psychosis, is usually made in young adults but can (albeit rarely) also occur in childhood, adolescence or later in life. Generally, diagnosis follows an at risk phase in which sub-threshold psychotic symptoms, as well as functional impairment and help-seeking behaviour, are apparent. Following the first full-blown episode, schizophrenia follows a fluctuating course that is punctuated by acute exacerbation of psychotic crises superimposed upon a background of poorly controlled negative, neurocognitive and social cognitive symptoms. Approximately 10–15% of patients recover after their first episode, with a similar proportion exhibiting a more severe and unremitting form of the disorder. In addition to genetic inheritance, many environmental risk factors have been incriminated during both the perinatal (first wave) period and adolescence (second wave). As depicted in Figure 2, most of these factors exert their role before the age of 25 years. During this period, genetic and environmental effects act, at least partially, through the epigenetic misprogramming of neurodevelopment (see below).

### *Neurobiological changes during the developmental period*

Neurobiological research demonstrates that what happens to the human brain during the developmental period mirrors this tide of risk factors and incident mental health disorder among youths<sup>12</sup>. The pathophysiology of mental disorders is being increasingly understood to stem from aberrations of maturational changes that normally occur in the developing brain from the time of birth. Notably, these maturational changes are known to affect brain structure, brain activity, pruning and myelination processes, neural connectivity and neurochemistry<sup>18</sup>. Development of the neonatal brain from its ectodermal origins is a dramatic achievement of nature. Complex and predicated on a variety of processes such as the establishment of

connectivity and programmed cell death, followed by rapid development of basic cabling through myelination during the first year, this epoch ushers in some classical neurodevelopmental disorders and learning delays<sup>12</sup>. It takes as long as three decades to grow a mature human brain; much further development takes place during this period<sup>12</sup>. Meanwhile, the period from mid-childhood through puberty to the mid-20s is another phase of profound neurobiological and behavioural change, particularly in the balance of connectivity between brain areas<sup>12</sup>. These maturational changes are usually beneficial and optimise the brain for the challenges ahead, but may also confer a vulnerability to certain types of psychopathology<sup>18</sup>. In fact, it is during this period that the risk of adult mental health disorders becomes apparent. In addition, this maturation gap may present a window of vulnerability, during which different brain mechanisms and systems are not yet fully coordinated<sup>12</sup>.

The relationship between maturational changes and emerging psychopathology can be conceptualised as “moving parts get broken”<sup>18</sup>, but this relationship is not a unitary concept; instead, it is specific to each type of mental disorder. For example, the course to and the progression of psychosis illustrated in Figure 3 matches the effects of risk factors for psychosis depicted in Figure 2 and can be related to three fundamental phases in the ‘life’ of the brain. Despite being depicted sequentially, these three phases are interlinked, and there is no absolute demarcation. Additionally, each phase is anomalous in psychosis, with the disruption of brain formation and reorganisation phases implicated in causal pathophysiology. These two phases, as along with brain ‘upkeep’, embrace a range of processes that could be potentially targeted for therapeutic intervention. Similar neurodevelopmental models have been postulated for other mental disorders, including depression<sup>19</sup>.

Overall, neurobiological research clearly indicates that the brain’s developmental period represents the most important window of opportunities to impact the development of the brain and, as such, improve the outcomes of mental disorders. From the perspective of the brain development, mental health services clearly necessitate re-engineering to provide an appropriately seamless and developmentally sensitive approach to individuals during the two-decade journey from puberty to adulthood<sup>12</sup>.

*The course of mental disorders*

It seems that from the perspective of developmental pathophysiology and brain changes during the development and delays to initial treatment, it should not be surprising that most adult mental health disorders have their genesis in childhood, adolescence, or young adulthood. We may then ask what the longitudinal outcomes of these disorders are. While some incident disorders will resolve, it is apparent that many do persist, resulting in lifelong disability and imposing a heavy cost burden on society and the individual<sup>12</sup>. The majority of mental health disorders associated with personal burden that manifest at the age of 26 should be considered as extensions of adolescent disorders<sup>16</sup>. Furthermore, although the onset of the disorder at a very young age is typically associated with a good response to treatment<sup>12</sup>, these disorders accrue additional co-morbidity once they persist into adulthood, especially if left untreated. Thus, their response to treatment becomes poorer in the later stages. For example, once psychotic disorders develop and become chronic, there are only limited treatment possibilities to improve their outcomes<sup>20</sup> (refer to the clinical staging model below). Overall, these findings suggest that it is critical to direct efforts on early identification and intervention targeting the developmental period, which represents the most important window of opportunity to reduce the burdens and poor consequences of mental disorders. As illustrated in Figure 3, the most compelling 'window of opportunity' to improve the outcomes of psychotic disorders is around the first episode of the disorder, to impede onset or block early progression<sup>21</sup>. According to these findings, the eradication of mental disorders presenting during the developmental period, through interventions aimed at prevention or early treatment in youths, would have a profound impact on reducing subsequent morbidity and chronicity<sup>13</sup>.

### *Clinical staging of mental disorders*

Overall, the robust findings from modern epidemiology (prevalence and age of onset of mental disorders), their consilience with the emerging pathophysiology, neurobiology and course of the developmental period should be a clarion call for preventive and early intervention. Notably, the clinical staging model of mental disorders accommodates all these features to pragmatically facilitate preventive treatments and early interventions for youths. This clinical staging model was first proposed in psychiatry twenty-five years ago (in 1993)<sup>22</sup>, before being subsequently adapted for psychotic disorders<sup>23</sup> (in 1996) to overcome the limitations of the standard



ICD or DSM diagnostic systems. Clinical staging was put forward as a “simply a more refined form of diagnosis” entailing two key fundamental assumptions: patients in the early stages of an illness exhibit a better response to treatment and prognosis; and the treatments offered during the early stages are more benign and effective<sup>23</sup>. In the realm of psychiatry, the key advantages of the clinical staging model are to accommodate the aforementioned developmental findings, facilitate prevention strategies for the progression to more advanced stages or the regression to an earlier stage and support better clinicopathological research<sup>23</sup>.

For example, after about two decades of research into the clinical staging model in psychosis, its definition and impact have recently been reviewed<sup>20</sup>. As summarised in Figure 4, the stage 0 may allow primary selective prevention in asymptomatic subgroups. Meanwhile, the stage 1 would allow primary selected prevention in individuals who are at clinical high risk for psychosis (i.e. those with negative and cognitive deficits -stage 1a-, with attenuated psychotic symptoms -stage 1b-, or with short-lived psychotic episodes -stage 1c)<sup>20</sup>. At the time of the first episode of psychosis (stage 2), early intervention and secondary prevention strategies can minimise the duration of untreated psychosis, improve treatment response and adherence, reduce illicit substance abuse and prevent relapses<sup>20</sup>. Meanwhile at the time of an incomplete recovery (stage 3, which includes single relapses -stage 3a-, multiple relapses -stage 3b- and incomplete recovery -stage 3c-), early intervention and tertiary prevention strategies can improve treatment resistance wellbeing and social skills, lower the burden on the family, facilitate treatment outcomes of comorbid substance use, and prevent multiple relapses and disease progression<sup>20</sup>. During the chronicity stage -stage 4-, the key treatment focus on maintenance treatment<sup>20</sup>. Similar clinical staging models are also emerging for other mental disorders, such as bipolar disorders<sup>24</sup> or depressive disorders<sup>25</sup>.

*In summation, the rationale for establishing mental health services for people aged 0 to 25 is premised on the following compelling pieces of evidence:*

- the youngest age group has an increased risk of developing mental disorders;
- 75% of mental disorders begin by the age of 24;
- putative prodromal features that precede mental disorders start even earlier;
- most of the risk factors for mental disorders exert their role before the age of 25;

- profound maturational brain changes occur from mid-childhood through puberty to the mid-20s;
- mental disorders can persist in adulthood with poor long-term outcomes;
- the most optimal window of opportunity to improve the outcomes of mental disorders is during the developmental period;
- prevention or early treatment in individuals aged 0 to 25 may eradicate, or at least improve the outcome of mental disorders during adulthood;
- the clinical staging model leverages the aforementioned points to allow early detection and intervention for young people with emerging mental disorders.

## **UNMET MENTAL HEALTH NEEDS IN CHILDREN AND ADOLESCENTS**

This section will review to what extent current mental health services meet the scientific rationale detailed above in order to improve the mental health of individuals aged 0 to 25.

### *Barriers to access*

Although 75% of mental illnesses tend to emerge before the age of 25, and young people bear the major burden for those disorders, the paradox is that young individuals aged up to the age of 25 have had the worst levels of access to mental health care across the entire lifespan<sup>26</sup>. Therefore, there is a clear gap between the prevalence of mental disorders in children and adolescents and treatment rates, with only 25–35% of the affected children and adolescents accessing treatment<sup>6</sup>. As a matter of fact, children and young people find it difficult to access mental health services<sup>8</sup>. The current tier system for CAMHS is rigid and requires children and young people to fit into the services as opposed to services responding to the needs, and some fall through the gaps<sup>27</sup>. Conversely, in an increasingly modernised and digital world, innovative options are required in order to encourage and retain engagement with children and young people alike by involving them in patient participation groups, communicating practice news over social media, and augmenting the use of digital technology as a means to connect with their population. Not surprisingly, a recent review demonstrated that adolescents and young adults hold uninformed and stigmatising beliefs about mental health treatments, mental health professionals, and access to care<sup>28</sup> which substantially curtails their ability to seek help when they need it the most.

### *Delays to initial treatment*

Analysis of service contact data from epidemiological studies conveys a dismal tale of failure, delay and lost opportunities<sup>29,30</sup>. The vast majority of youth people presenting with lifetime disorders eventually made contact with health services, albeit more commonly for mood disorders than for anxiety, impulse control or substance use disorders<sup>12</sup>. Delay to treatments among those who eventually did make contact ranged from 6 to 8 years for mood disorders; in this regard, a recent meta-analysis found a six-year meta-analytical delay between the onset of bipolar disorder and the commencement of its management<sup>31</sup>. Delay to the initiation of treatment ranges from 9-23 years for anxiety disorders<sup>12</sup>. Failure to make an initial treatment contact and delay among those who did eventually make treatment contact were both associated with early age at the onset, or sociodemographic characteristics including being male, poorly educated and from a Black/minority ethnic group<sup>12</sup>.

### *Poor engagement with mental health services*

As noted in the two aforementioned sections, children and young people find it difficult to access mental health services. When they do gain access to them, they experience consistent delays in receiving appropriate care. The situation is exacerbated by the fact that the retention rate for those who are eventually offered some treatment remains poor. According to a meta-analysis, a large proportion (up to 75%) of the treatments in children and young people leads to premature termination (dropout)<sup>32</sup>. Both ethnic minority status and socioeconomic status have been established as the risk factors for dropping out<sup>33</sup> and males are at particular high risk of disengagement<sup>34</sup>.

### *Barriers to primary care*

Primary care general practitioners play a fundamental 'gatekeeper' role to specialist mental health services for children and young people<sup>6,35</sup>. Typically, the average British child sees their general practitioner at least once a year<sup>6</sup>. Children and adolescents presenting to their general practitioners are twice as likely to develop a mental health problem<sup>27</sup>. A survey comprising of 302 general practitioners, which was conducted in 2016, reported that 78% of general practitioners are seeing more children and adolescents with mental illness and 61% are seeing more self-harming young people than five years ago<sup>27</sup>. However, primary care practitioners encounter difficulties in both

the identification and management of mental health problems<sup>6</sup>. For example, children and young people manifest symptoms of mental disorders differently from adults; may frequently present with physical symptoms or may not be as forthcoming with their issues<sup>6</sup>. Waiting times also tend to be longer, and 89% of general practitioners express concerns over exposing children and young people to risk whilst waiting for inputs from a specialist<sup>27</sup>. These problems are further exacerbated by the fact that consultation time in primary care is typically short. For example, in the UK patients discuss their mental health problems with a primary care practitioner for an average of only nine minutes per consultation<sup>6,36</sup>. Primary care practitioners also face challenges after having identified the presence of a mental health problem. In fact, only a minority of children and young people are eventually able to access specialist mental health services<sup>6,37</sup>, typically those belonging to a majority ethnicity, with a higher parental perceived burden or greater symptom severity<sup>6</sup>. Furthermore, those who do get referred onwards are often subject to significant delays in receiving specialist help, as observed above. A recent systematic review concluded that the paucity of specialist service providers for youths was the most highly endorsed barrier by primary care practitioners<sup>6</sup>.

### *Falling through the cracks*

Traditional mental health services have evolved without the knowledge that psychopathology and brain maturation observes no transition between adolescence and early adulthood, in line with the clinical staging model<sup>12</sup>. Thus, access to mental health services has been driven by a historical a paediatric–adult bifurcation where CAMHS are typically cut-off at 18 years of age (the transitional period)<sup>26</sup> during a phase when young individuals are most vulnerable to mental ill-health impacts and are at highest risk for a decline in service utilisation<sup>2</sup>. Indeed, only a minority of young people below the age of 18 can access these limited specialised services<sup>26</sup>. At the same time, AMHS are unable to cater to the needs of youth with emerging mental illness<sup>26</sup>. These services are developmentally inappropriate for young people because they predominantly focus on older patients with severe and persistent mental disorders, thereby neglecting young adults presenting with less severe problems<sup>26</sup>. Young people with emerging mental illness or at-risk syndromes (see below) typically lack sufficient symptom specificity and severity to meet adult-type diagnostic criteria, which further limits their eligibility for AMHS. Furthermore, an absence of clear linkage

or pathway is often noted between CAMHS and AMHS. There are also inconsistencies in service delivery and practice standards for maintaining continuity of care during the transitional period from the CAMHS to AMHS, with many youths falling through the cracks<sup>38</sup>. The expectation that children, adolescents and their families can easily navigate the transition from CAMHS to AMHS with all its concomitant complexities without embedded supports and coordination of care paths is poorly informed<sup>2</sup>. Research-based evidence from Australia, Canada, the United Kingdom, and the United States have confirmed high difficulties in providing coordinated/integrated services for youth during the transitional period<sup>38</sup>. Often, the transition is characterised by complexity as it typically coincides with the highest risk for the onset of serious mental health disorders that require an array of community and vocational services in order to address the diverse needs of youth<sup>38</sup>. Continuity of care for transition-aged youth requiring mental health services has been identified as a top priority for many governments and institutions around the world. The organisation and functioning of these health services are innately complex and may vary by geography, governance, forms of delivery, financing, and service type. Within this complexity, an important element is the subjective experience of youths during the transitional period. Young individuals experience a dramatic culture shift between CAMHS and AMHS. Similarly, their carers may feel invisible and often in distress, with several of them reporting mental health problems arising from their experience of caring<sup>9</sup>. At the same time, children and young people and their carers express valuable perspectives to guide the design of mental health services. Therefore, it seems imperative to incorporate the perspectives of young individuals into transitional service improvement<sup>39</sup>. A final caveat is the separation of training and resulting differing approaches to diagnosis and treatment for CAMHS as well as AMHS clinicians, which may further amplify the cultural divide among the specialities, also promulgating a silo approach to care<sup>40</sup>. Collectively, the above system weaknesses create a barrier to children and young people receiving mental healthcare, resulting in missed opportunities for timely intervention.

*To summarise, children and young people are currently encountering substantial unmet needs due to the following reasons:*

- Barriers to access;
- Delays in receiving appropriate treatments;

- Poor engagement with mental health services
- Up to 75% treatments leading to premature termination;
- Limitations to the gatekeeper role of primary care;
- Cracks between CAMHS and AMHS;
- Poor involvement in the design of mental health services;
- Lack of incorporation of scientific evidence into clinical care (clinical staging and early intervention during the developmental period).

## **EVIDENCE FOR MENTAL HEALTH SERVICES FOR PEOPLE AGED 0 TO 25**

This section will review different models of care and configurations of mental health services along with their impact on the unmet needs of those aged 0 to 25. More specifically, we define a 'model of care' as an integrated youth-specific, stigma-free early intervention service that is developmentally appropriate. The endeavour is to improve service access, enhance patient outcomes and span the most vulnerable years for mental illness onset, thereby obviating the need for a transition from CAMHS to AMHS services during the precise period when mental illness peaks<sup>26</sup>. This ideally implies the creation of a youth mental health model of care that overlaps and interacts with, but is distinct from, systems for children and younger adults.

### **High order principles governing the development of youth-friendly health services**

High order principles for establishing youth-friendly health services have been published. These include the following; addressing inequities (including gender inequities) and easing the respect, protection, and fulfilment of human rights, as stipulated in internationally agreed human rights agreements such as the Millennium Development Goals and the UN Convention on the Rights of the Child (which also supports the more specific characteristics of youth-friendly services, such as youth participation and confidentiality). Importantly, the characteristics of youth-friendly health services have been presented in a framework which is used by the WHO to guide programme development (Box 1).

The different types of health services that attempt to reach young people can be categorised into six groups. The first type is the centre specialising in adolescent health set in a hospital, while the second type is a community-based health facility. The third type of service is school-based or college-based health services and centres

linked with schools or colleges. The fourth type is a community-based centre that not merely serves as a health facility, but also provides other services. The fifth type of health services includes pharmacies and shops which sell health products but do not provide health services. The final group consists of outreach information and service provision. The point of contact is in places where young people congregate, work or in schools<sup>3</sup>. Most of these principles and configurations have been utilised and adapted in order to inform the development of youth-friendly mental health services.

### *Primary indicated prevention of psychosis in those at Clinical High Risk*

The building blocks for reforming youth mental services began with the management of young people who experienced early stages of psychosis<sup>20</sup>. This model of care has been unequivocally successful in the UK as well as worldwide. It entails the primary indicated prevention of psychotic disorders in individuals at clinical high risk for psychosis – such as those meeting the At Risk Mental State criteria<sup>41</sup> - and early treatment of individuals presenting with a first episode of psychosis<sup>20</sup>. Individuals who are at clinical high risk for psychosis are detected and evaluated with established psychometric tools that have been validated in the 8-40 age group, although the most frequent age range for this population, at least in the UK, is 14 to 35<sup>17</sup>. Individuals at clinical high risk for psychosis display subtle symptoms and overall functional impairment<sup>42</sup>. These problems impel them to seek help at specialised clinics<sup>43</sup>. One of the largest and oldest of these clinics is the Outreach and Support In South-London (OASIS) clinic, at the Maudsley NHS Foundation Trust<sup>43</sup>. Box 2 illustrates the clinical care provided at the OASIS, which crucially involves the development of extensive collaborations between AMHS and CAMHS. Individuals who are at clinical high risk of psychosis have 20% probability of developing emerging psychotic disorders (but not other non-psychotic disorders<sup>44,45</sup>) over a relatively short period of two years<sup>46</sup>. While primary indicated prevention in individuals at clinical high risk has the unique potential to alter the course of psychosis and reduce the duration of untreated psychosis, secondary prevention in these individuals can ameliorate the severity of the first-episode of psychosis<sup>20,47</sup>. Furthermore, tertiary prevention of relapses or other adverse clinical outcomes/ behaviours in patients experiencing a first episode of psychosis can improve their long-term outcomes<sup>48-50</sup>.

The impact of primary indicated prevention in patients aged 14-35 who are at clinical risk for psychosis has been so relevant that NHS England implemented a new Access and Waiting Times-Standard for Early Intervention in psychosis (AWT EI Standard) in April 2016 to extend the prevention of psychosis across England. The Standard mandates an evidence-based nationwide detection and rapid treatment of patients at clinical high risk for psychosis aged 14-35. Therefore, the NHS requires all suspected patients presenting to early intervention services in England to be assessed and interviewed for a potential state of clinical high risk for psychosis<sup>51</sup>. Early intervention services have grown to about 150 serving about 1,000 people per month in England, and they are far more developed as compared to the rest of Europe. Early intervention services for people experiencing a first episode of the disorder are universal in England and are also available in other parts of the UK. While there are some stand-alone clinical high risk services in the major cities, assessment and treatment of clinical high risk patients are confined to the remit of first episode services in the absence of a dedicated clinical high risk team. The major cities in England will witness clinical high risk and first episode of psychosis services. Furthermore, several academic sites with diverse and complementary skills are conducting extensive research on clinical high risk patients in the UK. For example, a new National Institute of Health Research-Mental Health Translational Research Centre (NIHR-MH TRC) has recently been established to facilitate clinical research in the UK. The NIHR-MH TRC includes a specific workstream on Early Psychosis, which will facilitate the early detection and intervention in individuals aged 15-35 who may be at risk of psychosis or experiencing a first episode of psychosis. Therefore, the UK has unparalleled central resources for early detection and treatment of individuals who are experiencing emerging serious mental disorders throughout the developmental period. This could serve as an ideal platform to further refine the development of youth mental health services for those aged 0 to 25. For example, the UK early intervention for psychosis platform could be broadened to incorporate early detection and intervention approaches for depression in young people aged 12–25 years old<sup>52</sup>. In fact, when early interventions for depression are restricted exclusively to children and adolescents, they will miss much of the early symptoms of depression because the age of onset of this disorder – as reviewed above – overlaps with young adulthood<sup>52</sup>. As such, continuing care is curtailed by the upper boundary of age eligibility. In addition to reducing the impact of depression, the provision of indicated primary prevention for depression is also known



to ameliorate access to care<sup>52</sup>. The UK early intervention for psychosis platform could additionally include early intervention in bipolar disorder, which is gaining momentum<sup>53</sup>. New psychometric instruments have been developed in order to identify young people aged 14-35 who may be at risk of developing bipolar disorders<sup>54</sup> and preventive treatments are under development.

#### *One-stop early intervention services: Headspace*

Some integrated models of care have already leveraged the early psychosis field to broaden their horizons and target the wide mental health of children and young adults. In 2006, following a campaign that was led by leaders in mental health, the early intervention model for psychosis was then expanded to include other diagnoses (e.g., mood, eating, substance use and personality disorders). This was achieved through the creation of Headspace in Australia (<https://headspace.org.au>)<sup>26</sup>. Headspace is a government-funded programme that provides youth-friendly, stigma-free early intervention services in a 'one-stop shop' location to 12–25 years olds who present with emerging mental disorders<sup>26</sup>. The headspace model of care is multidisciplinary, integrated, delivered in a single setting that constitutes a soft entry point to mental health care. The headspace model is centred on the needs of young people along with their families<sup>55</sup>. Establishing the headspace model required the creation of brand new mental health services to encompass four key domains: mental health, physical health, drug and alcohol interventions and educational support<sup>26</sup>. As indicated above, youth engagement is a central pillar of this model of care and contributes to creating a non-stigmatising environment. This is done by ensuring that headspace services are provided within a setting that is accessible, non-judgemental and youth-friendly<sup>26</sup>. Figure 5 summarises the essential clinical components of Headspace. The success of headspace is evidenced by the fact that it has grown from 10 centres to over 110 in 2018<sup>26</sup>. These centres are accessed by about 100,000 young people each year, and an additional 30,000 young people are accessing its online service platform, eHeadspace<sup>26</sup>. Under the most recent evaluation, the authors report that Headspace was found to be accessible to a range of young people with high levels of psychological distress<sup>26</sup>. Importantly these people included vulnerable groups<sup>26</sup>. Headspace was also found to be effective in reducing suicidal ideation and self-harm, as well as in reducing the number of absent school or work days<sup>26</sup>.

### *Other youth mental health services*

The youth mental health reform initiated in Australia has permeated to other areas of the world, with the UK, Ireland, Canada, USA, Europe and Asia adopting different, culturally appropriate models<sup>55,56</sup>. Some examples are given below and a systematic list of integrated services for young people (aged 10–30 years) along with their characteristics (year of set up, number of services, age range, targeted issues, position in care system and number of young people accessing the service) is depicted in Table 2.

#### Ireland

The youth mental health reform in Ireland led to the development of the Jigsaw model of care that operates in 10 communities (<https://www.jigsaw.ie>). This model was derived from Headspace and similarly focuses on young people aged 12-25. Initial evidence has indicated that it has proven to be an accessible and effective community-based mental health service.

#### UK

In the UK, the creation of Youthspace (<http://www.youthspace.me>), a youth-based mental health service in Birmingham, has resulted in the commissioning of an integrated care pathway: Forward Thinking Birmingham (<https://www.forwardthinkingbirmingham.org.uk>). These children and young people mental health partnership offers integrated working, prioritising both individual choice and access through drop-in clinics. Forward Thinking Birmingham is different from other models in that it targets those in the age group of 0 to 25. Furthermore, it is also focused on promulgating good mental health, resilience and emotional wellbeing through the provision of information, training and consultation. This will be achieved through the voluntary community sector, family support and providing information in a wide range of media in order to reach the population of Birmingham. However, no published evidence exists as of now on the impact of this model of care.

Other approaches in the UK have attempted to improve the quality of mental health services for children and young people in primary care or in CAHMS.

The Well Centre model ([www.thewellcentre.org](http://www.thewellcentre.org)) houses youth workers, counsellors, as well as general practitioners utilising a multidisciplinary theme. Primary care

necessitates an integrated/collaborative approach between general practitioner surgeries, secondary care, educational institutes, third-sector organisations, justice systems, and social services in order to provide holistic care in family oriented, evidence-based, and culturally sound youth mental health.

The THRIVE model (<http://www.implementingthrive.org/about-us/the-thrive-framework/>) was developed by a collaboration of the Anna Freud National Centre for Children and Families and the Tavistock and Portman NHS Foundation Trust. This model is an integrated, person-centred and needs-led approach to delivering mental health services for children, young people, and their families. Emphasis is placed on the prevention and promotion of mental health/wellbeing. Children, young people and their families are empowered via active involvement in decisions about their care through a system of shared decision making<sup>57</sup>. Initial evidence suggests that the THRIVE approach can improve the mental health of both children and young people.

## Canada

Canada is joining the global movement to improve the quality of mental health services for youth through consolidated efforts from the Mental Health Commission of Canada, such as the framework developed for child and youth mental health services, and several regional service (e.g., YouthCan Impact in Ontario; Foundry in British Columbia) interventions. More recently, specific investment has been made in the domain of service transformation research and evaluation, as exemplified in the ACCESS project ([www.accessopenminds.ca](http://www.accessopenminds.ca)) for individuals aged 12-25<sup>58</sup>. Interestingly, the ACCESS project underpins the fact that any single model of service transformation for children and young adults is unlikely to be feasibly implemented across the geographic, political, and cultural diversity of this country. Therefore, the only way to overcome such impediments is to pilot test variations of a model of transformation adapted to contextual realities of such diversity before scaling it up or implementing a service format that has been imported from another country<sup>58</sup>. The approach of ACCESS incorporates four domains of promotion, prevention, intervention, and on-going care, and research and evaluation. ACCESS differs from Headspace because it does not propose the establishment of a new system of care. Instead, it suggests the creation of a truly transformed system of youth mental health care embedded within the existing larger system. The essential principles of this transformation need to be premised on addressing the lacunae that are hindering

access to timely and adequate/appropriate services for young people (12-25 years old) presenting with the entire range of mental health problems, as reviewed above<sup>58</sup>.

### *Outcomes*

A recent systematic review uncovered 43 evaluation reports investigating at least one aspect of an outcome of interest for integrated mental health services for children and young people:

- Access: most integrated services report attracting young people in the mid to older adolescent age range and traditionally under-served populations, including minorities. Levels of distress of young people accessing the services are defined and described variably across these evaluation reports. Presenting problems are generally related to mental health and psychosocial difficulties, with fewer presentations for physical health, educational, and vocational problems. Individual counselling is the most commonly described intervention following access to these services<sup>59</sup>.
- Symptomatic and functional outcomes; clinical outcomes are reported for seven out of 43 reports only<sup>59</sup> and mostly in pre-post study designs. In the Your Choice service study (Table 2), young people experienced significant reductions in symptoms and substance use as well as improvements in functioning<sup>59</sup>. In the Youth One Stop Shop service (Table 2), 58% of young people who presented with some difficulties experienced improvements in the short term. According to an evaluation of the Jigsaw service (Table 2), 62% of 17–25-year-olds showed improvements in wellbeing and functioning. A study by Youthspace (Table 2) found that 58% of young people experienced an improvement in mental health and wellbeing. Comparative studies, such as the most recent evaluation of Headspace, found some promising results. For example, just over 20% of young people experienced a clinically significant or reliable reduction in distress that was greater than a compared external group of young people who had not received any treatment<sup>59</sup>. However, the effect size was observed to be quite small ( $d = -0.11$ )<sup>59</sup>. The results are overwhelmingly positive when a survey design is used in the evaluation.

- Satisfaction, acceptability and appropriateness<sup>59</sup>. When measured, high levels of satisfaction are generally reported. A recurring finding is that young people find (and appreciate) that services are accessible, acceptable and appropriate:
  - having a convenient location (access to public transport was noted as being useful);
  - being youth-friendly (staff and environment) and welcoming;
  - being staffed by young people;
  - having appointments made in a timely manner;
  - being low cost;
  - maintaining confidentiality and privacy;
  - having several integrated services available in one place, with non-mental health-related signage;
  - delivering safe and appropriate interventions within a positive and strengths-based framework<sup>56</sup>.

*To summarise, the evidence for mental health services for people aged 0 to 25 indicates that:*

- High order (WHO) principles governing the development of youth-friendly health services are available;
- The building blocks for reforming youth mental services began with the early intervention for psychosis in adolescents and young adults;
- The UK has unparalleled central resources for early detection and treatment of individuals aged 14-35 who are experiencing emerging serious mental disorders;
- Early interventions in bipolar, depressive and other mental disorders may be feasible;
- The youth mental health reform initiated in Australia has permeated to other areas of the world, with the UK, Ireland, Canada, USA, Europe and Asia;
- There are different models of care spanning the establishment of a new system of care (Headspace) or the transformation of the care system (ACCESS);
- One-stop youth-friendly mental health services can improve access, symptomatic and functional outcomes and satisfaction of the service users;
- The integration of physical and mental health in youths can have synergic benefits;
- Integrated mental health services mostly focused on adolescents and young adults (12-25).

## **CHALLENGES**

Despite the converging evidence that supported the need for integrated mental health services for children and young people in the developmental period, some challenges do exist. First, despite considerable efforts to develop holistic services and programmes for youth to adult transitions in mental health areas, and even after almost

two decades of youth mental health research, there continues to be a lack of standards and models of care guiding research, service planning and delivery for children and adolescents transitioning from CAMHS to AMHS<sup>38</sup>. No single example is provided that can be considered to constitute best practice<sup>56</sup>. Second, the evidence of the effectiveness of integrated mental health models of care for children and young people remains modest. The types of evaluation reported in the outcome section above varied in terms of quality, but are rated as level IV evidence in accordance with the National Health and Medical Council levels of evidence<sup>59</sup>: “evidence obtained from case series, either post-test or pre-test and post-test.” No high-quality pragmatic randomised controlled trial has yet been published in the international scientific databases<sup>60</sup>, not even for the most established models of care. However, some trials are underway, which demonstrates that it is feasible to run these types of studies in this field<sup>59</sup>. Third, cost-effectiveness studies are similarly lacking. This may be particularly concerning given the fact that the reference model, Headspace required substantive financial funding by the Australian government in order to establish brand new youth mental health services across the country. Furthermore, 40% of Headspace patients are too complicated or severely ill to benefit from the programme. As such, more specialised and intensive components now need to be funded, assembled and integrated vertically as well as horizontally with headspace and other relevant parts of the health and social system<sup>26</sup>. Until recently, there has been very little cross-national focus on how mental health services for children and youth are organised and financed<sup>61</sup>. In the current financial climate and growing demand for mental health services among young individuals, it is important to understand international best practices that can improve service accessibility and reduce financial and organisational barriers to availing services at the patient level<sup>61</sup>. In this scenario, the Canadian approach (ACCESS) focusing on transforming mental health, as opposed to creating brand new services, may be more feasible. This could be further be facilitated by the existing national early detection and intervention services for psychosis within the UK. Notably, this platform is already demonstrating scalable impact for taking care (across CAMHS and AMHS) of both children and young adults aged 14 to 35. Fourth, an additional challenge is that appropriate clinical and treatment response to the earliest signs of disorder in young people yet to be entirely clear, whereas the risk to benefit ratio of specialist care will be totally different in the wider subclinical, primary and secondary care population from that in the services wherein many interventions are developed. Treatment

challenges have also been observed for the most established early intervention field for psychotic disorders<sup>62</sup>. Fifth, for individuals under the age of 12 years including those in the perinatal period, infancy and early childhood, the above challenges are even more pronounced. Indeed, the available evidence for developing integrated mental health services across CAMHS and AMHS almost entirely focuses on people aged 12-25, with a very few exceptions which still require demonstration of feasibility and impact.

*To summarise, the main challenges for mental health services for people aged 0 to 25 are:*

- There are no standards and no single example can be considered to constitute best practice;
- The evidence of the effectiveness on mental health outcomes is modest; there are no RCTs;
- Cost-effectiveness studies are similarly lacking;
- Appropriate clinical and treatment response yet to be entirely clear;
- Very little evidence for individuals aged 0 to 12.

## **CONCLUSION**

Youth mental health is a central focus of many emerging international health agendas<sup>2</sup>. Investing in identifying and addressing the mental health needs of vulnerable children and young people is a key strategy to enhancing health outcomes worldwide<sup>63</sup>. There is a growing consensus that children and young people need youth-friendly mental health services which are sensitive to their unique stage of clinical, neurobiological and psychosocial development. Evidence has confirmed that the transitional phased from adolescence into young adulthood (12-25) represents a core window of opportunity for improving the outcomes of mental disorders. Conversely, there is only limited evidence that detection and intervention in the lower age (0-12) range is feasible and effective. The current configuration of mental health services split between CAMHS and AMHS is highly inefficient since it does not reflect state of the art scientific evidence and produces barriers to access and treatment, and poor retention rates that impede early intervention approaches for those in need.

While different possible youth-friendly mental health models can be considered, there is growing consensus that the focus has to be on early detection and intervention-based models within the community setting that targets both adolescent and young adults. The most successful early intervention paradigm which fully integrates adolescents and adult mental health services alike is the prevention and early treatment of psychosis. Over the past decade, the UK has implemented nationwide first-in-class early intervention services for psychosis. Therefore, it may possible to leverage these UK early intervention templates in order to refine the next generation of youth-friendly mental health services which target the needs of adolescents and young adults experiencing early stages of other mental disorders (e.g. depression, bipolar).



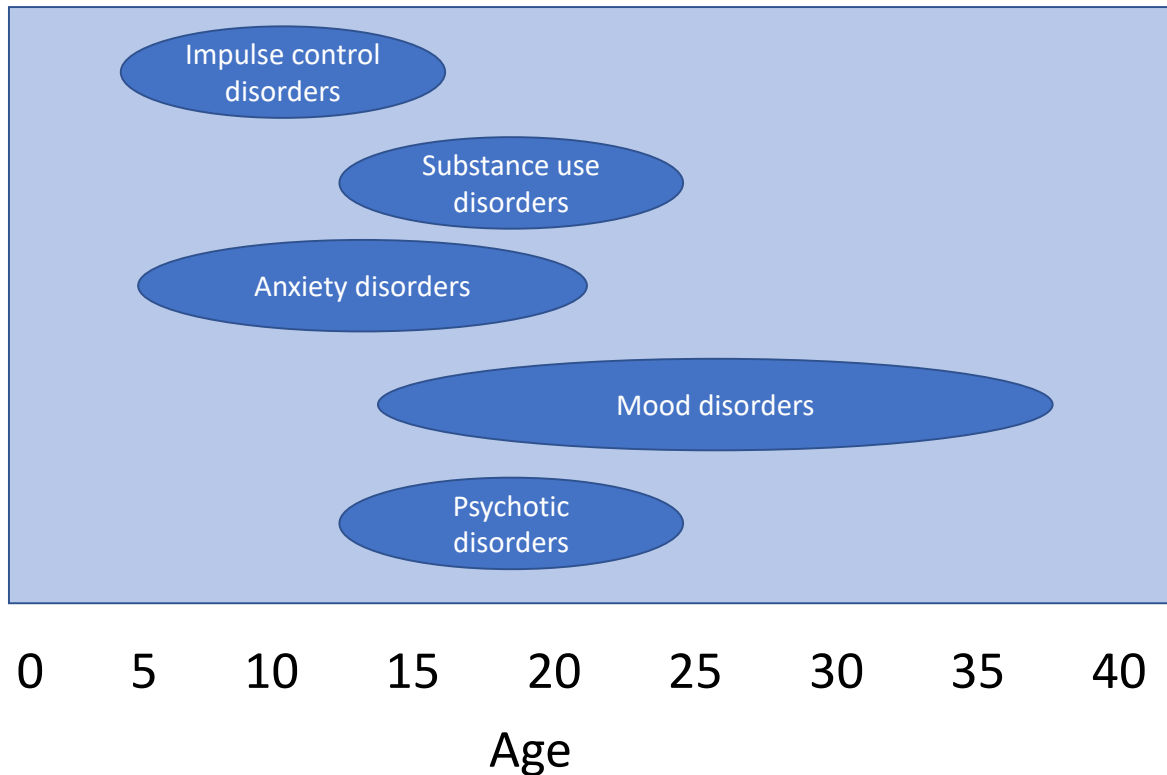
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**Figure 1.** Ranges of onset age for common psychiatric disorders. Data from the National Comorbidity Survey Replication study<sup>13</sup>, a nationally representative epidemiological survey of mental disorders. The majority of those with a mental disorder have had the beginnings of the illness in childhood or adolescence. Some anxiety disorders such as phobias and separation anxiety and impulse-control disorders begin in childhood, while other anxiety disorders such as panic, generalized anxiety and post-traumatic stress disorder, substance disorders and mood disorders begin later, with onsets rarely before early teens. Schizophrenia typically begins in late adolescence or the early twenties (adapted from<sup>13</sup>).



**Table 1.** Ages at onset for five categories of mental health disorder (adapted from<sup>12</sup>).

	Projected lifetime risk %	Age at which % of projected lifetime risk attained		
		25%	50% (median)	75%
Anxiety disorders	32	6	11	21
Mood disorders	28	18	30	43
Impulse control disorder	25	7	11	15
Substance use disorders	16	18	20	27
Any disorder	51	7	14	24

**Figure 2.** Putative model of the onset and progression of psychosis in relation to non-purely genetic risk factors and developmental processes affected by the disorder. Sociodemographic and parental risk factors and perinatal risk factors have been implicated during the preclinical phase, usually observed from the birth to infancy, childhood and early adolescence. Additional later factors occurring during later adolescence and early adulthood can trigger the onset of attenuated psychotic symptoms, functional impairment and help-seeking behaviour, which constitute the CHR-P stage. The diagnosis of psychosis, which operationally corresponds to the first episode of psychosis, is usually made during the adolescence or early adulthood, with a peak from 15-35 years. Once diagnosed, psychosis usually follows a fluctuating course punctuated by acute exacerbation of psychotic crises superimposed upon a background of poorly controlled negative, neurocognitive and social cognitive symptoms. The pink boxes represent the risk factors for psychosis<sup>16</sup>. FEP: First Episode Psychosis, CHR-P, Clinical High Risk for Psychosis.

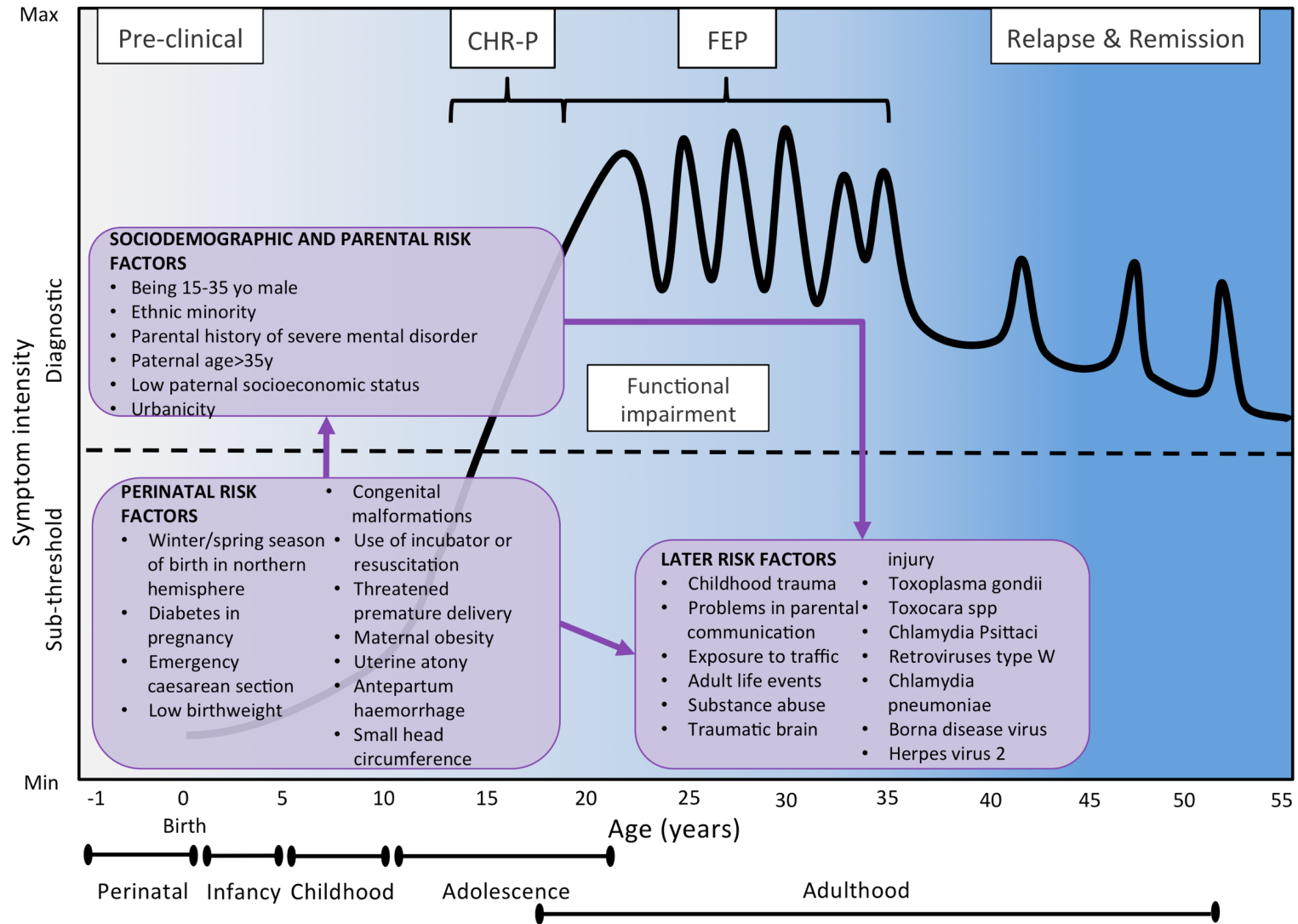


Figure 3. Onset and progression of psychosis in relation to the developmental processes affected by the disorder (from<sup>21</sup>).

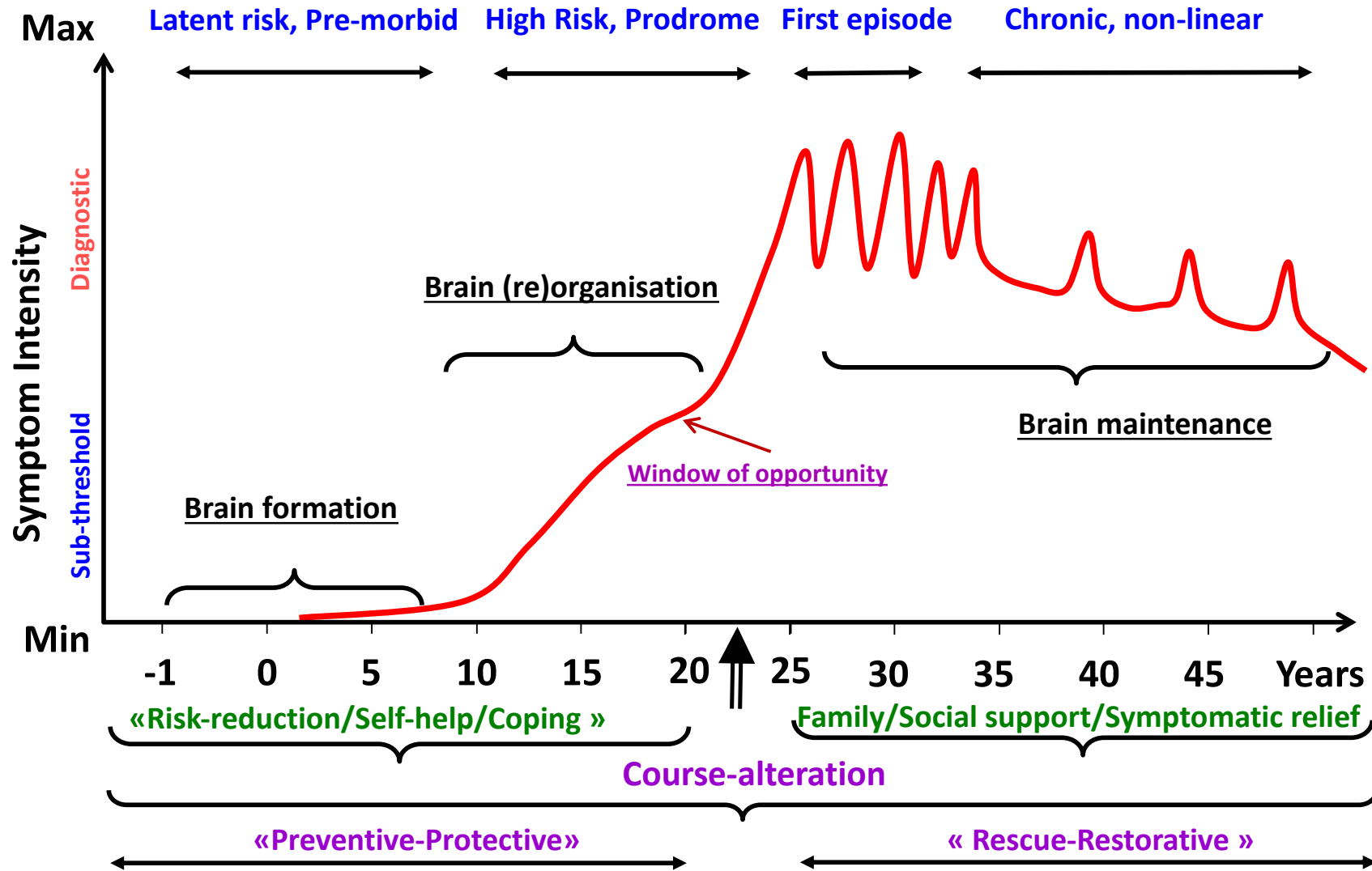
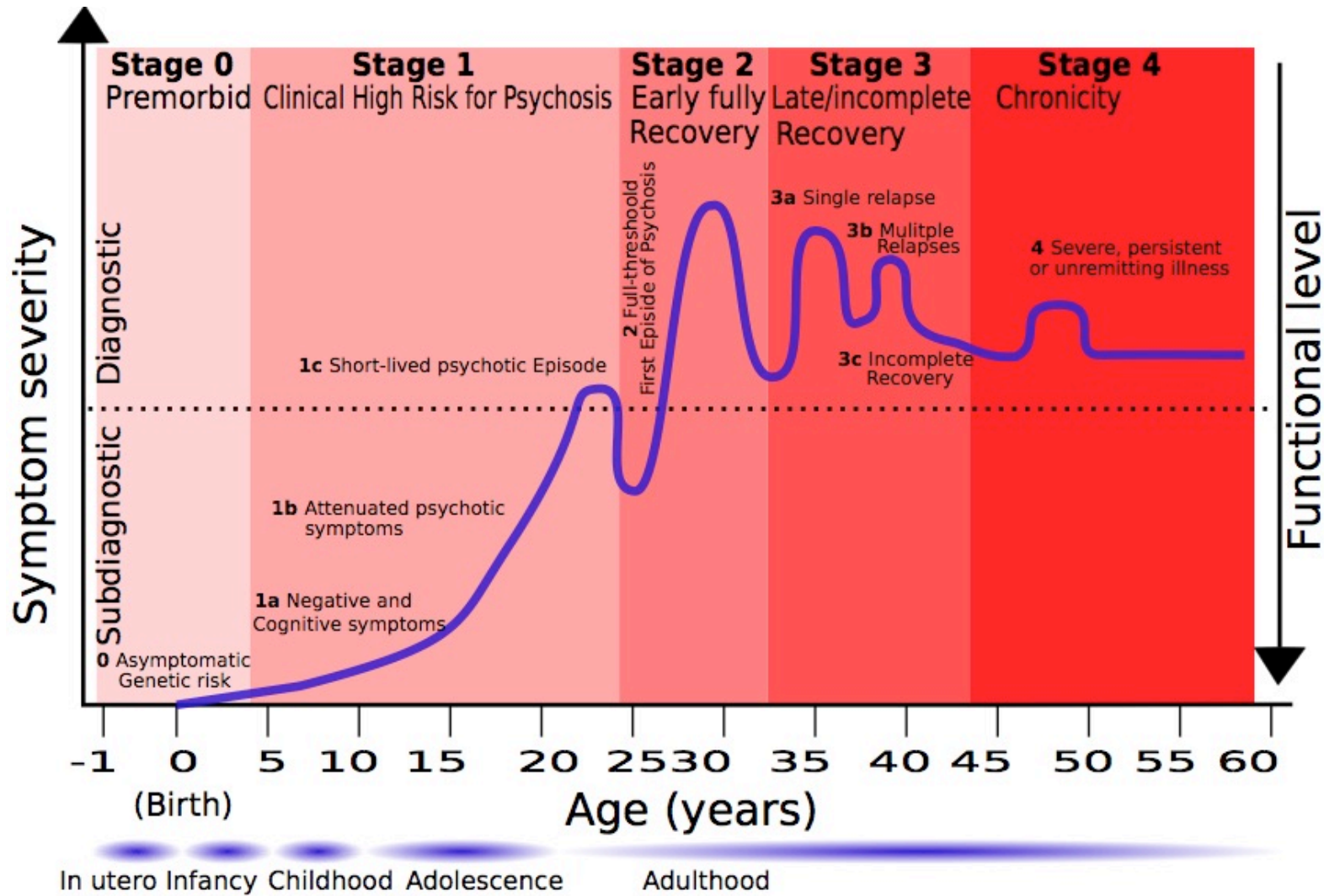




Figure 4. Clinical staging of psychotic disorders. Unpublished figure courtesy of Paolo Fusar-Poli.



## Box 1. WHO framework for development of youth-friendly health services (from<sup>3</sup>).

### **An equitable point of delivery is one in which:**

- Policies and procedures are in place that do not restrict the provision of health services on any terms and that address issues that might hinder the equitable provision and experience of care
- Health-care providers and support staff treat all their patients with equal care and respect, regardless of status

### **An accessible point of delivery is one in which:**

- Policies and procedures are in place that ensure health services are either free or affordable to all young people
- Point of delivery has convenient working hours and convenient location
- Young people are well informed about the range of health services available and how to obtain them
- Community members understand the benefits that young people will gain by obtaining health services, and support their provision
- Outreach workers, selected community members and young people themselves are involved in reaching out with health services to young people in the community

### **An acceptable point of delivery is one in which:**

- Policies and procedures are in place that guarantee client confidentiality
- Health-care providers
  - provide adequate information and support to enable each young person to make free and informed choices that are relevant to his or her individual needs
  - are motivated to work with young people
  - are non-judgmental, considerate, and easy to relate to
  - are able to devote adequate time to their patients
  - act in the best interests of their patients
- Support staff are motivated to work with young people and are non-judgmental, considerate, and easy to relate to the point of delivery to:
  - ensures privacy (including discrete entrance)
  - ensures consultations occur in a short waiting time, with or without an appointment, and (where necessary) swift referral
  - lacks stigma
  - has an appealing and clean environment
  - has an environment that ensures physical safety
  - provides information with a variety of methods
- Young people are actively involved in the assessment and provision of health services

### **The appropriateness of health services for young people is best achieved if:**

- The health services needed to fulfil the needs of all young people are provided either at the point of delivery or through referral linkages
- Health-care providers deal adequately with presenting issue yet strive to go beyond it, to address other issues that affect health and development of adolescent patients

### **The effectiveness of health services for young people is best achieved if:**

- Health-care providers have required competencies
- Health-service provision is guided by technically sound protocols and guidelines
- Points of service delivery have necessary equipment, supplies, and basic services to deliver health services

**Box 2.** Case study from the Outreach and Support In South-London (OASIS) service which takes care of young individuals aged 14 to 35 who may be at risk of developing psychotic disorders. The clinical case is taken from<sup>64</sup>.

### **Presentation**

A 16-year-old boy was referred from the general practitioner to the local CAMHS owing to a drop in functioning and social withdrawal during the previous 6 months. The CAMHS then referred the patient to the OASIS, which managed to assess him within 5 working days. The patient began college 6 months prior but had found the workload difficult and failed his examinations. He had no family history of mental disorders, denied any current or past use of drugs, and reported no significant medical history. At the time of the OASIS assessment, he was well kempt, was quiet during his interview, and provided short answers. He reported that he no longer enjoyed his former interests and could not relate to people at college or to friends, but there were no clear signs of depressive disorders. No formal thought disorders were elicited. He was 80% convinced that random people looked and talked about him when he was out in public, but was able to question it. He stated that these people were probably commenting on the way he looked, but he did not believe these individuals meant him harm. He never acted on these thoughts. He also reported a vague feeling of perplexity and derealization. These experiences began when he started college and continued to occur every day for up to an hour at a time, causing significant distress. The Structured Clinical Interview for *DSM* did not reveal any mental disorder and, as such he would not be eligible to receive the care of local mental health services.

### **Diagnostic and prognostic formulation**

Diagnostic designation: clinical high risk for psychosis (CHR), attenuated psychotic symptoms subgroup, determined using the Comprehensive Assessment of At-risk Mental States (CAARMS). Prognosis: the increased risk of developing psychosis is 26% at 3 years (95% CI, 23%-30%).

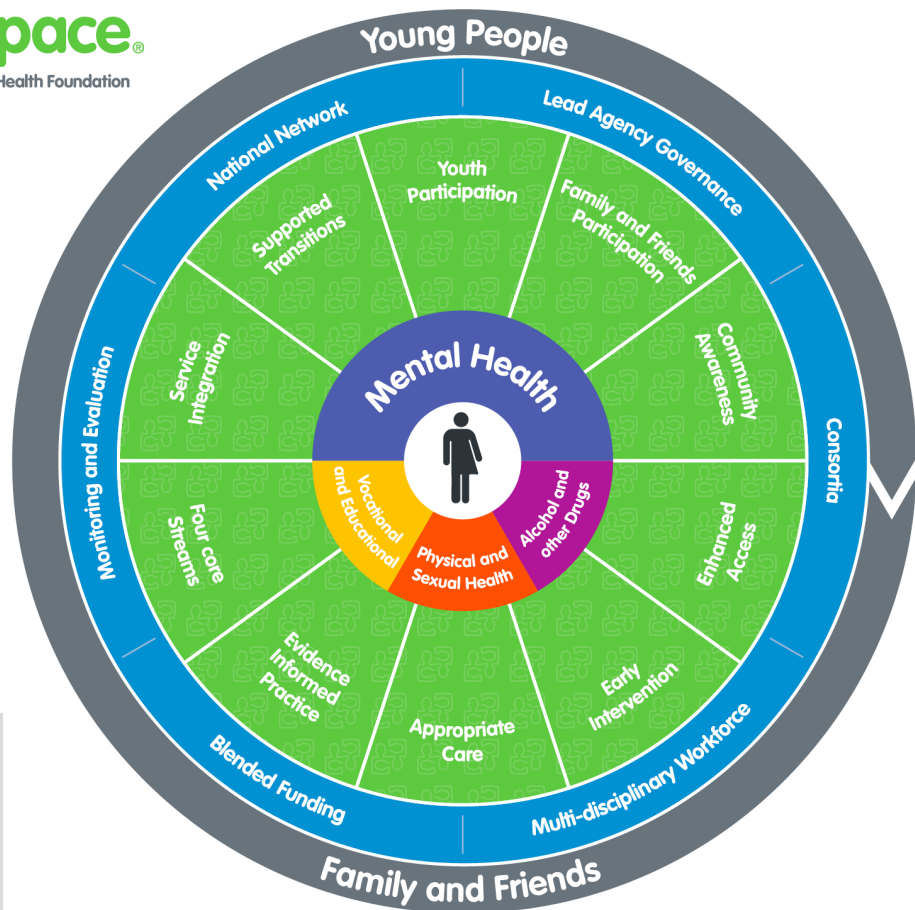
### **Clinical care**

First, the OASIS shared with the CAMHS the result of the prognostic test. Over the past two decades the OASIS has developed specific co-working agreements with the local CAHMS to optimise the care of children and young adults during their transitional period. These co-working agreements are particularly useful in avoiding crisis-driven connection between CAMHS and AMHS at points of heightened illness severity such as the transition from a CHR state to full blown psychosis. At the same time the result of the prognostic assessment was shared with the patient in the context of psychoeducational support offered by the OASIS. Informing patients about their risks is an essential component of preventive approaches in all branches of medicine. For example, individuals who meet CHR criteria accumulate several risk factors for psychosis, some of which may be potentially modifiable. The second clinical action of the OASIS was to recommend close clinical monitoring for adverse clinical outcomes during the ensuing 3 years, because this is the peak of risk. Finally, the patient was offered specific preventive interventions (indicated primary prevention) that were based on psychological therapies (cognitive behavioral therapy) and that are routinely provided by the OASIS, in line with the NICE recommendations. These treatments aim to improve the presenting symptoms and disability and to stop the progression to psychosis.

### **Outcome**

When the patient turned 18 the OASIS took full clinical responsibility of him continuing the clinical monitoring and preventive interventions. At 3-year follow-up, the patient had not developed psychosis. He fully recovered from his initial problems, completed his college examinations and was able to enjoy his social life. He expressed high satisfaction with the quality of care received by the OASIS.

**Figure 5.** The needs of young people and their families are the main drivers of the Headspace integrated mental health model for children and young adults. Headspace has 10 service components (youth participation, family and friends participation, community awareness, enhanced access, early intervention, appropriate care, evidence informed practice, four core streams, service integration, supported transitions) and six enabling components (national network, lead agency governance, consortia, multidisciplinary workforce, blended funding, monitoring and evaluation). Through implementation of these core components Headspace aims to provide easy access to one-stop, youth-friendly mental health, physical and sexual health, alcohol and other drug, and vocational services for young people across Australia (from<sup>65</sup>).



Key	
Drivers	
Enabling Components	
Core Components	

**Table 2.** Evaluation studies on mental health programmes for young people (aged 10–30 years) that include a mental health function and are integrated — in that they bring together or provide a range of physical health, mental health and social service foci. Adapted from<sup>56</sup>.

Your mental health services	Country	Number of services	Established	Age range	Target issues	Position in care system	People accessing the service
Jigsaw	Ireland	10	2008	12-25	Mental health	Primary care	8,000
Headspace	Australia	110	2006	12-25	Mental and physical health	Primary and secondary care	80,000
Maisons des Adolescents	France	104	2004	11-25	Mental and physical health	Primary and secondary care	310,000
Youth One Stop Shops	New Zealand	11	1994	10-25	Mental and physical health	Primary care	34,000
Foundry	Canada	11	2015	12-24	Mental and physical health	Primary and secondary care	912
Youth One Stop Shops	Ireland	4	2009	11-25	Mental and physical health	Primary care	NA
ACCESS Open Minds	Canada	underway					
Integrated Collaborative Care Team	Canada	underway					
Your Choice	New Zealand	1	2008	10-24	Mental health	Primary care	976
Community Health Assessment Team	Singapore	1	2009	16-30	Mental health	Between primary and secondary care	601
The Well Centre	UK	1	2011	13-20	Mental and physical health	Primary care	934
Youthspace	UK	1	2011	16-25	Mental health	Unclear	NA
The Junction	UK	1	2003	11-18	Mental health	Secondary care	494
Supporting Positive Opportunities with Teens	US	1	2008	13-24	Mental and physical health	Primary care	1729
Adolescent Health Service	Israel	NA	1993	12-18	Mental and physical health	Primary care	838
Rural Clinic for Young People	Australia	1	2010	12-18	Mental and physical health	Primary care	4350
KYDS Youth Development Service	Australia	1	2005	12-18	Mental health	Unclear	1600
Youth Stop	Australia	1	2010	12-25	Mental health	Unclear	20