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Mental health interventions in schools 1:

Mental health interventions in schools in high-income countries

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Abstract

Mental health services embedded within school systems can create a continuum of integrative care that improves both mental health and educational attainment for children. To strengthen this continuum, and for optimum child development, a reconfiguration of education and mental health systems to aid implementation of evidence-based practice might be needed. Integrative strategies that combine classroom-level and student-level interventions have much potential. A robust research agenda is needed that focuses on system-level implementation and maintenance of interventions over time. Both ethical and scientific justifications exist for integration of mental health and education: integration democratises access to services and, if coupled with use of evidence-based practices, can promote the healthy development of children.

Introduction

Children spend more time in school than in any other formal institutional structure.[1] As such, schools play a key part in children's development, from peer relationships and social interactions to academic attainment and cognitive progress, emotional control and behavioural expectations, and physical and moral development. All these areas are reciprocally affected by mental health.

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Declaration of interests

We declare no other competing interests.

Increases in recognition of the effect of mental health problems on academic attainment, and the unique platform that schools can offer in access to and support for children and adolescents with psychological difficulties, has led to an expansion of school-based mental health interventions in high-income countries.

In this Review on school-based mental health interventions and services in high-income countries, and the accompanying Review by Fazel and colleagues[2] in low-income and middle-income countries, we aim to contextualise and identify key areas for consideration and development of such services.[3,4]

In this Review we describe the salient issues in delivery of mental health services within school settings. Our overview is broad and includes examples of different interventions to illustrate types of provision. We summarise the epidemiology of psychiatric disorders in school-age children (aged 4–17 years) and describe specific school-related mental health issues. We discuss the range of mental health services delivered in schools because many different models exist with variations in professionals delivering the intervention, target groups, therapeutic modalities, and outcomes measured. We outline the restrictions of working within schools and challenges in implementation of evidence-based interventions in the school context. We conclude by emphasising the need to reconfigure both health and education services to better promote children's learning and development.

Mental health of children and school-specific effects

Epidemiological studies

Findings from epidemiological studies of high-income countries show a point prevalence of 8–18% for psychiatric disorders in school-age children, although many more children will have lower but still impairing levels of psychological distress.[5] Childhood psychiatric disorders are associated with educational failure,[6] which in turn is associated with increased rates of psychiatric disorders[7] and both are associated with a range of additional adverse outcomes, including risk-taking behaviour and being more likely to enter the criminal justice system.[8–11] Children who are struggling with psychological symptoms do not form a discrete group; therefore, effective mental health interventions could improve outcomes for all children, not only those with clinically significant psychiatric morbidity, which underscores the potential benefits of universal interventions.[12]

The prevalence of psychiatric disorders varies with age.[5] The most common difficulties in school-age children are disruptive behaviour and anxiety disorders. Separation anxiety and oppositional defiant disorder are seen mainly in primary school children (aged 4–10 years), whereas generalised anxiety, conduct disorder, and depression are more common in secondary school students (aged 11–18 years). Attention deficit hyperactivity disorder (ADHD) and autism spectrum disorders pose particular difficulties for children in the school environment, and the incidence of eating disorders and psychosis starts to increase rapidly from mid-adolescence onwards.

Childhood psychiatric disorders frequently persist.[13] In the combined British Child and Adolescent Mental Health Surveys (unpublished, TF), half of children with a psychiatric

disorder at baseline had a psychiatric disorder 3 years later. In the Great Smoky Mountain Study,[14] 36.7% of children had at least one disorder diagnosed by age 16 years, and those with a psychiatric disorder were three times more likely to have a disorder in subsequent studies in both childhood and adulthood.[15] Similarly, large epidemiological studies in adults show that childhood psychiatric disorders persist into adulthood.[8,16] Notably, conduct disorder, which is sometimes dismissed as outside the remit of child mental health services, was a predictor for all adult psychiatric disorders, including psychosis, in the Dunedin cohort.[8] A 14-year prospective cohort study of adolescents in Australia[13] showed the importance of interventions to shorten the duration of episodes of mental illness for prevention of substantial morbidity in later life.

Some school-specific factors are related to mental health during childhood. Bullying often takes place within the school context; a UK survey[17] showed that 46% of school-aged children had been bullied. The odds of suicidal ideation and suicidal attempts are more than doubled in young people who report peer victimisation.[18] Bullying can affect children into adulthood with increases in the prevalence of anxiety, depression, and self-harm.[19]

Poor relationships between teachers and pupils are a predictor of the onset of childhood psychiatric disorders[20] and of low academic attainment.[21] Policies associated with austerity in high-income countries reduce schools' access to external support, while teachers report that stress resulting from disruptive behaviour is central to burnout and leaving the profession.[22] The so-called burnout cascade,[23] whereby difficulties with behavioural management can negatively affect teacher–pupil relationships and the classroom environment, might damage both teacher and child mental health.

Needs assessment and screening

Many professionals working with children advocate the use of a multiple-gated screening system to determine mental health need in schools. This screening includes the administration of assessments to a specified group (gate 1), school mental health professionals processing and interpreting the data to identify which students meet a predetermined cutoff (gate 2), and then interviewing or assessing students who meet that cutoff (gate 3).[24] When done in the context of a multitiered system of support, assessment can include components that correspond with different types of interventions. For example, a school might complete a school climate scale (measures students' or teachers' perception of how the environment of classrooms and schools as a whole affects education) to select a universal intervention of school-wide character development, or might use a screening programme to identify children at risk of suicide.[25] Schools use various methods to identify students who could benefit from interventions, including functional behavioural assessment, teacher or student nominations, and systematic screening. Screening poses the risk of over-identification of children (false positives) and failure to recognise a condition (false negatives).[26,27] Provided these risks are managed, and if screening is done with standardised methods and by well trained staff, with the informed consent of children and caregivers and within the context of available service capacity for those who screen positive, this technique can provide a useful mechanism for schools to identify and support students with psychological disorders.[26,28]

Providers of mental health services in schools

Substantial differences exist between mental health services and educational services including professional qualifications gained, funding mechanisms, and the criteria by which a child's eligibility for access to services and outcomes are judged. Conceptualisations of the same child can vary, such that a child with depression can be perceived to be failing academically, disengaged, or even cognitively impaired, or alternatively might be regarded as having poor motivation or low self-esteem.

Responsibility for the mental health of children in schools is shared across service sectors but varies between countries. Responsibility is affected by differences in cultures, aims, and the social structure of the health versus school systems. In the USA, for example, introduction of the Individuals with Disabilities Education Act[29] placed much of the responsibility for student mental health on the education system, at least for students whose mental health could be linked to educational success. However, even with evidence to support the positive effect of the use of school resources (eg, teachers[30] and school counsellors[31]), many schools rely heavily on community mental health services that are administratively and geographically outside the school system.[32,33]

Mental health services in schools are provided by staff whose training or employment might be within education or health-care systems. A background in education could assist staff to manage the complex school culture, but education or school-employed staff often need to prioritise educational targets. They might argue that their specialised training in school-based approaches positions them better than their non-school-employed peers to meet both the mental health and educational needs of students. However, staff employed at schools are limited by school policies that restrict the type of services that they can provide, reducing their ability to meet specific needs or serve specific students. For example, because of funding and special education mandates, US school psychologists often spend much of their time undertaking routine psychological testing and eligibility assessments, rather than applying their broader consultative and intervention skills. In many countries, school-employed personnel work mainly with students who have educational difficulties that result from emotional and behavioural issues, and might not have had training in complex psychiatric presentations.

Community mental health professionals in schools work in a range of disciplines, including counselling, social work, occupational therapy, psychology, and psychiatry.[34] Three broad models of integration are common: individuals from an outside agency are contracted to work within a school, the school includes a mental health clinic staffed by professionals who deliver mental health services, and the school has a health centre with mental health as a subspecialty. Counsellors and social workers are more likely to provide school-based mental health services than their psychology or psychiatry counterparts. In some countries, schools can partner with psychologists and psychiatrists to provide consultation and intervention for specific students with complex challenges, but this model is unlikely to be scalable in view of the global scarcity of child and adolescent psychiatrists. Telemedicine can increase the capacity of mental health services in schools, although successful models have additional on-site school mental health providers to support engagement and continuous psychosocial

intervention. Some schools have recruited advanced nurse practitioners to manage the needs of students.[35]

Beyond traditional providers of mental health, the discipline has increasingly shifted towards inclusion of so-called natural supports, such as special education staff and school nurses. Improved training and support of staff within schools in this role is a coherent and practical model that seems feasible and sustainable from a resource perspective and in view of the expanding literature about the model's effectiveness. Teachers are able to effectively identify mental health problems in students, making them good gatekeepers and referral sources for mental health care.[36] Although teacher-implemented mental health promotion and prevention activities have a substantial effect on the psychosocial and academic performance of students, some models have been less effective than health-led interventions.[37,38] However, because of the demands placed on teachers to support the academic success of their students, introduction of an additional role of supporting student mental health is less feasible unless teachers are given sufficient training and time to do these responsibilities.[39] Models that integrate mental health promotion into the natural teaching context and incorporate coaching to increase a teacher's belief in their own abilities should be further developed and assessed.

Mental health interventions in schools

An empirically derived approach to map intensity and type of school strategies to the needs of students has been used in parts of the USA.[40] This tiered approach[41] includes universal strategies for all students, followed by interventions to assist selected students who face particular risks, and finally a tier with treatment interventions for those with the greatest needs. An advantage of this public health and tiered approach is that schools and teachers can support students with varying needs and also create classroom and whole-school environments that support the learning of all children.

Schools in many high-income countries have long delivered public health education and services, such as immunisation programmes and health and sex education.[42–44] Provision of mental health services in schools is quite new and mainly addresses the academic effect of mental health difficulties that are not being met by external mental health services. The specialty incorporates mental health promotion, prevention, and treatment. Many interventions address overlapping areas, showing the present movement towards multitiered systems of supports in which school mental health is delivered across a full continuum of care. The ultimate aim is to promote student wellbeing, prevent the development or worsening of mental health problems, and improve the effectiveness of education.[45,46]

Mental health promotion

Principles of school mental health promotion have been espoused since Plato's *Republic*, in which he identified the importance of the school environment to children's social development, noting that "by maintaining a sound system of education and upbringing, you produce citizens of good character". Universal promotion of mental health programmes often focuses on constructs such as social and emotional skills, positive behaviours, social inclusion, effective problem solving, and good citizenry.[47–49] A meta-analysis[50] emphasised

the academic benefits of mental health promotion in schools because schools with social emotional learning programmes had an average increase of 11–17 percentile points on standardised tests compared with scores from non-intervention schools.[51] In whole-school and classroom-based interventions, universal promotion programmes are often delivered by the school's own staff,[36] and are done in both primary and secondary schools.[52]

An example is MindMatters, developed in the late 1990s. This approach is the leading national initiative for promotion of mental health in schools in Australia, with substantial national investment to equip schools and educators with skills to promote students' wellbeing.[53,54] Specific strategies to help students include social and emotional learning programmes, increasing students' connection to school, building student skills in understanding and management of emotions, effective communication, and stress management. Teachers participate in various professional development opportunities to support their learning in these curricular domains. In the USA, programmes such as I Can Problem Solve,[55] and the Good Behavior Game,[56] have documented success in the short term and long term. Interventions to help behaviour management with whole-school or classroom-based programmes have increasing empirical support. For example, Positive Behavior Interventions and Supports (PBIS) offers a framework for multitiered interventions. Implementation of its primary prevention tier, which includes how to define, teach, and reward appropriate behaviour alongside a continuum of consequences for problem behaviour, was highly successful.[57,58]

Mental health prevention: a multitiered approach

Overview

Schools are an ideal setting for capturing the entire population of children, and therefore a three-tiered approach has become an accepted model for conceptualising the range of interventions to prevent students from developing psychiatric problems. The three components are universal, selective, and indicated interventions. Because early intervention can positively change the mental health trajectories for youth at risk of mental illness, many high-income countries are turning to this three-tiered model. Universal interventions target the whole school or classroom, selective interventions are targeted to population subgroups whose risk of developing a mental disorder is significantly higher than average, and indicated and treatment interventions target young people already exhibiting clinical symptoms.[5] Indicated interventions overlap conceptually with mental health treatments and can include interventions for emotional disturbance,[59] anxiety disorders,[60] depression,[61] and post-traumatic stress symptoms,[62] in addition to substance misuse.[63,64] Studies show that evidence-based treatments can be delivered in school settings, group models tend to be effective, and that engagement and participation rates tend to be high. However, few rigorous assessments have been done of school-based interventions for students with disabilities or for specific disorders, including eating disorders or complex neurodevelopmental disorders.[65]

Universal approaches

Universal approaches have particular appeal because they are the least intrusive, potentially incur the lowest cost, and therefore have the greatest chance of adoption in the school setting.[66] Additionally, schools might prefer these approaches because they are easier than other approaches to incorporate into the structure of the school and do not exclude students who might potentially benefit from what is offered.[67] However, because universal approaches are comprehensive, they can also be difficult to implement and need a concerted effort by administrative leadership and all school staff. Universal approaches have been studied for a broad range of presentations, including behavioural management, risky behaviours, and mood and anxiety disorders.[68]

A wide range of universal interventions have been tried in schools in children of various age ranges, and with various therapists and therapeutic modalities such as cognitive behavioural approaches (CBT) and stress reduction techniques. Several systematic reviews of CBT-based interventions in schools have been done,[60,61,69,70] with a main focus on prevention of anxiety disorders[60] and depression.[61] The CBT-based interventions included many universal prevention programmes. For example, in a systematic review of anxiety disorders,[60] investigators assessed 12 randomised controlled trials and recorded that the universal programmes had the largest effect sizes compared with selective and indicated programmes. However, the effect of these programmes on anxiety prevention was slight, with most averaging effect sizes (Cohen's d) around 0.3 after intervention. For prevention of depression, 20 randomised controlled trials including more than 10 000 participants showed that universal interventions were less effective than selective and indicated programmes,[61] leading to debate as to whether these programmes should be widely disseminated before more evidence is collected.[71]

One of the largest studies of universal interventions for prevention of depression was Beyondblue.[72] This study showed that an Australian classroom CBT-based curriculum of 30 sessions delivered by teachers did not reduce levels of depressive symptoms in adolescents. This result might emphasise the difficulties faced in attempts to implement large-scale school-based universal interventions, with training of teachers in a new technique, and with engaging of adolescents in prevention programmes. Promoting Alternative Thinking Strategies is a widely used intervention in primary schools[73] and FRIENDS for Life is a ten-lesson programme, which has had variable success as a universal intervention for both anxiety and depression, although it was initially developed as a selective intervention.[38,66] Some data suggest that children identified as at low risk of mental health problems might benefit more from the interventions than would those at higher risk.[38,74] The Resourceful Adolescent Programme[75] is another universal intervention that aims to develop adolescents' self-esteem, conflict resolution, and stress management skills, with most studies showing a reduction in adolescent depression.

Selective approaches

In schools, several prevention efforts have been successful in addressing risk factors, including interventions to decrease substance misuse in adolescents who score highly on certain personality measures, suggesting an increased risk of problems with substance

misuse.[63] The interventions promote awareness of personality-associated cognitive distortions and alternative coping strategies, and ultimately reduce development of some problem behaviours. Prevention programmes are often delivered in classrooms or small groups—eg, the Coping Power Program[76] for students at high risk of aggressive behaviours, drug misuse, and delinquency. An evidence base is also emerging for provision of school-based services to specific populations, such as young people from low-income urban regions,[77] and refugees.[78]

Evidence for selective school-based prevention and early intervention programmes is strong for specific behavioural difficulties, for students with risks (such as parental divorce), and for students with anxiety or depressive disorders.[60,61,79]

Indicated approaches

Many studies have assessed indicated school-based programmes for anxiety or depression, deliberate self-harm, and post-traumatic stress disorder.[61,62,80,81] Indicated programmes generally show stronger outcomes for depression and a greater reduction in symptoms of depression than universal or selective programmes do.[61] Few evidence-based trials have been done of suicide prevention.[82] Successful interventions to treat post-traumatic stress disorder include the ten-session Cognitive Behavioural Intervention In Schools for students with a history of exposure to potentially traumatic events.[62]

Community-based mental health treatment

Community-partnered school mental health services, delivered by staff employed in community-based agencies, often augment existing behavioural health supports for students. Consultation in mainstream schools by mental health specialists can assist with case conceptualisation, differential diagnosis, or considerations for community care. Some schools employ or have links with community-based partners to provide onsite individual, family, and group treatment for students with identified problems such as anxiety, depression, disruptive behaviour disorders, and traumatic stress. Intensive treatment often takes place during the school day, which can be more time efficient for both students and parents. Increasingly, school-employed staff are enhancing their capacity to deliver specialised mental health treatment for students. A study[83] of interpersonal therapy given in school-based health centres showed that the therapy effectively treated adolescent depression. Additional service developments in schools include treatment of serious emotional disturbances[84] and reduction of the duration of untreated psychosis.[85]

Special educational schools or classrooms (for children with severe emotional and behavioural difficulties) are at one end of the range of mental health needs in schools and are found to variable extents in high-income countries. Such establishments might have a high proportion of children with both treated and untreated mental illness. Alignment of these schools or classrooms with community mental health services is often needed, but not universally available.[86]

Gaps in school-based research and challenges in implementation

Research about school-based interventions has restrictions and these could obscure important effects (panel). These restrictions include a reliance on small studies, use of non-random designs, wide variation in outcome measures that might not be validated or educationally relevant, and difficulty in generalisation to other contexts because of factors unique to specific school settings. Furthermore, although understanding about the effectiveness of treatments is increasing, research of fidelity to these treatments when delivered and implemented in schools is scarce.[87] Interventions need to be tested in real-world settings and embedded process assessments are important to identify facilitators and barriers in different school contexts.[88] Many of these issues were emphasised in a systematic review[89] about school-based psychosocial interventions for pupils with ADHD, which suggested that such interventions led to positive results on academic progress and core ADHD symptoms. However, the study methods varied, so the results did not allow practitioners to differentiate which aspects of what interventions were effective and therefore worth using. Additionally, no cost-effectiveness studies were done, thereby restricting the generalisability.[90] The few cost-effectiveness studies available show methodological concerns about how to undertake such assessments and how to make them relevant and meaningful—eg, in the case of a universal classroom CBT-based intervention that showed no evidence of cost-effectiveness.[91] Furthermore, when mental health interventions have been made available in the school context, they are often not accessed by the students. For example, although one study showed that an intervention was effective in treating symptoms of depression, more than 60% of eligible participants refused the intervention, possibly because of the legacy of stigma affecting mental health diagnosis and treatment, and perceptions of patients not needing or not thinking they can helped by services.[25]

Panel: Research gaps and service development priorities for mental health in schools

1. Identification of mechanisms and processes to use to maximise effectiveness of interventions in schools, including
   - Universal screening methods and processes that promote early identification and reduce duration of untreated mental health problems
   - Identification of screening thresholds by which to select children to participate in interventions
   - Development of specific implementation strategies to improve uptake, fidelity, and continuous learning for people delivering mental health interventions
   - Development of measures that integrate health, mental health, and educational outcomes to show individual, family, peer, classroom, and system-level improvements

- Comparative tests of optimum modes of delivery for specific interventions such as individual, group, classroom, and whole-school, as well as unifying elements of successful interventions
- Determination of best age range for specific interventions and studies that target secondary school settings and special educational settings

2. Research of interventions in schools for children with emerging or established mental health problems, including
   - Eating disorders
   - Self-harming behaviours
   - Neurodevelopmental disorders such as attention deficit hyperactivity disorder or autism spectrum disorders
   - Psychosis
   - Bipolar disorders
3. Development and assessment of young people and family peer models to promote engagement in schools
4. Education and health interface for
   - Interdisciplinary research that promotes collaborative scientific inquiry between education, mental health, and health researchers
   - Development of new models for integration of health and mental health in schools
   - Use of digital technologies to aid implementation and monitor improvements in strategies
   - Development of quality indicators to link educational services to health services
   - Development of strategies, rather than programmes, which build on the naturally occurring ecologies within schools to strengthen skills and competencies around mental health identification and intervention
5. Clarification of consent and confidentiality procedures to aid and accelerate research and clinical practice in schools

School-based services are unlikely to be a panacea for identification and treatment of all childhood mental illnesses. Some children do not attend school, might feel estranged from their school, or prefer to receive mental health services outside the school context. Agreement between parents, young people, and teachers about young people's mental health and wellbeing is low in systematic studies,[92] which probably relates to different frames of reference, true differences in functioning in different settings, and measurement error. Some young people might fear labelling and medicalisation if teachers have a prominent role in the detection of psychological distress; these issues need careful attention in training for

teachers about mental health. Which presentations of illness and treatments are better suited for the school or community services are important questions to clarify. Additionally, not all interventions done in schools have produced positive results and the potential for adverse effects from psychological interventions should be acknowledged and monitored.[93]

Implementation of effective interventions in schools has many challenges, and these are beginning to be systematically catalogued.[94] The scientific base for implementation is growing and being applied to mental health integration in schools.[95–97] Development of the scientific base is important to avoid the typical trajectory of mental health practices in schools, commonly characterised by incomplete implementation, restricted sustainability, and narrow spread.[98–100] Poorly assessed interventions are often used in schools, and when schools do use evidence-based interventions, they are often implemented with poor fidelity.[101,102]

Understanding of the classroom factors that can increase social-emotional functioning and academic success is now clearer than it was previously.[103–105] Studies of classroom-based interventions are increasingly focused on either universal or selective strategies (eg, Promoting Alternative Thinking Strategies[106] and self-monitoring[107]), and studies suggest that improvement of the classroom context enables teachers to set positive behavioural norms, which, in turn, strengthens teacher–student interactions. Training and feedback can improve implementation of universal and selective interventions.[108–112] Integrative studies that target structured support for the use of universal and selective interventions addressing both emotional–behavioural functioning and contextual factors are now emerging. This important dual approach is comprehensive, draws upon school staff, addresses educational and mental health issues, and improves implementation.

An integrative study that combines universal and targeted interventions is BRIDGE (bridging mental health and education in urban schools).[113] A randomised trial of this intervention showed improved classroom-level and student-level outcomes. The strategies applied were empirically derived[104,114–116] and tested in 36 urban secondary school classrooms—a challenging environment in view of the complex needs of the student population. This study showed improved relationships between teachers and students, student academic self-concept, and peer-reported victimisation. The hypothesised mechanisms of change targeted teacher–student interactions, with the aim to change the classroom norms and improve academic engagement.[117,118]

A common barrier to the implementation of evidence-based interventions in schools is poor engagement of all levels of school staff—ie, teachers, counsellors, and support staff.[67,119] Additional barriers exist across individual (stigma, help-seeking behaviours, mental health status, parental risk factors), community (geographic and social location), and system (funding, waiting times, availability of trained personnel, and fragmentation of services) levels.[120] Several factors affect implementation across these three levels, from the competing priorities of stakeholders involved (children, parents,[121] school staff, educational authorities, and mental health services) to the focus of the intervention (whole school, classroom, teacher, family or screening, promotion, prevention, treatment) and the outcomes of interest (educational achievements, psychological measures, social functioning).

Implementation science helps to advance the understanding of core organisation (culture, climate, leadership), classroom, and teaching practices that can impede or aid uptake of evidence-based interventions. The models to improve implementation are complex and multitiered, but manageable when systematic approaches are taken.[122,123]

A challenge for both research and practice will be to test strategies to implement and sustain integrated whole-school, classroom-level, and individual-level interventions. This strategy will require the development of interventions that are feasible, low burden, and can be easily integrated into routine school schedules. Consultation and training strategies that rely on resources already available within schools will be especially important.[33,108,113] Research about the implementation and dissemination of integrative contextual approaches to mental health in schools can use theoretical models of implementation. The EPIS model (exploration, preparation, implementation, sustainability)[123] identifies different implementation phases and aspects of the outer and inner context that are salient at different phases. This model can be especially useful for guiding of research because it explicitly acknowledges how different variables can play a crucial part at specific points in the implementation process. Similarly, lessons about implementation can be learnt from other successful public health programmes within schools.[124]

The application to school systems of methods to improve health-care quality is a promising approach. For example, Nadeem and colleagues[125] identified 14 cross-cutting components as common factors in improvement of health-care quality including in-person learning sessions, phone meetings, data reporting, leadership involvement, and training in quality improvement methods. Similarly, cross-site learning, social networks,[126,127] and harnessing of the expertise of key opinion leaders[128] seem crucial, as do the commitment of leadership[128] and promotion of team effectiveness.[129] Implementation studies[97,120] suggest that development of a multitiered system of support, in which there are in-built assessments to monitor progress and fidelity for selected interventions, is needed to obtain positive effects on children’s mental health.

Complex ethical considerations exist when working with children in schools. Mental health services have clear pathways and requirements to gain consent and inform caregivers.[130,131] In schools, the services offered might be viewed as general school provision and individual consent for specific services might not be perceived as necessary. A child might see a school nurse or counsellor without parental knowledge or consent. Clear protocols are important to allow information sharing, which might prove beneficial to both academic and health outcomes, but privacy and confidentiality are essential to maintain therapeutic relationships.

Conclusion

Mental health services when embedded within educational systems create a continuum of integrative care that can promote health, mental health, and educational attainment. Strategies to integrate the different tiers of interventions within a school, and use of resources from within the school, are probably the most sustainable.

Service systems that support educational and mental health promotion, prevention, and treatment are administratively, legislatively, and politically separate.[132] Education and health policies are progressively convergent on a set of quality indicators that, if enacted, can support a comprehensive continuum of services for children and families. These indicators include accountable care organisations, the meaningful use of data to improve quality, and pay-for-performance incentives to promote healthy behaviours. Many countries (eg, Australia, the UK, and the USA) have also had an increase in local control, which affects school mental health services in relation to competing demands. Tensions between mental health and other school priorities have prevented some schools and education services from placing resources in mental health provision. Agreement about which entity or organisation owns or is responsible for mental health services (schools *vs* the community) is a debate that is being replaced by models of shared ownership. These models include families, schools, and communities identifying evidence-based programmes and working together to establish a full continuum of services.[133]

Improved collaboration between education and health sectors would be enhanced by mutual contributions to basic professional training. At present, specific training for most mental health professionals to become familiar with the school context is scarce.[134] Some practice guidelines have been developed,[135] but opportunities for trainees to work closely with schools might increase appreciation of the school context and develop consultation-liaison skills.[136] Standard teacher training programmes need to incorporate curricula targeted at the most common mental health issues likely to be present in schools. These curricula include mental health screening and identification of common presentations of mental health issues. Similarly, training teachers in mental health promotion skills might not only assist in identification and referral for children who need it, but also help teachers feel less overwhelmed by the emotional and behavioural challenges in their classrooms.[40,120]

Poor prioritisation of child and adolescent health and mental health restricts the positive possibilities of integrative services.[137–139] Evidence that mental health is crucial for child development is clear, and schools are where children spend much of their time. Furthermore, economic analyses of British mental health-related service contacts show large costs to schools and special educational services that were greater than costs of mental health to other public sectors.[140] Despite this high cost, the services typically did not include empirically supported therapeutic practices, suggesting that substantial time and resources could be redirected to evidence-based school interventions for mental health.

Search strategy and selection criteria

We searched the literature with Scopus to identify meta-analyses, systematic reviews, and narrative reviews about school-based mental health interventions published between Jan 1, 2000, and May 31, 2014, with no language restrictions. We used combinations of the search terms “mental health“ or “psych*”, and “school*“, and “intervention*“ or “service“ and “review“. This search identified 37 articles; we added further landmark studies and sought additional expert opinion to ensure the most relevant information was included. We used the Institute of Medicine framework to help categorise the range of different interventions that are undertaken in school settings.[40] The framework

differentiates between mental health promotion, prevention, and treatment, and although some interventions will span across these categories, we adhered to this framework. The interventions consist of a scale ranging from universal interventions that are mainly mental health promotion and prevention interventions, to more selective interventions for children at high risk of developing disorders. Interventions that are indicated target children with identified disabilities and include both prevention and treatment.[40]

The evidence base for the effectiveness of interventions to support positive gains in students' social-emotional and academic outcomes is strong. The knowledge base of effective classroom interventions to improve teacher–student interactions and classroom behaviour is expanding. Integrative strategies that combine classroom-level and student-level interventions have potential to sustain educational, health, and mental health improvements for children. Future research should focus on system-level implementation and maintenance of these integrative interventions over time.

Both an ethical and a scientific argument exist for improving access for all children, irrespective of their income, to high quality mental health services.[141,142,143] A population-based approach will ensure that young people can access preventive and treatment services whenever they are needed. Application of the evidence base can ensure quality, but public and political will are needed to ensure that the evidence base is successfully implemented universally.

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