

Transforming mental health in Europe

Mental health of children and young people in the WHO Europe region

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Summary

Most mental health disorders start before adulthood. They are highly prevalent, disabling and often treatable. This Series paper discusses the current problems that contribute to the growing child, adolescent and youth mental health crisis in Europe. These include the impact of the COVID-19 pandemic, escalating military conflicts, the climate crisis, and unregulated digital environments. Mental health problems in youths are further compounded by a changing landscape of how children and young people engage with the world, healthcare and other services. We outline a comprehensive list of recommendations to address mental health problems through the integration of creative prevention and treatment approaches with the help of community-based services and support systems, as well as robust research and implementation strategies to ensure cost-effective, evidence-based care.

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Introduction

Globally, there have been calls to urgently address the growing child, adolescent and youth¹ mental health crisis.² At the first meeting of the WHO Pan-European Mental Health Coalition, improving the quality of child and youth mental health care across the Region was listed as a key priority.³ Childhood and adolescence provide a crucial window of opportunity to improve mental health across the lifespan, with cumulative benefits and avoidance of the greater challenge and expense of intervening later in life.⁴ Most mental health disorders begin in childhood and adolescence, with the peak age of onset at 14.5 years.⁵ Earlier onset of psychopathology is also associated with greater chronicity and complexity of

psychopathology later in life.⁶ Globally, about 300 million of 2.5 billion people aged 5–24 have a mental health disorder, and these account for about 30 million of 150 million years lived with disability.⁷

There is evidence of rising rates of anxiety⁸ and depression during childhood and adolescence, and concern about an increase in the diagnoses of neurodevelopmental conditions such as ADHD⁹ and autism,¹⁰ with significant variations across the region. Available data show declining self-reported well-being in childhood and adolescence.¹¹ Despite a remarkable overall reduction in suicide across the region over the last decade, especially in southern Europe, some countries like the UK show a consistent annual increase in suicide rates of up to 2.5% in boys and 8.5% in girls from 1990 to 2020.¹² Studies have shown that feelings of hopelessness, isolation, and the pressures of academic and social performance contribute to these tragic outcomes.¹³ It is estimated that 59% of 16–25-year-olds are very or extremely worried about the state of the planet.¹⁴ Yet, more studies need to be conducted in primary school-aged

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Key messages

- There is a growing child, adolescent, and youth mental health crisis in the WHO Europe region. Yet, childhood and adolescence provide a crucial window of opportunity to improve mental health across the whole lifespan.
- The main contributors to the increasing mental health needs are the impact of the COVID-19 pandemic, escalating military conflicts, the climate crisis and unregulated digital environments. These are further compounded by a changing landscape of how children and young people engage with healthcare and other services.
- Addressing mental health problems in youths requires a holistic approach, from treatment to prevention, from analogue to digital and from inpatient to community.

children when these worries arise, and could lead to identifying remedial action.¹⁵

In the WHO Europe region, a pan-European collaborative approach to addressing the rapid decline in child and adolescent mental health is essential and requires adjustments for regional aspects. This work is led by the WHO Regional Office for Europe, which coordinates the work of a number of stakeholders in all countries of the region.¹⁶

Current challenges

Impact of the COVID-19 pandemic

The pandemic severely disrupted the lives of children and adolescents, affecting their socialisation, education, and mental health.⁸ Lockdowns created an extraordinary social change during which parents and children were forced to live in close proximity without wider social support. Extended lockdowns, school closures, and social distancing measures led to increased feelings of isolation, loneliness,¹⁷ anxiety, and uncertainty. COVID-19 measures varied between the different countries, with the number of school closure days ranging from zero in Finland and Sweden to 341 days in Italy.¹⁸ 17% of children in Republic of Moldova reported feeling negative effects of COVID-19 on their mental health and wellbeing in comparison to 38% and 37% in the Republic of Ireland and the UK.¹⁹ Studies indicate an increase in referrals for psychiatric disorders following the lockdown, including a substantial rise in self-harm presentations to emergency departments.²⁰ At the same time, the post-COVID-19 changes in services created opportunities to develop telepsychiatry²¹ and improve access to digital services.²²

Social media and digital technology

While digital technology and social media provide avenues for connection, their overuse has been established as a possible risk factor for poor mental health outcomes in children and adolescents.²³ However, the evidence remains mixed. Concerns include overexposure to war-related imagery and inappropriate sexual

content. The Health Behaviour in School-aged Children survey report from 2021/22 measured the use of digital technologies amongst young people across Europe, Central Asia, and Canada, including social media use (SMU), continuous online social contact, and gaming behaviours. In comparison to the 2017/2018 survey, the 2021/2022 findings showed an increased prevalence of problematic SMU—rising from 7% to 11% of young people, with the highest increase in Romania. The lowest prevalence of SMU was found in the Netherlands, 5% prevalence and the highest in Romania—22%.

Cyberbullying,²⁴ body image concerns²⁵ and the pressure to conform to online standards and social comparisons contribute to increasing levels of anxiety and depression. The constant exposure to unrealistic portrayals of life can exacerbate feelings of inadequacy and self-doubt, which are already heightened across childhood and adolescence. Inbuilt addictive algorithms²⁶ within social media platforms have been linked to social isolation, reduced physical activity and disrupted sleep. Disturbed sleep, in turn, is associated with poorer mental health. At present, there is strong evidence of associations between poor mental health and social media use, but reverse causation and (unmeasured) confounding are also plausible.

Socioeconomic inequality and marginalized groups

Children from disadvantaged backgrounds continue to face a higher risk of mental health disorders due to the stressors associated with poverty, financial insecurity, poor living conditions, and lack of access to quality education.²⁷ During the COVID-19 pandemic, children and young people from the most disadvantaged backgrounds were the most severely affected.²⁸ Social networks can suffer from the closure of community resources, e.g. youth clubs and art/sports organisations. Poor mental health literacy and stigma²⁹ around mental health continues to deter many from seeking help, although treatment engagement seems to be improving in general.³⁰

One of the most alarming trends is the elevation in self-harm and suicide rates among adolescents in marginalised groups, such as LGBTQ+ youth, migrants,³¹ and young people with disabilities.³² Socioeconomic inequality and the inclusion of marginalised groups remain one of the principal challenges in child mental health across the WHO Europe region.

Access to high-quality services

The increased prevalence of mental health disorders is accompanied by a rapid increase in specialist referrals, especially in the aftermath of the COVID-19 pandemic.²⁰ Clinical services across Europe (and globally) are not designed to cope with such an enormous disease burden. Such services are unevenly distributed.³³ Furthermore, the increasing strain on services

has led to longer waiting times, more burnout among practitioners, and challenges with clinical recruitment. Funding for child and adolescent mental health remains meagre across the region³⁴ despite health-economic analyses indicating that many interventions for children and young people are highly cost-effective.³⁵ According to the 2017 survey of healthcare providers in 27 European countries, 16 rated facilities providing community outpatient mental health care to children and adolescents as absent or insufficient.³⁶

Even when services are accessed, the quality of care received is variable due to differing levels of user participation in the design and delivery of the service, human rights challenges, long waiting times to access care, and poor provider support and training, and a weak culture of quality improvement.³⁷ Only 19 out of 28 countries surveyed in 2017 had a standardized assessment of mental health services,³⁶ and only respondents from six countries said that there was regular monitoring of treatment outcomes.

Childhood adversity

Childhood adversity, such as maltreatment (i.e., physical, sexual, and emotional abuse, and physical and emotional neglect), is a prevalent³⁸ and an established trans-diagnostic risk factor for psychopathology^{39,40} with clear meta-analytic evidence of causal effects from quasi-experimental studies.⁴¹ Childhood maltreatment increases not only the risk of the onset of new disorders, but is also associated with a worse course of illness and response to treatment.^{42,43} Effects on the incidence and prevalence of psychopathology can be mitigated by evidence-based interventions. The impact of maltreatment on psychopathology appears to be explained by an individual's appraisal and memories of such events,^{44–46} and trauma-focused cognitive behavioural therapy is effective for treating post-traumatic stress disorder and comorbid symptoms following sexual abuse,⁴⁷ maltreatment⁴⁸ and multiple trauma exposure.⁴⁹ However, most young people who develop trauma-related psychopathology do not access any mental health care.⁵⁰ In 2017, out of 27 countries, ten were reported to provide access to refugees, seven to orphans or victims of natural or man-made disasters, and four to minority groups. Nine of 27 countries had no special services designed to meet the specific needs of these subgroups, and only seven indicated having highly specialised services for fostered children, children who have offended and been charged with crimes, disabled children, children with autism, or children who misuse substances.³⁶

Military conflicts

Wars, such as the war in Ukraine, have had a major impact on the mental health of children and young people in the WHO Europe region.⁵¹ As a result of these conflicts and others around the world, millions of

children and adolescents in the region have been displaced. Moreover, different countries in the WHO Europe region absorbed varying numbers of refugees. Some countries, such as Bulgaria, with relatively poorly developed mental health services, received the greatest share of asylum-seeking applications from unaccompanied minors between 2014 and 2024.⁵² This, in turn, increases treatment gap even further. There is a high prevalence of symptoms of PTSD and other psychiatric disorders, such as depression and addictions, often co-occurring in these young people affected by military conflict.⁵³ There is a limited evidence base for treating large numbers of war-affected children and adolescents, especially those who remain inside the conflict zones.⁵⁴

Limited pharmacological approaches

Psychopharmacological treatment is an important component of the multimodal intervention approach to mental health conditions in children and adolescents. Paediatric Investigation Plans (PIPs) are mandatory for new drugs or indications. However, PIPs have been overall unsuccessful. Psychiatry remains underrepresented in paediatric medicine, comprising only 2.4% of all paediatric therapeutic areas, according to the European Commission's 2017 Ten-Year Report.⁵⁵ The issue is not due to a lack of efficacy or safety issues, as current evidence shows a moderate to high effect size from clinical trials and overall good tolerability. Rather, the issue is due to small market share and pharmaceutical, ethical challenges, and systemic and regulatory barriers in psychopharmacological treatment.

Many psychopharmacological studies in children are either unnecessary or poorly designed. A review found that 22% of paediatric studies could have used better extrapolation methods from adult data, and 12% were entirely redundant.⁵⁶ Tools like physiologically based pharmacokinetics (PBPK) and simulations are underutilised despite their promise in improving study quality. Clinical trials tend to include selected populations of children and young people, which makes translation of the findings difficult as the real-life patients often present with complex comorbidities and high risk.

Many medications are still used off-label (i.e., outside the limits of the marketing authorisation or product license), or their availability is lacking in child and adolescent psychiatric practice. A survey⁵⁷ among the members of the European College of Neuropsychopharmacology- Child and Adolescent Network, the disorders/conditions for which there is a need for additional pharmacological development identified are autism spectrum disorder (core symptoms), emotional dysregulation/irritability, anorexia nervosa and depression as the top four.

One challenge in identifying new, effective medications is the placebo effect. For example, the placebo response is generally higher in depression than in

anxiety,⁵⁸ and higher in youth depression than in adult depression. Moreover, the placebo response is higher in multi-site studies, which is the norm in youth depression studies, and seems more common in pharmacologically funded than in government-funded trials (a reversal of what one might expect). The placebo response means that treatments with a 60% response rate, such as SRIs, only show marginal efficacy due to poor separation from the placebo condition, although there are exceptions to this rule, such as in Obsessive Compulsive Disorder.⁵²

Possible solutions

Preventative strategies in child and adolescent mental health hold the potential to significantly reduce the burden associated with poor mental health by addressing risk factors, enhancing protective factors, and intervening early to mitigate the progression of disorders^{1,59,60} and they could provide a starting point for addressing many current problems Europe's healthcare systems provide an opportunity to develop, implement, and evaluate innovative prevention programs. Primary preventative strategies traditionally distinguish between three levels: *universal* prevention targets entire populations regardless of risk levels, promoting mental well-being and resilience, such as whole-school approaches to prevent suicide attempts⁵⁸; *selective* prevention focuses on groups with an elevated risk of developing mental health problems, such as children in low-income families, neurodivergent children, or those exposed to adverse childhood experiences⁶¹; and *indicated* prevention is aimed at individuals exhibiting early signs of poor mental health but not meeting diagnostic thresholds.⁶² Preventative strategies should be seen as complementary to other possible solutions. Most problems identified do not have a single solution, and some require a combination of most of the possible solutions identified.

Use of innovative approaches of delivery to improve access to high-quality community mental health care

There is a pressing need to take an innovative approach to expand access to mental health services for children and adolescents, particularly in underserved regions and populations. Governments in the WHO Europe region should invest in improving the quality of community-based mental health services. High-quality care has been co-defined through WHO Quality Standards for Child and Youth Mental Health Services and refers to quality standards across eight themes, including care that is co-produced with young people, promotes human rights and a focus on quality improvement.³⁷ Quality improvement theories have not been widely integrated with mental health yet provide systematic strategies to strengthen care quality.⁶³

Standards can be used to define a realistic vision of high-quality service delivery, indicators can assess progress,⁶⁴ and methods can be used to develop innovative approaches.

A good example of such an intervention is parenting support interventions, which have a strong evidence base but may not be accessible to young people who need them the most.²² There are also excellent examples from low-resource settings in the European region and beyond in which non-specialists and community members are trained to deliver high-quality assessments and treatments at scale,⁶⁵ such as WHO Early Adolescent Skills for Emotions (EASE).⁶⁶ Furthermore, the implementation of low-intensity interventions, such as Teaching Recovery Techniques,⁶⁷ can prevent mental illness at a low cost. Digital means provide an opportunity to complement traditional services,⁶⁸ offering therapy and counselling online, which can be especially beneficial in rural or underserved areas and areas affected by military conflicts,⁶⁹ although direct evidence of efficacy in these settings is lacking.⁷⁰ Social media has the potential to improve peer-to-peer support, and to be a vehicle to deliver mental health interventions through the use of influencers and improve public mental health.⁷¹ The introduction of comprehensive machine learning algorithms in primary care can assist in risk prediction for the development of a range of mental health conditions through analysing demographic and healthcare data.⁷²

Early childhood programs with investments in perinatal mental health care, parenting support, and early education can significantly contribute to preventing mental health disorders. For instance, the Nurse-Family Partnership program, implemented in parts of Europe, provides targeted support to at-risk families, demonstrating long-term benefits for both parents and children.^{73,74} Comprehensive policies for the regulation of alternative delivery methods are essential, in particular in relation to the ethical implications of the use of machine learning and non-specialists in healthcare delivery.

Moving away from institutional care to community care

Many countries in the region have started to move away from institutional psychiatric care to community-based services.⁷⁵ This is particularly the case for the countries receiving European structural funding, in particular those located in Eastern Europe.⁷⁶ At the same time, there are countries like Belgium, where the number of children in institutional care seems to be increasing.⁷⁶ Growing evidence indicates that long-term inpatient mental health care is associated with negative social and psychiatric outcomes.⁷⁷ Despite this knowledge, it is estimated that more than one million children in the region live in long-term care institutions, which often include children with significant social problems,

intellectual disabilities and young people with youth justice involvement.⁷⁸ Governments should prioritise the development of high-quality community care, including intensive community care services, as alternatives to in-patient admissions.^{77,79} It is well known that when substitute care (after child maltreatment or parental death or incapacity) is required, young children's development is served better in family-based care than in institutional care, such as orphanages⁸⁰ and is more cost-effective.⁸⁰

Integration of mental health into school curricula

Schools play a crucial role in early intervention and prevention of mental health problems. Implementing universal school-based socio-emotional learning programs³⁵ can help reduce stigma, foster emotional resilience, and provide students with coping strategies. Evidence-based programs like MindMatters, Social and Emotional Aspects of Learning (SEAL), and SPARK Resilience have been widely adopted across European countries (EU, 2024).

Many experts recommend including suicide prevention programs, peer support initiatives, and training for teachers to recognise signs of distress among students.⁵⁸ Yet, there seems to be a high degree of variability in terms of priority given to mental health provision in schools, with 72.8% of schools in Poland reporting mental health provision to be a priority, and only 17.8% in France.⁸¹ Interestingly, even in countries where national policy recognises the importance of mental health support in schools, such as the United Kingdom and the Netherlands, only 59.8% and 52.9% of schools rate mental health as a priority. Only 15.7% of schools in France had a dedicated mental health policy, in comparison to 78.3% in the Netherlands. Based on the findings of the classic Adverse Childhood Experiences (ACE) Study,⁸² population screening for ACEs has been implemented at scale in different countries. However, several concerns have been raised about this rapid implementation of ACE screening, and improved methods are required to improve risk detection and deliver targeted interventions.⁸³ Implementation of screening in general should be planned carefully, and any potential harm and increased stigmatisation should be taken into account. Individual risk modelling approaches should be employed to improve the accuracy of screening tools in predicting mental health disorders and to guide the selection of individualised interventions.⁸¹

Addressing socioeconomic determinants of mental health

Tackling mental health issues requires addressing the broader social determinants that contribute to psychological stress. Policies aimed at reducing child poverty,^{84–86} improving housing conditions,⁸⁷ and ensuring equitable access to healthcare and education⁸⁶

can reduce the risk of mental illness. Addressing social determinants of mental health is not the responsibility of the health sector alone; intersectoral collaboration in the development of policy and programs is required—across education, housing, employment and training, and social welfare. Healthcare professionals and practitioners should be trained to recognise the role of social determinants in the course of mental health difficulties and consider how best to address these. Conversely, practitioners should not be blinded to psychiatric conditions in young people who have experienced adversity, since this can lead to missed or late diagnoses.⁸⁸ Furthermore, special attention must be given to marginalised groups such as refugees, asylum seekers and displaced persons, as well as those from LGBTQ+ and ethnic minority groups,⁸⁹ ensuring they have tailored support systems that consider their specific needs.

Co-designing and Co-regulating digital spaces

Involving young people in co-design, co-production and co-development of policies and regulations for digital spaces is imperative.⁹⁰ Given the role of social media in shaping adolescent mental health, governments and digital platforms must work together to create safer online environments. WHO Europe has developed guidance on how governments can address the impacts of social media and digital technologies on young people's mental health and wellbeing through eight priority actions.⁸³ These include holding industry to account for harmful platform features, stronger regulation aimed at protecting health and well-being, and investment in offline alternatives to screen-based parenting, play, and entertainment. Initiatives to raise awareness about the risks of cyberbullying and the negative impact of excessive screen time are essential.

Strengthening family and community support systems

Given the importance of social connections in increasing well-being and the negative impacts of loneliness across a range of adolescent mental health conditions,⁹¹ it is crucial to foster access to social support and resources in children and young people. Beyond schools and health services, extended families and communities are critical in fostering a supportive environment for children and adolescents. Inspired by longstanding initiatives such as the Healthy Cities network, countries across the region are increasingly exploring ways to enhance the capacity of cities and neighbourhoods to promote and protect the mental health of young people through interventions delivered locally, informed by local needs and drawing on local resources.⁹² Research on neighbourhoods has shown that structural elements, such as household income, and process elements, such as social cohesion, are important determinants of child mental health.⁹³ This is especially true of those affected by wars, where

supportive relationships and social participation can be crucial resilience factors.⁹⁴ Governments should support community-based mental health initiatives that offer parenting support programs, programs that support food security and food quality and peer mentorship. An example of this is social prescribing,⁹⁵ a referral mechanism in which a child/young person is linked to local organisations that coordinate and facilitate activities known to benefit well-being, such as arts, sports and nature. In social prescribing, children and young people have agency over which activities are chosen, and so this approach may be experienced as empowering, more engaging and less stigmatising than other treatments. One size will not fit all, and initiatives to improve social connectedness must be tailored to different geospatial and social contexts.

Further development of pharmacological treatments

Overall, international pharmaco-epidemiological data point to increased use of psychotropic medications for children/adolescents in the past two decades.⁹⁶ An increasing body of evidence has been generated from randomised controlled trials (RCTs) and observational studies assessing the efficacy/effectiveness and tolerability/safety of medications for specific disorders in child/adolescent mental health. Overall, investigated medications show moderate to high effect sizes from short term RCTs (Table 1).

The highest effect sizes in relation to efficacy have been found⁹⁷ for stimulants for core symptoms of ADHD; aripiprazole and risperidone for irritability in autism spectrum disorder (ASD); risperidone for aggressiveness in disruptive behaviour disorders (although this remains an unlicensed indication); risperidone, olanzapine, paliperidone for symptoms of

schizophrenia; fluoxetine for depression (the effect size remains uncertain); aripiprazole for manic symptoms in bipolar disorder; fluoxetine/other selective serotonin reuptake inhibitors (SSRIs) for anxiety and obsessive-compulsive disorder (OCD); and imipramine for enuresis. Psychopharmacological medications approved—as of November 2024—by the European Medicine Agency (EMA) in Europe for mental health conditions in children/adolescents are reported in Table 1. This reflects only a small portion of medications approved for mental health conditions in children/adolescents in Europe because companies can apply for registration nationally rather than to the EMA. Furthermore, many medications were licensed before the establishment of the EMA in 1995.

The European Medicines Agency developed an action plan aimed at enhancing the implementation of the regulation and providing structured guidance on the use of extrapolation from adult data to paediatric populations. This plan addresses potential obstacles to paediatric development by focusing on: 1) identifying unmet medical needs in children; 2) strengthening collaboration among decision-makers; 3) ensuring the timely completion of Paediatric Investigation Plans (PIPs); 4) improving the processing of PIP applications; and 5) increasing transparency regarding paediatric medicines.

The main problem in psychopharmacology is that high safety and efficacy standards have increased, requiring costly new studies to meet them. However, for many psychotropic substances, patents have expired, leaving little financial incentive for pharmaceutical companies to invest in pediatric research or apply for new licenses. Without potential profit, they avoid costly trials, particularly for generic medications. Public funding and regulatory incentives are needed to

Compound	Indication (note: national approvals are not included)	Age (years)	Effect size* (95% CI)
Guanfacine, extended release	ADHD	6–17	–0.67 (–0.85 to –0.50)
Methylphenidate	ADHD ^a	>6 years	–0.78 (–0.93 to –0.62)
Atomoxetine	ADHD	>6 years	–0.56 (–0.47 to –0.65)
Aripiprazole	manic episodes	≥13 years	–1.08 (–1.32 to –0.85)
Risperidone	Conduct disorder	5–18	–0.48 (–0.71 to –0.24)
Fluoxetine	major depressive episode unresponsive to psychotherapy		–0.51 (–0.84 to –0.18)
Melatonin extended release	Insomnia (in ASD or Smith Magenis syndrome)	2–18	Sleep latency: –0.52 (95% CI not reported)
Sodium oxybate	Narcolepsy	≥7	Not available
Sertraline	Obsessive Compulsive Disorder	6–17	–0.24 (–0.46 to –0.03)
Aripiprazole	schizophrenia	≥15 years	–0.43 (–0.63 to –0.24)
Lurasidone	schizophrenia	≥13 years	–0.48 (–0.71 to –0.25)
Paliperidone	schizophrenia	≥15 years	–0.42 (–0.66 to –0.18)

*Effect sizes are based on the umbrella review by Correll et al.⁹⁷; when effect sizes derived from scored by multiple raters are available, clinician raters are reported; the effect size for melatonin is based on Gringras et al.⁹⁸; effect size for sodium oxybate are not reported in the publication of the RCT by Plazzi et al.⁹⁹

Table 1: Psychotropic medications approved by the European Medicine Agency (EMA), grouped by indication in alphabetical order. Medications are presented by condition (in alphabetical order).

fill these gaps, especially in large-scale safety studies. Overall, key opportunities in child and adolescent psychopharmacology⁵⁷ include learning from failed trials, reducing the placebo effect issue, assessing outcomes beyond core symptoms, considering developmental stage, comparing pharmacological and non-pharmacological treatments, using innovative designs beyond standard RCTs, moving towards precision medicine/stratification approaches, additional investigation and implementation of digital technologies, focusing on conditions that are non-responsive to initial treatment.

Robust research and implementation strategies

Despite their potential, there remain several opportunities in developing and implementing preventative and treatment strategies for child and adolescent mental health. Some preventative interventions with a strong *a priori* rationale have proven ineffective or detrimental for some outcomes.¹⁰⁰ De-implementation might be required for these interventions. There is increasing evidence that psychological intervention studies rarely measure harm, despite evidence that they may cause harm as well as positive effects.¹⁰¹ A recent RCT of a whole school-based mindfulness intervention programme, for example, demonstrated no overall effects and suggested possible harm on some outcomes.¹⁰⁰ In future research studies, a framework for assessing harms and benefits is essential, with some preliminary results in relation to a comprehensive assessment of positive and negative outcomes of health information campaigns.¹⁰² Any interventions need to be rigorously tested for efficacy and effectiveness and implementation potential, such as acceptability, feasibility and contextual constraints before roll-out, to prevent wasting resources and to balance harms and benefits. Moreover, it is vital to understand who are the people targeted by each intervention. Most notably, anti-depressant trials often exclude people with significant suicidality. Yet, these are the patients in most

need and arguably the ones clinicians are most likely to treat with SSRIs. The effect sizes for preventative interventions are often small, yet can have vast public implications and might be associated with helpful shifts in population mental health.¹⁰³ However, the cost-effectiveness of these strategies must be carefully evaluated.

The establishment of unified protocols for treatment and prevention requires a careful comparison between the different evidence-based approaches. Psychological therapy is often the first-line treatment for depression in children and adolescents. Yet, studies showing its effectiveness are methodologically very different to those done for medication, they are non-blinded and often have poorly matched control groups,¹⁰⁴ making comparison between the outcomes from these approaches very difficult.

Equally, interventions which do demonstrate significant improvements need to be implemented rapidly, consistently and widely.¹ For example, the SEYLE, (Saving and Empowering Young Lives in Europe) indicated that the Youth Aware of Mental Health (YAM) program can substantially reduce the risk of attempted suicide and is cost-effective. Yet, the implementation of this program has been patchy at best.¹⁰⁵ It is important that interventions and care pathways should be co-designed and co-created with relevant stakeholders, e.g. policymakers, teachers, parents and most importantly, children and young people. This will ensure that implementation takes into account the nuances of contexts and individual needs and preferences. The involvement of stakeholders will be critical to map and address key barriers to engagement with child and adolescent mental health services, including, for example, stigma, limited mental health literacy, negative beliefs towards mental health services, costs to access services, differential service access for marginalised groups,¹⁰⁶ limited mental health training in primary care, limited availability of specialist mental health professionals, and high demand for clinical care.^{107–109}

Panel 1: Recommendations to improve the mental health of children and young people

- A holistic approach that includes preventive measures in schools, equitable access to mental health services, ending wars, and efforts to tackle the root causes of socioeconomic inequality.
- Expanding community care services and community-based support systems is vital to address gaps in service provision.
- Embracing the use of technology through the co-development and co-design of regulations and interventions, together with service users, is required.
- A comprehensive, overarching framework for quality improvement of delivered care should be implemented across the WHO Europe region.
- Repurposing existing drugs and tailoring trials to paediatric conditions are key strategies to improve treatment options for children and adolescents.
- Robust research and implementation strategies can help to solve the implementation crisis.

Panel 2: Service user's perspective

"Having struggled greatly with my mental health during my adolescence and early adulthood, I spent many years in psychiatric units across the UK. Hence, I cannot emphasise enough how life-changing early intervention can be for a young person. In my case, the intervention came just before it was too late. Had it happened sooner, perhaps admission to inpatient units may have been avoided.

At the age of 15, I was diagnosed with Anorexia Nervosa while on an acute paediatric ward. My deteriorating physical health and diminished quality of life had reached a breaking point. However, it should have never got to that stage. Despite my multiple attendances to the GP prior to my admission, my situation was constantly dismissed as a 'phase all girls go through.' This was an oversight that cost the next six years of my life. I exhausted various treatments, including medications, therapies, and admissions to both inpatient and day-patient specialist services. During this time, I experienced both CAMHS and adult mental health services. Despite the intensity and promise each treatment offered, it all felt futile.

My final admission coincided with the COVID-19 pandemic. Being 4 h away from family and friends was hard enough, but the pandemic made it almost impossible to see them. The isolation and relentless constrictions, both from the pandemic and being a sectioned patient, felt like imprisonment.

During my time in inpatient wards, I learned numerous ways to cope, some of which were healthy, but many of which were not. For me, self-harm and suicidal ideations became my haven when life felt unbearable. This personal experience links well with the broader discussion around elevated rates of self-harm and suicide in the younger generation, mentioned earlier. Beyond the statistics, in my opinion, self-harm acts as a coping strategy for distress that you struggle to vocalise or which goes unheard. Within inpatient units, self-harm can be normalised due to it being perceived as a marker of illness and the medical response it elicits. It is not an attention-seeking behaviour but rather a behaviour that requires attention and help with the deeper, underlying issues.

Based on all the treatment I've received over the years, I believe that what led me to remission was the incredible community-based care I had alongside my drive to get into medical school. As an inpatient, you often lose sight of the outside world and the sense of a life beyond your illness. It was only when I realised that it wasn't all a farfetched reality and I learned how to apply the skills I was taught in therapy to real-world circumstances that I actively chose recovery. I am a strong believer that true recovery rarely happens in mental health wards. These wards are there to treat you acutely, but the commitment to recovery for diagnoses such as mine has to come from within.

Hence, this supports the idea that moving away from institutional care and prioritising community care is necessary. Ultimately, recovery should take place in the environment where the challenges began so that individuals are equipped with the skills needed to face similar challenges in the future. Community teams provide ongoing support needed to help individuals manage their illness in their home environment, thus reducing the risk of institutionalisation.

To conclude, future interventions for the mental health of young people should focus on more community-based treatment and addressing the underlying factors contributing to their deteriorating mental health. This is far better than simply talking through the issues. This approach would pave the way for a more sustainable and effective recovery."

Discussion

Prevention of mental ill health remains a priority; however, there are regional differences in the available systems designed to deliver it. Some areas rely on the traditional medical system, while others have a much more developed public health system. If the latter is the case, then creating a preventive or health-promoting environment from birth to adulthood can be assisted by expertise from child and adolescent psychology, psychiatry and allied professions, maintaining a holistic, rather than symptom-based focus. The regional analysis of 38 national mental health policies and plans show considerable variation.¹¹⁰ While a top-down national model is predominant in Eastern Europe, a bottom-up locally driven model is more frequent in Northern Europe. Only five countries had established multi-sectoral bodies for MHPP implementation. Communication processes between sectors were generally underdeveloped. In many countries in the East of the WHO Europe region, Ministries of Health alone were tasked with the implementation of MHPPs. In many Western and Northern parts, other governmental stakeholders, as well as non-governmental

bodies and service user organisations, were incorporated as implementation partners.

This article represents an overview of the key elements of clinical and research challenges, opportunities and recommendations relevant to the mental health of children and young people in the WHO Europe region. Many of these apply to all countries and regions, yet the high diversity within Europe regarding health care and welfare systems, school systems and income inequalities needs to be recognised. A lot of the recommended programmes still need to be implemented. Barriers to implementation vary by region, from low resource availability in some regions to rigid configuration of services in others.

The paper represents a policy-oriented contribution, although we attempted to rely on previously published systematic reviews and meta-analyses to the best of our knowledge.

Conclusion

The mental health challenges among children and adolescents in the WHO Europe region are multifaceted and driven by social, economic, environmental and

Search strategy and selection criteria

We based our search strategy on three reviews spanning PubMed, Web of Science, PsychINFO, Embase searched from inception to 05/2020–01/2022– with the search terms as follows:

- A. "age at onset" (topic) and "mental disorder" (topic), plus "birth cohort" (topic) and "mental disorder" (topic), plus "incidence" (topic) and "mental disorder" (topic)⁵;
 B. ((maltreatment) OR (child* abuse) OR (child* neglect) OR (child* trauma) OR (child* advers*) OR (harsh punishment) OR (institutional deprivation) OR (early life deprivation) OR (early life stress) OR (victim*) OR (institutionali#ation))

AND ((mental health) OR (mental illness) OR (psychopathol*) OR (psychiatric) OR (internali*) OR (externali*) OR (depress*) OR (anxi*) OR (panic) OR (obsessive compulsive) OR (self inj*) OR (self harm*) OR (suicid*) OR (eating disorder*) OR (schiz*) OR (psychotic) OR (psychosis*) OR (bipolar) OR (ADHD) OR (attention deficit hyperactivity disorder) OR (attention) OR (hyperactiv*) OR (neurodev*) OR (conduct) OR (antisocial) OR (anti social) OR (crim*) OR (substance) OR (alcohol) OR (drug) OR (cannabis)).

AND ((twin*) OR (sibling*) OR (children of twins) OR (natural experiment) OR (adopt*) OR (propensity score) OR (inverse probability weight*) OR (matching) OR (fixed effects) OR (quasiexperiment* OR quasi experiment*) OR (causal*) OR (genetically sens*) OR (genetically inform*) OR (instrumental variable*) OR (interrupted time series analysis) OR (Mendelian randomi#ation) OR (regression discontinuity) OR (experience sampl*) OR (ecological momentary assessment*) OR (difference in difference*)).⁴¹

C. baby OR babies OR infant OR infants OR infancy OR child OR children OR puberty OR adolescent OR adolescents OR adolescence OR youth OR toddler OR childhood OR newborn OR newborns, orphanage OR orphanages OR orphan OR orphans OR "residential care" OR "institutional care" OR "congregate care", to which we added the following exclusion terms: "orphan drug", "orphan nuclear", "orphan parvovirus", "orphan disease", "orphan pattern", "orphan strain", "orphan gene", "diagnostic orphan", "therapeutic orphan", "orphan virus", boarding, "old people home", "qualitative study"; development OR developmental OR growth OR height OR "failure to thrive" OR nutrition OR health OR cognitive OR cognition OR brain OR neurolog* OR neural OR disorder OR disorders OR "quality of life" OR neurodevelopment* OR socioemotional OR "behavior problem" OR "problem behaviors" OR externalizing OR internalizing OR mortality OR morbidity OR delinquen* OR criminali* OR "psychosocial development" OR psychopatholog* OR depress* OR dhhd OR inattention OR autism OR "atypical development" OR education OR IQ OR motivation OR attachment OR cortisol OR dwarfism OR infect* OR medical OR disease OR psychophysiology OR immune OR wellbeing OR resilien* OR respiratory OR endocrine OR hormonal OR "stress regulation" OR "executive function" OR "reproduction fitness" OR offspring.⁸⁰

technological factors. Addressing this issue requires a holistic approach that includes evidence-based preventive measures in schools, equitable access to mental health services, ending wars and concerted efforts to tackle the root causes of socioeconomic inequality. In recognition of the great diversity of culture and contexts across the WHO Europe region, the implementation of these strategies should be tailored for each context, co-developed with local experts and service users. Since the vast majority—if not all—countries are struggling to respond to the mental health needs of their children and adolescents, there is also opportunity for cross-country collaborations to jointly solve problems and share innovations. By promoting a culture of understanding and support for mental health, the region can take significant steps toward safeguarding the wellbeing of its younger generations.

Contributors

All authors contributed equally.

Declaration of interests

Authors declare no competing interests.

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References

- McGorry PD, Mei C, Dalal N, et al. The lancet psychiatry commission on youth mental health. *Lancet Psychiatry*. 2024;11(9):731–774 [cited 2025 Mar 16] Available from: <https://www.thelancet.com/action/showFullText?pii=S2215036624001639>.
- Benton TD, Boyd RC, Njoroge WFM. Addressing the global crisis of child and adolescent mental health. *JAMA Pediatr*. 2021;175(11):1108–1110 [cited 2025 Mar 9] Available from: <https://pubmed.ncbi.nlm.nih.gov/34369961/>.
- First meeting of the pan-European mental health coalition: from debate to action [cited 2025 Mar 9]. Available from: <https://www.who.int/europe/publications/i/item/WHO-EURO-2022-5769-45534-65202>.
- Prioritising early childhood to promote health, wellbeing and prosperity | Patient information forum [cited 2025 Mar 13]. Available from: <https://pifonline.org.uk/news/pif-aware-childhood-health-infant-mortality/>; 2024.
- Solmi M, Radua J, Olivola M, et al. Age at onset of mental disorders worldwide: large-scale meta-analysis of 192 epidemiological studies. *Mol Psychiatry*. 2022;27(1):281–295 [cited 2024 Oct 26] Available from: <https://pubmed.ncbi.nlm.nih.gov/34079068/>.
- Caspi A, Houts RM, Ambler A, et al. Longitudinal assessment of mental health disorders and comorbidities across 4 decades among participants in the Dunedin birth cohort study. *JAMA Netw Open*. 2020;3(4):e203221 [cited 2025 Mar 13] Available from: <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2764602>.
- Kieling C, Buchweitz C, Caye A, et al. Worldwide prevalence and disability from mental disorders across childhood and adolescence: evidence from the global burden of disease study. *JAMA Psychiatry*. 2024;81(4):347–356 [cited 2025 Mar 13] Available from: <https://pubmed.ncbi.nlm.nih.gov/38294785/>.
- UNICEF. *The state of the world's children 2021*. UNICEF; 2021 [cited 2025 Mar 24]. Available from: <https://www.unicef.org/reports/state-worlds-children-2021>.

- 9 Abdelnour E, Jansen MO, Gold JA. ADHD diagnostic trends: increased recognition or overdiagnosis? *Mol Med*. 2022;119(5):467 [cited 2025 Mar 13] Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9616454/>.
- 10 Russell G, Stapley S, Newlove-Delgado T, et al. Time trends in autism diagnosis over 20 years: a UK population-based cohort study. *J Child Psychol Psychiatry*. 2022;63(6):674–682 [cited 2025 Mar 13] Available from: <https://pubmed.ncbi.nlm.nih.gov/34414570/>.
- 11 A focus on adolescent mental health and wellbeing in Europe, central Asia and Canada. Health Behaviour in School-aged Children international report from the 2021/2022 survey. Volume 1 [cited 2025 Mar 13]. Available from: <https://iris.who.int/handle/10665/373201>.
- 12 Bertuccio P, Amerio A, Grande E, et al. Global trends in youth suicide from 1990 to 2020: an analysis of data from the WHO mortality database. *eClinicalMedicine*. 2024;70 [cited 2025 Mar 13] Available from: <https://pubmed.ncbi.nlm.nih.gov/38440131/>.
- 13 Mughal F, Ougrin D, Stephens L, Vijayakumar L, Kapur N. Assessment and management of self-harm and suicide risk in young people. *BMJ*. 2024;386:e073515 [cited 2025 Mar 13] Available from: <https://www.bmj.com/content/386/bmj-2022-073515>.
- 14 Hickman C, Marks E, Pihkala P, et al. Climate anxiety in children and young people and their beliefs about government responses to climate change: a global survey. *Lancet Planet Health*. 2021;5(12):e863–e873.
- 15 Gregory AM, Caspi A, Moffitt TE, Koenen K, Eley TC, Poulton R. Juvenile mental health histories of adults with anxiety disorders. *Am J Psychiatry*. 2007;164(2):301–308 [cited 2025 Mar 9] Available from: <https://pubmed.ncbi.nlm.nih.gov/17267794/>.
- 16 The pan-European mental health coalition [cited 2025 Jul 28]. Available from: <https://www.who.int/europe/initiatives/the-pan-european-mental-health-coalition>.
- 17 Caro JC, Clark AE, D'Ambrosio C, Vögele C. The impact of COVID-19 lockdown stringency on loneliness in five European countries. *Soc Sci Med*. 2022;314 [cited 2025 Mar 13] Available from: <https://pubmed.ncbi.nlm.nih.gov/36343461/>.
- 18 Frank J, Elgar HL. Navigating uncharted territory: school closures and adolescent experiences during the COVID-19 pandemic in the WHO European region. Impact of the COVID-19 pandemic on young people's health & well-being from the findings of the HBSC survey round 2021/2022 [cited 2025 Jul 29]. Available from: <https://www.who.int/europe/publications/i/item/WHO-EURO-2023-7745-47513-69874>; 2023.
- 19 Coping through crisis: COVID-19 pandemic experiences and adolescent mental health and well-being in the WHO European region. Key Findings [cited 2025 Jul 29]. Available from: <https://www.who.int/europe/publications/m/item/hbsc-survey-round-2021-2022-coping-through-crisis-covid-19-pandemic-experiences-and-adolescent-mental-health-and-well-being-key-findings>; 2023.
- 20 Wong BHC, Cross S, Zavaleta-Ramirez P, et al. Self-harm in children and adolescents who presented at emergency units during the COVID-19 pandemic: an international retrospective cohort study. *J Am Acad Child Adolesc Psychiatry*. 2023;62(9):998–1009 [cited 2025 Mar 13] Available from: <https://www.jaacap.org/action/showFullText?pii=S089085672300062X>.
- 21 O'Brien M, McNicholas F. The use of telepsychiatry during COVID-19 and beyond. *Ir J Psychol Med*. 2020;37(4):250–255 [cited 2025 Jun 20] Available from: <https://pubmed.ncbi.nlm.nih.gov/32434596/>.
- 22 Steinberg JS, Sun J, Venturo-Conerly KE, et al. Randomized trial testing a self-guided digital mental health intervention teaching calming skills for Ukrainian children. *Npj Mental Health Res*. 2025;4(1):1–14 [cited 2025 Jun 20] Available from: <https://www.nature.com/articles/s44184-025-00134-w>.
- 23 Schmidt-Persson J, Rasmussen MGB, Sørensen SO, et al. Screen media use and mental health of children and adolescents: a secondary analysis of a randomized clinical trial. *JAMA Netw Open*. 2024;7(7):e2419881 [cited 2025 Mar 13] Available from: <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2821176>.
- 24 Predescu E, Calugar I, Sipos R. Cyberbullying and non-suicidal self-injury (NSSI) in adolescence: exploring moderators and mediators through a systematic review. *Children*. 2024;11(4):410 [cited 2025 Mar 13] Available from: <https://www.mdpi.com/2227-9067/11/4/410/htm>.
- 25 Thai H, Davis CG, Mahboob W, Perry S, Adams A, Goldfield GS. Reducing social media use improves appearance and weight esteem in youth with emotional distress. *Psychol Pop Media*. 2023;13(1):162–169.
- 26 Matakos A, Tu S, Gionis A. Tell me something my friends do not know: diversity maximization in social networks. *Knowl Inf Syst*. 2020;62(9):3697–3726 [cited 2025 Mar 13] Available from: <https://link.springer.com/article/10.1007/s10115-020-01456-1>.
- 27 Lund C, Brooke-Sumner C, Baingana F, et al. Social determinants of mental disorders and the sustainable development goals: a systematic review of reviews. *Lancet Psychiatry*. 2018;5(4):357–369 [cited 2025 Mar 13] Available from: <https://pubmed.ncbi.nlm.nih.gov/29580610/>.
- 28 Wong BH, Vaezinejad M, Plener PL, et al. Lockdown stringency and paediatric self-harm presentations during COVID-19 pandemic: retrospective cohort study. *BJPsych Open*. 2022;8(2) [cited 2025 Mar 13] Available from: <https://pubmed.ncbi.nlm.nih.gov/35322782/>.
- 29 Doblytė S. Shame in a post-socialist society: a qualitative study of healthcare seeking and utilisation in common mental disorders. *Sociol Health Illn*. 2020;42(8):1858–1872 [cited 2025 Mar 13] Available from: <https://pubmed.ncbi.nlm.nih.gov/32780502/>.
- 30 Yuan SNV, Kwok KHR, Ougrin D. Treatment engagement in specific psychological treatment vs. treatment as usual for adolescents with self-harm: systematic review and meta-analysis. *Front Psychol*. 2019;10:104.
- 31 Basu A, Boland A, Witt K, Robinson J. Suicidal behaviour, including ideation and self-harm, in young migrants: a systematic review. *Int J Environ Res Public Health*. 2022;19(14):8329 [cited 2025 Mar 13] Available from: <https://www.mdpi.com/1660-4601/19/14/8329/htm>.
- 32 Emerson E, Aitken Z, Arciuli J, King T, Llewellyn G, Kavanagh A. Self-harm among 17-year-old adolescents with/without disabilities in the United Kingdom [cited 2025 Mar 13]; Available from: <https://econtent.hogrefe.com/doi/10.1027/0227-5910/a000951>; 2024.
- 33 WHO Team. *Mental health atlas 2020*. WHO Publication; 2021 [cited 2025 Mar 9];1–136. Available from: <https://www.who.int/publications/i/item/9789240036703>.
- 34 Mental health of children and young people: service guidance [cited 2025 Mar 13]. Available from: <https://www.who.int/publications/i/item/9789240100374>; 2024.
- 35 WHO. *WHO menu of cost-effective interventions for mental health 2021*.
- 36 Signorini G, Singh SP, Boricevic-Marsanic V, et al. Architecture and functioning of child and adolescent mental health services: a 28-country survey in Europe. *Lancet Psychiatry*. 2017;4(9):715–724 [cited 2025 Jul 28] Available from: <https://www.sciencedirect.com/science/article/pii/S221503661730127X#cesec60>.
- 37 WHO. Quality standards to improve the quality of child and adolescent mental health care [cited 2025 Mar 17]. Available from: <https://www.who.int/europe/news-room/events/item/2024/07/02/default-calendar/who-europe-launches-for-consultation-its-new-quality-standards-to-improve-the-quality-of-child-and-adolescent-mental-health-care>; 2025.
- 38 Madigan S, Deneault AA, Racine N, et al. Adverse childhood experiences: a meta-analysis of prevalence and moderators among half a million adults in 206 studies. *World Psychiatry*. 2023;22(3):463 [cited 2025 Mar 9] Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10503911/>.
- 39 Gilbert R, Widom CS, Browne K, Fergusson D, Webb E, Janson S. Burden and consequences of child maltreatment in high-income countries. *Lancet*. 2009;373(9657):68–81 [cited 2025 Mar 9] Available from: <https://www.thelancet.com/action/showFullText?pii=S0140673608617067>.
- 40 Arango C, Dragioti E, Solmi M, et al. Risk and protective factors for mental disorders beyond genetics: an evidence-based atlas. *World Psychiatry*. 2021;20(3):417–436 [cited 2025 Mar 9] Available from: <https://onlinelibrary.wiley.com/doi/full/10.1002/wps.20894>.
- 41 Baldwin JR, Wang B, Karwatowska L, et al. Childhood maltreatment and mental health problems: a systematic review and meta-analysis of quasi-experimental studies. *Am J Psychiatry*. 2023;180(2):117–126 [cited 2025 Mar 9] Available from: <https://psychiatryonline.org/doi/10.1176/appi.ajp.20220174>.
- 42 Agnew-Blais J, Danese A. Childhood maltreatment and unfavourable clinical outcomes in bipolar disorder: a systematic review and meta-analysis. *Lancet Psychiatry*. 2016;3(4):342–349 [cited 2025 Mar 9] Available from: <https://www.thelancet.com/action/showFullText?pii=S2215036615005441>.
- 43 Nanni V, Uher R, Danese A. Childhood maltreatment predicts unfavorable course of illness and treatment outcome in

- depression: a meta-analysis. *Am J Psychiatry*. 2012;169(2):141–151 [cited 2025 Mar 9] Available from: <https://psychiatryonline.org/doi/10.1176/appi.ajp.2011.11020335>.
- 44 Baldwin JR, Coleman O, Francis ER, Danese A. Prospective and retrospective measures of child maltreatment and their association with psychopathology: a systematic review and meta-analysis. *JAMA Psychiatry*. 2024;81(8):769–781 [cited 2025 Mar 9] Available from: <https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2818046>.
 - 45 Danese A, Widom CS. Associations between objective and subjective experiences of childhood maltreatment and the course of emotional disorders in adulthood. *JAMA Psychiatry*. 2023;80(10):1009–1016 [cited 2025 Mar 9] Available from: <https://jamanetwork.com/journals/jamapsychiatry/fullarticle/2806882>.
 - 46 Danese A, Widom CS. Objective and subjective experiences of child maltreatment and their relationships with psychopathology. *Nat Hum Behav*. 2020;4(8):811–818 [cited 2025 Mar 9] Available from: <https://www.nature.com/articles/s41562-020-0880-3>.
 - 47 Cohen JA, Deblinger E, Mannarino AP, Steer RA. A multi-site, randomized controlled trial for children with abuse-related PTSD symptoms. *J Am Acad Child Adolesc Psychiatry*. 2004;43(4):393 [cited 2025 Mar 9] Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC1201422/>.
 - 48 Bennett RS, Denne M, McGuire R, Hiller RM. A systematic review of controlled-trials for PTSD in maltreated children and adolescents. *Child Maltreat*. 2021;26(3):325–343 [cited 2025 Mar 9] Available from: <https://journals.sagepub.com/doi/10.1177/1077559520961176>.
 - 49 Hoppen TH, Meiser-Stedman R, Jensen TK, Birkeland MS, Morina N. Efficacy of psychological interventions for post-traumatic stress disorder in children and adolescents exposed to single versus multiple traumas: meta-analysis of randomised controlled trials. *Br J Psychiatry*. 2023;222(5):196–203 [cited 2025 Mar 9] Available from: <https://www.cambridge.org/core/journals/the-british-journal-of-psychiatry/article/efficacy-of-psychological-interventions-for-posttraumatic-stress-disorder-in-children-and-adolescents-exposed-to-single-versus-multiple-traumas-metaanalysis-of-randomised-controlled-trials/D2C852F813966D2A719413DBA809CBD9>.
 - 50 Lewis SJ, Arseneault L, Caspi A, et al. The epidemiology of trauma and post-traumatic stress disorder in a representative cohort of young people in England and Wales. *Lancet Psychiatry*. 2019;6(3):247–256 [cited 2025 Mar 9] Available from: <https://www.thelancet.com/action/showFullText?pii=S2215036619300318>.
 - 51 Goto R, Pinchuk I, Kolodezhny O, Pimenova N, Kano Y, Skokauskas N. Mental health of adolescents exposed to the war in Ukraine. *JAMA Pediatr*. 2024;178(5):480–488 [cited 2025 Jun 20] Available from: <https://pubmed.ncbi.nlm.nih.gov/38526470/>.
 - 52 March JS. Cognitive-behavior therapy, sertraline, and their combination for children and adolescents with obsessive-compulsive disorder: the pediatric OCD treatment study (POTS) randomized controlled trial. *JAMA*. 2004;292(16):1969–1976 [cited 2025 Jul 28] Available from: <https://pubmed.ncbi.nlm.nih.gov/15507582/>.
 - 53 Charlson F, van Ommeren M, Flaxman A, Cornett J, Whiteford H, Saxena S. New WHO prevalence estimates of mental disorders in conflict settings: a systematic review and meta-analysis. *Lancet*. 2019;394(10194):240–248 [cited 2025 Mar 13] Available from: <https://pubmed.ncbi.nlm.nih.gov/31200992/>.
 - 54 Danese A, Martsenkovskiy D, Remberk B, et al. Scoping review: digital mental health interventions for children and adolescents affected by war. *J Am Acad Child Adolesc Psychiatry*. 2024.
 - 55 European Commission. Report from the commission to the European parliament and the council state of paediatric medicines in the EU - 10 years of the EU paediatric regulation-lex - 52017DC0626 - EN - EUR-Lex [cited 2025 Mar 16]. Available from: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52017DC0626>; 2017.
 - 56 Turner MA, Catapano M, Hirschfeld S, Giaquinto C. Paediatric drug development: the impact of evolving regulations. *Adv Drug Deliv Rev*. 2014;73:2–13 [cited 2025 Jun 25] Available from: <https://pubmed.ncbi.nlm.nih.gov/24556465/>.
 - 57 Cortese S, Purper-Ouakil D, Apter A, et al. Psychopharmacology in children and adolescents: unmet needs and opportunities. *Lancet Psychiatry*. 2024;11(2):143–154 [cited 2025 Mar 16] Available from: <https://pubmed.ncbi.nlm.nih.gov/38071998/>.
 - 58 Wasserman D, Hoven CW, Wasserman C, et al. School-based suicide prevention programmes: the SEYLE cluster-randomised, controlled trial. *Lancet*. 2015;385(9977):1536–1544 [cited 2025 Jun 20] Available from: <https://pubmed.ncbi.nlm.nih.gov/25579833/>.
 - 59 Kieling C, Baker-Henningham H, Belfer M, et al. Child and adolescent mental health worldwide: evidence for action. *Lancet*. 2011;378(9801):1515–1525 [cited 2025 Mar 13] Available from: <https://www.thelancet.com/action/showFullText?pii=S0140673611608271>.
 - 60 Patel V, Flisher AJ, Hetrick S, McGorry P. Mental health of young people: a global public-health challenge. *Lancet*. 2007;369(9569):1302–1313 [cited 2025 Mar 13] Available from: <https://www.thelancet.com/action/showFullText?pii=S0140673607603687>.
 - 61 Crawford K, Young R, Wilson P, et al. Infant mental health services for birth and foster families of maltreated pre-school children in foster care (BeST?): a cluster-randomized phase 3 clinical effectiveness trial. *Nat Med*. 2025;31(5) [cited 2025 Jun 20] Available from: <https://pubmed.ncbi.nlm.nih.gov/40312587/>.
 - 62 Keiller E, Tjasink M, Bourne J, Ougrin D, Carr CE, Lau JYF. A systematic review of dramatherapy interventions used to alleviate emotional distress and support the well-being of children and young people aged 8–18 years old. *JCPP Adv*. 2023;3(3):e12145 [cited 2025 Jun 20] Available from: <https://doi.org/10.1002/jcv2.12145>.
 - 63 Forman-Hoffman VL, Middleton JC, McKeeman JL, et al. Quality improvement, implementation, and dissemination strategies to improve mental health care for children and adolescents: a systematic review. *Implement Sci*. 2017;12(1):1–21 [cited 2025 Mar 13] Available from: <https://implementationscience.biomedcentral.com/articles/10.1186/s13012-017-0626-4>.
 - 64 Deckert A, Runge-Ranzinger S, Banaschewski T, et al. Mental health indicators for children and adolescents in OECD countries: a scoping review. *Front Public Health*. 2023;11:1303133 [cited 2025 Mar 13] Available from: www.ianphi.org.
 - 65 Divan G, Bhavnani S, Leadbitter K, et al. Annual research review: achieving universal health coverage for young children with autism spectrum disorder in low- and middle-income countries: a review of reviews. *J Child Psychol Psychiatry*. 2021;62(5):514–535 [cited 2025 Mar 13] Available from: <https://onlinelibrary.wiley.com/doi/full/10.1111/jcpp.13404>.
 - 66 Dawson KS, Watts S, Carswell K, et al. Improving access to evidence-based interventions for young adolescents: early adolescent skills for emotions (EASE). *World Psychiatry*. 2019;18(1):105 [cited 2025 Mar 13] Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC6313693/>.
 - 67 Yavna K, Sineelnichenko Y, Zhuravel T, Yule W, Rosenthal M. Teaching recovery techniques (TRT) to Ukrainian children and adolescents to self-manage post-traumatic stress disorder (PTSD) symptoms following the Russian invasion of Ukraine in 2022 - the first 7 months. *J Affect Disord*. 2024;351:243–249 [cited 2025 Mar 13] Available from: <https://pubmed.ncbi.nlm.nih.gov/38272365/>.
 - 68 Rakovshik SG, McManus F, Westbrook D, et al. Randomized trial comparing internet-based training in cognitive behavioural therapy theory, assessment and formulation to delayed-training control. *Behav Res Ther*. 2013;51(6):231–239.
 - 69 Creswell C, Taylor L, Giles S, et al. Digitally augmented, parent-led CBT versus treatment as usual for child anxiety problems in child mental health services in England and northern Ireland: a pragmatic, non-inferiority, clinical effectiveness and cost-effectiveness randomised controlled trial. *Lancet Psychiatry*. 2024;11(3):193–209 [cited 2025 Mar 13] Available from: <https://www.thelancet.com/action/showFullText?pii=S2215036623004297>.
 - 70 Danese A, Martsenkovskiy D, Remberk B, et al. Scoping review: Digital mental health interventions for children and adolescents affected by war. *J Am Acad Child Adolesc Psychiatry*. 2025;64(2):226–248.
 - 71 Naslund JA, Aschbrenner KA, Marsch LA, Bartels SJ. The future of mental health care: Peer-To-Peer support and social media. *Epidemiol Psychiatr Sci*. 2016;25(2):113–122 [cited 2025 Mar 13] Available from: <https://pubmed.ncbi.nlm.nih.gov/26744309/>.
 - 72 Koning NR, Büchner FL, Vermeiren RRJM, Crone MR, Numans ME. Identification of children at risk for mental health problems in primary care—Development of a prediction model with routine health care data. *eClinicalMedicine*. 2019;15:89–97 [cited 2025 Mar 13] Available from: <https://www.thelancet.com/action/showFullText?pii=S2589537019301816>.
 - 73 Peacock S, Konrad S, Watson E, Nickel D, Muhajarine N. Effectiveness of home visiting programs on child outcomes: a systematic review. *BMC Public Health*. 2013;13(1):1–14 [cited 2025 Mar 13] Available from: <https://bmcpubhealth.biomedcentral.com/articles/10.1186/1471-2458-13-17>.

- 74 Olds DL, Eckenrode J, Henderson CR, et al. Long-term effects of home visitation on maternal life course and child abuse and neglect: fifteen-year Follow-up of a randomized trial. *JAMA*. 1997;278(8):637–643 [cited 2025 Mar 13] Available from: <https://jamanetwork.com/journals/jama/fullarticle/418042>.
- 75 Wong BHC, Chkonia E, Panteleeva L, et al. Transitioning to community-based mental healthcare: reform experiences of five countries. *BJPsych Int*. 2022;19(1):18–21 [cited 2025 Mar 13] Available from: <https://www.cambridge.org/core/journals/bjpsych-international/article/transitioning-to-communitybased-mental-healthcare-reform-experiences-of-five-countries/35A94E06F0ABCD79515AFB3B46FAE9FC>.
- 76 Šiška Jan, Beadle-Brown Julie. Report on the transition from institutional care to community-based services in 27 EU member states [cited 2025 Jul 28]. Available from: https://www.researchgate.net/publication/341902653_Report_on_the_Transition_from_Institutional_Care_to_Community-Based_Services_in_27_EU_Member_States; 2020.
- 77 Ougrin D, Corrigan R, Stahl D, et al. Supported discharge service versus inpatient care evaluation (SITE): a randomised controlled trial comparing effectiveness of an intensive community care service versus inpatient treatment as usual for adolescents with severe psychiatric disorders: self-harm, functional impairment, and educational and clinical outcomes. *Eur Child Adolesc Psychiatry*. 2021;30(9):1427–1436 [cited 2025 Mar 13] Available from: <https://link.springer.com/article/10.1007/s00787-020-01617-1>.
- 78 Desmond C, Watt K, Saha A, Huang J, Lu C. Prevalence and number of children living in institutional care: global, regional, and country estimates. *Lancet Child Adolesc Health*. 2020;4(5):370–377 [cited 2025 Mar 13] Available from: <https://www.thelancet.com/action/showFullText?pii=S2352464220300225>.
- 79 Keiller E, Masood S, Wong BH, et al. Intensive community care services for children and young people in psychiatric crisis: an expert opinion. *BMC Med*. 2023;21(1):1–9 [cited 2025 Mar 13] Available from: <https://link.springer.com/articles/10.1186/s12916-023-02986-5>.
- 80 van Ijzendoorn MH, Bakermans-Kranenburg MJ, Duschinsky R, et al. Institutionalisation and deinstitutionalisation of children 1: a systematic and integrative review of evidence regarding effects on development. *Lancet Psychiatry*. 2020;7(8):703–720 [cited 2024 Oct 26] Available from: <http://www.thelancet.com/article/S2215036619303992/fulltext>.
- 81 Patalay P, Giese L, Stanković M, Curtin C, Moltrecht B, Gondek D. Mental health provision in schools: priority, facilitators and barriers in 10 European countries. *Child Adolesc Ment Health*. 2016;21(3):139–147.
- 82 Felitti VJ, Anda RF, Nordenberg D, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: the adverse childhood experiences (ACE) study. *Am J Prev Med*. 1998;14(4):245–258 [cited 2025 Mar 13] Available from: <https://pubmed.ncbi.nlm.nih.gov/9635069/>.
- 83 Danese A, Asmussen K, MacLeod J, et al. Revisiting the use of adverse childhood experience screening in healthcare settings. *Nature Reviews Psychology*. 2024;3(11):729–740 [cited 2025 Mar 13] Available from: <https://www.nature.com/articles/s44159-024-00362-5>.
- 84 Angeles G, de Hoop J, Handa S, et al. Government of Malawi's unconditional cash transfer improves youth mental health. *Soc Sci Med*. 2019;225:108–119 [cited 2024 Oct 26] Available from: <https://pubmed.ncbi.nlm.nih.gov/30826585/>.
- 85 Costello EJ, Copeland W, Angold A. The great smoky Mountains study: developmental epidemiology in the southeastern United States. *Soc Psychiatry Psychiatr Epidemiol*. 2016;51(5):639 [cited 2024 Oct 26] Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC4846561/>.
- 86 Machado DB, Williamson E, Pescarini JM, et al. Relationship between the bolsa família national cash transfer programme and suicide incidence in Brazil: a quasi-experimental study. *PLoS Med*. 2022;19(5) [cited 2024 Oct 26] Available from: <https://pubmed.ncbi.nlm.nih.gov/35584178/>.
- 87 Bess KD, Miller AL, Mehdiapanah R. The effects of housing insecurity on children's health: a scoping review. *Health Promot Int*. 2023;38(3) [cited 2025 Mar 16] Available from: <https://doi.org/10.1093/heapro/daac006>.
- 88 Angell AM, Empey A, Zuckerman KE. A review of diagnosis and service disparities among children with autism from racial and ethnic minority groups in the United States. *Int Rev Res Dev Disabil*. 2018;55:145–180 [cited 2025 Mar 13] Available from: <https://ohsu.elsevierpure.com/en/publications/a-review-of-diagnosis-and-service-disparities-among-children-with>.
- 89 Kirkbride JB, Anglin DM, Colman I, et al. The social determinants of mental health and disorder: evidence, prevention and recommendations. *World Psychiatry*. 2024;23(1):58 [cited 2025 Mar 16] Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10786006/>.
- 90 Chinsin A, Berg A, Nielsen S, et al. Co-design methodologies to develop mental health interventions with young people: a systematic review. *Lancet Child Adolesc Health*. 2025;9(6):413–425 [cited 2025 Jun 20] Available from: <https://www.sciencedirect.com/science/article/abs/pii/S235246422500063X>.
- 91 Hards E, Loades ME, Higson-Sweeney N, et al. Loneliness and mental health in children and adolescents with pre-existing mental health problems: a rapid systematic review. *Br J Clin Psychol*. 2022;61(2):313–334 [cited 2025 Mar 16] Available from: <https://pubmed.ncbi.nlm.nih.gov/34529837/>.
- 92 Collins PY, Sinha M, Concepcion T, et al. Making cities mental health friendly for adolescents and young adults. *Nature*. 2024;627(8002):137–148 [cited 2025 Mar 16] Available from: <https://www.nature.com/articles/s41586-023-07005-4>.
- 93 Pei F, Yoon S, Maguire-Jack K, Lee MY. Neighborhood influences on early childhood behavioral problems: child maltreatment as a mediator. *Child Abuse Negl*. 2022;123 [cited 2025 Mar 16]. Available from: <https://pubmed.ncbi.nlm.nih.gov/34768072/>.
- 94 Wilson N, Turner-Halliday F, Minnis H. Escaping the inescapable: risk of mental health disorder, somatic symptoms and resilience in Palestinian refugee children. *Transcult Psychiatry*. 2021;58(2):307–320 [cited 2025 Mar 16] Available from: <https://pubmed.ncbi.nlm.nih.gov/33522455/>.
- 95 Brettell M, Fenton C, Foster E. Linking leeds: a social prescribing service for children and young people. *Int J Environ Res Public Health*. 2022;19(3):1426 [cited 2025 Mar 16] Available from: <https://www.mdpi.com/1660-4601/19/3/1426/htm>.
- 96 Brauer R, Alfageh B, Blais JE, et al. Psychotropic medicine consumption in 65 countries and regions, 2008–19: a longitudinal study. *Lancet Psychiatry*. 2021;8(12):1071–1082 [cited 2025 Mar 16] Available from: <https://pubmed.ncbi.nlm.nih.gov/34801129/>.
- 97 Correll CU, Cortese S, Croatto G, et al. Efficacy and acceptability of pharmacological, psychosocial, and brain stimulation interventions in children and adolescents with mental disorders: an umbrella review. *World Psychiatry*. 2021;20(2):244–275 [cited 2025 Mar 16] Available from: <https://pubmed.ncbi.nlm.nih.gov/34002501/>.
- 98 Gringras P, Nir T, Breddy J, Frydman-Marom A, Findling RL. Efficacy and safety of pediatric prolonged-release melatonin for insomnia in children with autism spectrum disorder. *J Am Acad Child Adolesc Psychiatry*. 2017;56(11):948–957.e4.
- 99 Plazzi G, Ruoff C, Lecendreux M, et al. Treatment of paediatric narcolepsy with sodium oxybate: a double-blind, placebo-controlled, randomised-withdrawal multicentre study and open-label investigation. *Lancet Child Adolesc Health*. 2018;2(7):483–494.
- 100 Kuyken W, Ball S, Crane C, et al. Effectiveness and cost-effectiveness of universal school-based mindfulness training compared with normal school provision in reducing risk of mental health problems and promoting well-being in adolescence: the MYRIAD cluster randomised controlled trial. *Evid Based Ment Health*. 2022;25(3):99–109 [cited 2025 Mar 13] Available from: <https://mentalhealth.bmj.com/content/25/3/99>.
- 101 Foulkes L, Stringaris A. Do no harm: can school mental health interventions cause iatrogenic harm? *BJPsych Bull*. 2023;47(5):267–269 [cited 2025 Mar 16] Available from: <https://pubmed.ncbi.nlm.nih.gov/36843444/>.
- 102 Marcotulli D, Foulkes L, Stringaris A. What is the impact of information interventions for mental health? An evaluation framework for policy makers, Clinicians and researchers [cited 2025 Mar 16]; Available from: https://osf.io/ztnrv_v1; 2024.
- 103 Fusar-Poli P, Correll CU, Arango C, Berk M, Patel V, Ioannidis JPA. Preventive psychiatry: a blueprint for improving the mental health of young people. *World Psychiatry*. 2021;20(2):200–221 [cited 2025 Mar 13] Available from: <https://onlinelibrary.wiley.com/doi/full/10.1002/wps.20869>.
- 104 Stringaris A, Burman C, Delpech R, et al. Comparing apples and oranges in youth depression treatments? A quantitative critique of the evidence base and guidelines [cited 2025 Mar 16]; Available from: https://osf.io/jk4z7_v1; 2024.
- 105 Ahern S, Burke LA, McElroy B, et al. A cost-effectiveness analysis of school-based suicide prevention programmes. *Eur Child Adolesc Psychiatry*. 2018;27(10):1295–1304 [cited 2025 Mar 16] Available from: <https://pubmed.ncbi.nlm.nih.gov/29442231/>.

- 106 Minnis H. Stigma in practice. *Lancet Psychiatry*. 2021;8(6):466–468 [cited 2025 Mar 16] Available from: <https://www.thelancet.com/action/showFullText?pii=S2215036621001164>.
- 107 Aguirre Velasco A, Cruz ISS, Billings J, Jimenez M, Rowe S. What are the barriers, facilitators and interventions targeting help-seeking behaviours for common mental health problems in adolescents? A systematic review. *BMC Psychiatry*. 2020;20(1):1–22 [cited 2025 Mar 16] Available from: <https://bmcp psychiatry.biomedcentral.com/articles/10.1186/s12888-020-02659-0>.
- 108 Reardon T, Harvey K, Baranowska M, O'Brien D, Smith L, Creswell C. What do parents perceive are the barriers and facilitators to accessing psychological treatment for mental health problems in children and adolescents? A systematic review of qualitative and quantitative studies. *Eur Child Adolesc Psychiatry*. 2017;26(6):623–647 [cited 2025 Mar 16] Available from: <https://pubmed.ncbi.nlm.nih.gov/28054223/>.
- 109 O'Brien D, Harvey K, Howse J, Reardon T, Creswell C. Barriers to managing child and adolescent mental health problems: a systematic review of primary care practitioners' perceptions. *Br J Gen Pract*. 2016;66(651):e693–e707 [cited 2025 Mar 16] Available from: <https://pubmed.ncbi.nlm.nih.gov/27621291/>.
- 110 Guerrero Z, Kågström A, Aliev A, et al. Mental health plans and policies across the WHO European region. *Global Mental Health*. 2024;11:e110 [cited 2025 Jul 29] Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC11588412/>.