Evidence check

10 Feburary 2021

Rapid evidence checks are based on a simplified review method and may not be entirely exhaustive, but aim to provide a balanced assessment of what is already known about a specific problem or issue. This brief has not been peer-reviewed and should not be a substitute for individual clinical judgement, nor is it an endorsed position of NSW Health.

Mental health models to support children and young people

Evidence check questions

Q1. What innovative models have been described for children and young people with mental health issues as a result of the COVID-19 pandemic?

Q2. What are the key elements for an effective mental health service responding to a surge in mental health presentations, such as following pandemics or disasters, in this age group?

Q3. Are there any specific issues that need to be addressed for different age subgroups?

In brief

The review included children and young people from birth to 25 years. Within this age range, however, the mental health and wellbeing needs, treatment and care responses are distinctly different.

Q1. Models of mental health care for children and young adults as a result of COVID-19

Models of mental health care for children and young people in response to COVID-19 predominantly describe transitioning from face-to-face care to telehealth models. Most peer-reviewed and grey literature describe a decline in face-to-face presentations and service utilisation during pandemic waves.(1-8)

- Transition to telehealth was reported at various levels of service provision, including tertiary hospital psychiatry departments, outpatient specialist clinics, and school counselling.(1-6, 9-11) Telehealth was used for assessment, counselling and therapy sessions for individuals, parent-child dyads or groups of parents or adolescents.(1-3, 9, 10) In one study, group telepsychology was found to be comparable to face-to-face group sessions in terms of content and process fidelity, acceptance and satisfaction.(10)
- Challenges identified in transitioning to telehealth included: parent, child and provider unfamiliarity with the technology, concerns about privacy, confusion, resistance to transition, administrative level challenges in rapid and large-scale transition and training, and difficulties in determining financial eligibilities.(1, 2, 4, 10)

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- Opportunities or benefits of transitioning to telehealth included: improved access to specialised mental health services for children and families that live in geographically disadvantaged areas, enhanced synchronous and asynchronous mental health support and continuation of care.(1-3, 11)
- In Australia, according to a survey by non-profit organisation headspace, 94% of young people (n=1348) reported a positive experience with telehealth.(7) 45% (n=592) of headspace staff said their therapeutic relationship and the young person's therapeutic progress were about the same using telehealth, as compared with in-person, and 44% said it was worse.(8) The phone counselling service, Kids Helpline, received funding to develop the first digital mental health practice model to offer online peer support for young people 13 to 25 years.(12)
- In New Zealand, a digital ecosystem for school students was used to provide safe and secure platform to host a wide range of interventions, including chatbot, online fantasy games designed for depression, and apps for youth and parents, and screen and identify users who might benefit from interventions and refers users to urgent care when needed.(13)
- In Canada, a Virtual Innovation in Care grant program was initiated to evaluate and scale virtual services in youth mental health in response to COVID-19.(14)

Q2. Models and interventions of mental health care in the events of pandemic and disasters

Search included studies described models of care and mental health interventions for children and young people following natural disasters (such as hurricanes, tsunamis, tornados, earthquakes, flooding, war, terrorism events, and pandemics).

- **Interventions** such as mass screening; wellbeing and resilience building; psychological debriefing; storytelling; psychoeducation; trauma-informed mental health interventions in schools and other community settings delivered by either the schoolteachers, professionals or paraprofessionals; and stepped care approach where children are matched to intervention levels through assessment, screening and clinical evaluations.(15-19) Post-disaster interventions were found to be beneficial, even when delivered a considerable period after the disaster; and to have a long-lasting impact on children and young people.(19)
- **School-based programs** have been identified as a core implementation site for child and family mental health interventions post-disaster.(20-22) School-based interventions in either natural disaster or conflict settings were found to significantly reduce post-traumatic stress disorder, depression and anxiety symptoms compared to controls.(15, 17, 23, 24) A Sri Lankan, post-tsunami project, the Happy/Sad Letter Box, was found to be effective, non-stigmatising, relevant, and helpful in catering to children's mental health needs during the recovery process.(22)
- **Digital programs,** including an online cognitive behaviour therapy program, introduced for children and adolescents experiencing anxiety following the Canterbury earthquake in New Zealand was found to be feasible and acceptable in improving mood and anxiety symptoms.(25) A web-based intervention for adolescents following tornado disaster in the United States of America (USA) was feasible, effective and scalable in reducing depressive and post-traumatic stress disorder symptoms.(26)
- **Bridging resources and building partnerships** between local academic, health, community, media and school sectors in developing culturally sensitive and locally suitable psychological response interventions were identified as key components of comprehensive trauma-and resiliency-focused programs.(27-33)

Q3. Are there any specific issues that need to be addressed for different age subgroups?

- **Preschool children**: Assessing and screening for mental health problems with preschool children can be challenging due to their limited verbal abilities. One review article recommended that screening activities to be integrated into normal institutional activities and professional who interact with children to be trained in trauma assessment and care.(34) One study described implementing play-based activities which aimed to alleviate fear and manage aggressive behaviours.(27)
- **School children (kindergarten to grade 12)**: Schools are identified as critical sites for mental health assessment and interventions during and after a disaster.(15, 20, 21, 23, 30, 35-37) Interventions were mainly delivered in the form of classroom-based and teacher delivered group sessions.(24, 35, 38)
- **Adolescents, youth and young adults**: Specific interventions for this group included text-based crises support, online therapy, web-based intervention, and a resilience-based leadership program.(25, 26, 29, 39)

Limitations

The empirical evidence on service response to a surge in child and young people mental health problems as a result of the COVID-19 pandemic is still developing. Given a lack of empirical literature on surge capacity response, PubMed searching and screening criteria were extended to include any studies that describe care models and interventions in mental health for children and young people during the COVID-19 pandemic.

Background

The public health crisis brought upon by the COVID-19 pandemic, which led to the closure of schools, disruption to normal routine and activities, extended social isolation, economic downturn and fear and anxiety of contracting the disease, can result in worsened mental health problems among children and young people.(40, 41) Children and young people can be especially vulnerable to the psychological adversities caused by the COVID-19 pandemic, which can lead to long term mental health problems if experienced during sensitive periods of child development.(40) The mental health system is expected to respond to a surge in demand for care as a result of the pandemic and children and young people's mental health needs need to be addressed early and adequately.(40, 42)

Methods (Appendix 1)

PubMed was searched on 12 November and 20 November 2020. Google was searched on 30 November 2020.

Results

Table 1. Models of mental health care for children and young adults during the COVID-19 pandemic

Source	Summary
Peer reviewed literature	

Pediatric neuropsychological evaluation via telehealth: Novel models of care
 	
Pritchard, et al. 2020 (1)
	• A case report from a paediatric neuropsychology department in the USA.
	• In response to COVID-19 pandemic situation, a three-tiered model of care, which transitions from face-to-face assessment to telehealth, was implemented.
	  ○ Tier 1: Comprehensive interview and review of records. For patients with less complex presentations or whose existing recent assessment records are available.
	  ○ Tier 2: comprehensive interview, review of records and targeted tele-testing. For re-evaluations, evaluation of response to interventions or medical treatment or specific differential diagnoses.
	  ○ Tier 3: comprehensive interview, review of records and face-to-face testing.For patients with very complex presentations.
	• This article describes the challenges in implementing a telehealth-oriented new model of care, including challenges for patients and families (technology, privacy, confusion), for providers (resistance to transition, technology) and for the telehealth transition team (rapid and large-scale transition).
	• Authors anticipate that even after the pandemic, the changes made to the traditional model of care are likely to remain, especially for patients who live in underserved areas.

Implementation of home-based telemental health in a large child psychiatry department during the COVID-19 crisis
 	
Sharma, et al. 2020 (2)
	• This article describes the transition and implementation process of home-based telemental health in a large child psychiatry department.
	• Challenges in rapidly implementing home-based telemental health included:
	  ○ administrative challenges, including processing applications for hospital privileging for telemedicine, scheduling of visit, consenting and determination of financial eligibility of patients
	  ○ technological challenges with video conferencing. Phone consultations being considered as an alternative
	  ○ training challenges.

Source	Summary
	• Modifications to administration, technology use and training were made accordingly. • Authors anticipate the home-based telemental health and telegroup (group sessions) are likely to be continuedwith the advances of the technology and to increase access to psychiatric care.

Family-based treatment via videoconference: Clinical recommendations for treatment providers during COVID-19 and beyond
Matheson, et al. 2020(3)
	• This article describes the process, challenges and opportunities for implementing family-based treatment via telehealth for young people with eating disorders.
	• The common challenges and solutions in the following areas were discussed.
	  ○ Medical monitoring
	  ○ Obtaining session weights
	  ○ Patient one-on-one check-in
	  ○ Rapport building
	  ○ Communicating expectations
	  ○ Setting the intense scene
	  ○ Family meals
	  ○ Managing in-session behaviours
	• This article concludes that the benefits of telehealth, which offers increased access to specialised care, is likely to encourage continued use of this model of care even after the crises and more research is needed to address the challenges and opportunities.

Leveraging parent-child interaction therapy and telehealth capacities to address the unique needs of young children during the COVID-19 public health crisis Gurwitch, et al. 2020 (9)	• This article describes the challenges encountered during the transition to internet-delivered parent-child interaction therapy for young children (2-7) and reflects on future implications. • Parient-child interaction therapy, in its standard format, is usually delivered in a clinical setting, with the therapist providing coaching behind a one-way mirror via parent-worn earpiece. • Parient-child interaction therapy, in its internet-delivered format, is usually delivered remotely with the therapist providing coaching using videoconferencing and parent-worn earpiece. • In response to the COVID-19 pandemic, relevant professional bodies developed structured materials and guides on applying parent-child interaction therapy in the COVID-19 context. ○ Those materials incorporated guidance on delivering psychological first aid in the immediate aftermath of large-scale events.

Source	Summary
	○ Encountered challenges, including reimbursement issues with telehealth and technological literacy. • The article concludes that implementing telehealth and incorporating psychological first aid is promising in addressing the urgent mental health needs of families and young children.
Implementing group parent training in telepsychology: lessons learned during the COVID-19 pandemic Fogler, et al. 2020 (10)	• This article describes the process of implementing group parent training in telepsychology and the preliminary findings from adaptations using treatment fidelity as a guiding principle. • A brief parent training group (telepsychology) for caregivers and school-aged children (5-11) using rapid-cycle quality improvement methods were implemented. • This article lists common challenges that were encountered and provides recommended adaptation strategies. • Group telepsychology were found to be comparable to in-person group training in terms of content and process fidelity, acceptance and satisfaction. • The telepsychology approach described in this article can be promising in increasing access to services for families and children.
Caring for children and adolescents with eating disorders in the current coronavirus 19 pandemic: A Singapore perspective Davis, et al. 2020 (4)	• This article describes the experiences of a public paediatric hospital in Singapore in caring for children and adolescents with eating disorders during COVID-19 pandemic. • Apart from spacing the visits and prioritising the urgent cases in outpatient settings, telephone consultations and telehealth were instituted. • Challenges encountered during the implementation process included: ○ patient and family willingness to use telemedicine, measuring weight at home and no safety and medical stability concerns ○ healthcare provider undergoing training and determining the patient eligibility for telemedicine ○ institutions ensuring confidential, secure and appropriate telemedicine platform, developing clear directives on financial charges and patient consent. • School counsellors and community social workers had partnered with psychologists in supporting student's mental health and stepping in to provide supervision and weight monitoring. • This article concludes that the increased awareness of the mental health impact of the pandemic, rapid adaptation and the use of

Source	Summary
	technology can be crucial in providing ongoing care for patients and their families.

Peer mentoring for medical students during the COVID-19 pandemic via a social media platform
Kazerooni, et al. 2020 (43)
	• This correspondence article describes how medical students experiencing mental and emotional issues in a university in Iran were provided with peer mentoring support.
	• A social media platform that facilitates peer-mentoring between the senior and junior medical students was developed.
	  ○ Senior students had received training in teaching, communication skills and consultation previously.
	  ○ A total of 371 junior students joined the group.
	• 71% of the students reported having significantly benefited from the program in adjusting to the emergencies.

Debate: COVID-19 to the under 19 – a Singapore school mental health response Renjan, et al. 2020 (11)	• This is a debate article that describes the response of the school community in Singapore to COVID-19 and adaptation of mental health services. • In Singapore, the Response, Early Intervention and Assessment in Community Mental Health service, which consists of a multidisciplinary team, provides regionalised mental health services to regionalised school catchment areas. • In response to COVID-19, Response, Early Intervention and Assessment in Community Mental Health providers and school counsellors provided services via telehealth from their homes. • When students returned to school after lockdown, there was an increase in child and mental health referrals and the wait time for interventions increased. • This article concludes and suggests that both the synchronous and asynchronous mental health support for school children using technology should be further explored to address the mental health impact of the pandemic.
Debate: Supporting the mental health of school students in the COVID-19 pandemic in New Zealand - a digital ecosystem approach Merry, et al. 2020 (13)	• This is a debate article that describes a digital ecosystem approach in New Zealand in response to mental health support for school students. • A previously developed digital program (fantasy game format) for treatment of depression among adolescents, SPARX, was listed on the NZ Ministry of Health website as a useful resource. • To address a wide range of mental health problems among young people, a HABITs (Health Advances through Behavioural

Source	Summary
	Intervention Technologies) ecosystem was initiated and is currently under further development. This system provides: ○ A secure platform to host a wide range of interventions and enables continuous monitoring and upgrade ○ screening and identification of users who might benefit from interventions and referrals for users to urgent care when needed ○ digital testing and conducting online trials. • The ecosystem is currently being trialled in schools. • A chatbot course, Aroha, was rapidly developed in response to COVID-19 and aimed to address mental, social and financial challenges that young people might experience. • A 'Quest-Te Whitianga' app designed with and for Maori, Pacific and other young people aged 11-16, was hosted on HABITs platform and online trial evaluating its effectiveness is currently underway. • A parenting app, which was initially developed in response to the Christchurch earthquakes to support parents of 5-12-year-old children, is being explored to be made available in response to the pandemic. • This article concludes that providing trusted and reliable interventions and tools, which are hosted on digital ecosystems, allows for rapid iterations and can be a robust method of delivering mental health support in the face of stretched mental health service provision in schools.
Leveraging a public-public partnership in Los Angeles County to address COVID-19 for children, youth, and families in underresourced communities Ijadi-Maghsoodi, et al. 2020 (44)	• This article describes how an existing online learning platform that was designed for the mental health workforce in Los Angeles County was adapted to the changing needs of the workforce, as well as the mental health needs of youth and families as a result of the COVID-19 pandemic. ○ Created Wellbeing Line for the mental health workforce to prevent burnout and distress. ○ Created resources for teachers to support their wellbeing. ○ Currently developing resources for schools to support high-risk students and their families and connect them to mental health services. ○ Disseminated online learning and health promotion resources among professionals both locally and nationally. ○ Launched speaker series in both English and Spanish to promote mental health wellbeing in the community.

Source	Summary
	• This article concludes that coordinated effort across different sectors including local health departments, community agencies and academic institutes provides opportunities to ensure high-risk youth and their families are provided with appropriate mental health services.
Rapid design and deployment of intensive outpatient, group-based psychiatric care using telehealth during coronavirus disease 2019 (COVID-19) Childs, et al. 2020 (5)	• This article describes the process of rapid design and development of intensive outpatient group-based psychiatric care for adolescents (13-17) in response to COVID-19. • Zoom, existing Epic MyChart secure messaging platform and telephone were chosen to deliver group-based psychiatric care. • As a result of lock-down, there was a rapid transition to telehealth, with the rates of telehealth increasing weekly and accounted for 91.6% of the visits in the second week and reached 99% in the third week. • The breakout room feature of Zoom provided the convenience of transitioning between medication management and consultation. • This article concludes that using telehealth to provide psychiatric care to high-risk adolescents can be feasible and the safety and quality of such services should be further explored.
Rapid telepsychology deployment during the COVID-19 pandemic: A special issue commentary and lessons from primary care psychology training Perrin, et al. 2020 (6)	• This article describes the rapid deployment of telepsychiatry in a tertiary hospital and describes unique challenges in providing care for children and adolescents. • The challenges included decreased patient volume and referrals and families facing other financial concerns, which led to them putting off child behavioural treatment or therapy. • This article concludes that telepsychology can be cruicial in delivering psychological services for children and adolescents during and after the pandemic.
Grey literature	
Young people's experience of telehealth during COVID-19 headspace 2020 (7)	• A report to describe young people's experience of headspace services during the initial months of the COVID-19 pandemic, in particular their experience of telehealth support. • By the start of April 2020 the proportion of headspace services nationally that were delivered in-person reduced from 93% to 14%; services provided over the telephone increased from 6% to 64%; and those provided online increased from 1% to 23%.

Source	Summary
	• 1,434 young people (a response rate of 40%) completed the survey and 1,348 responses could be matched to the headspace minimum data set data for further demographic analysis. • 94% reported agreeing or strongly agreeing that they had a positive experience, 78% reporting that the mode of service was suitable.
headspace staff experience of telehealth during COVID-19 headspace 2020 (8)	• A report to describe staff experience of telehealth services at headspace in response to COVID-19, including perspectives on the strengths and weaknesses of telehealth support. • 592 headspace staff (a response rate of 31%) completed the survey. 289 responses were from allied mental health (including psychologists, social workers, occupational therapists and mental health nurses). • 45% of staff felt their therapeutic relationship and the young person's therapeutic progress were about the same using telehealth, as compared to previously in-person, and 44% felt it was worse. • 41% indicated that slightly or considerably fewer young people had cancelled or not attended, while 30% indicated that slightly or considerably more young people had cancelled or not attended. • Advantages identified: convenience and accessibility, comfort, engagement and efficiency and innovation. • Disadvantages identified: technology access and disruptions, safety and privacy and low interpersonal connection.
Kids Helpline welcomes Bupa Health Foundation's mental health support funding yourtown 2020 (12)	• This media relase describes the first digital mental health practice model to offer online peer support for young people 13 to 25 years. This is a collaboration between yourtown's Kids Helpline and the Cyberpsychology Research Group at the University of Sydney. • Bupa Health Foundation provided $1.375 million to grow the helpline service in response to increase in demand and surge: 'My Circle' platform.
Rapid evidence and policy brief: COVID-19 youth recovery plan 2020-2022 Webb et al. 2020, on behalf of Te Hiringa Hauora, Health Promotion Agency New Zealand (45)	• The report draws on New Zealand based research (including youth responses to the Christchurch earthquakes and the 15 March 2019 terror attacks) and international research (primarily in the area of disaster, terror and trauma responses and their respective pathways towards youth recovery and economic stability) to document the key issues likely to affect young people in the recovery stage of the pandemic. • The report identifies policy implications and opportunities for system and process changes.

Source	Summary
	○ Aligning and coordinating recovery activities ○ Establishing and/or enhancing systems that value and embed youth voice ○ Ensuring sustainability of key youth help seeking services ○ Promoting the value and impact of connectedness ○ Developing and improving mechanisms that focus on protective.
Pan-Canadian initiative to evaluate and scale virtual innovations in youth mental health amidst COVID-19 Frayme 2020 (14)	• Frayme to support and fund eitght virtual youth mental health and substance use service innovations across Canada to increase access to care. ○ Circle of Care, Atlantic Wellness: continue to provide virtual services, and also capture data to identify how the change in service delivery is affecting therapists, young people and their families. ○ Kids Come First, Crossroads Children's Mental Health Centre (with the University of Ottawa): develop virtual mental health groups. ○ Foundry Virtual Care, Foundry: drop-in counselling services via chat, voice or video calls, online peer support and workshops. ○ Payahtakenemowin Youth Well-Being Program, Shibogama First Nations Council: exploring platforms to offer cultural teachings from local knowledge keepers, live streaming traditional land-based experiences, and creating safe spaces for social interaction with peers. ○ Bean Bag Chat, Stella's Place: offers text-based mental health support from Stella's Place's peer supporters. The platform consists of a mobile app and an operator web portal. ○ New Paths Through Covid-19, The Students Commission of Canada: looking at the wide range of services provided by New Path Child and Youth Services in Simcoe County, Ontario and how it transitioned all of its services except for residential, to telephone and then virtual delivery. ○ An Assessment of the Implementation, Provision and Impact of Virtual Services, Wood's Home: assessing and evaluating virtual innovations as they continue to be needed by communities.

Table 2. Models and interventions of mental health care in the events of pandemic and disaster

Source	Summary
Peer reviewed sources	
Quasi-experimental evaluation of text-based crisis patterns in youth following Hurricane Florence in the Carolinas, 2018 Runkle, et al. 2020 (39)	• A retrospective interrupted time-series study that examines the youth help-seeking behaviours using crises texting platform before and after Hurricane Florence in 2018. • Crises Text Line is a global not-for-profit organisation that provides free, 24/7 crises intervention services. Around 75% of the service users are youth and young adults under the age of 25. Individuals can text the service and can be connected with a crisis counsellor. • Text data and daily emergency visit data were collected before and after the hurricane. • In the six weeks following the hurricane, there was a 17% increase in crises text volume for anxiety and/or stress, and a 23% increase for suicidal ideation compared to before hurricane. • Daily emergency department visits for any mental health problems by young people peaked on theeighth day after the hurricane, visits for depression peaked at between two and five weeks, visits for suicidal ideation peaked at one week and again five weeks later. • This article concludes that Crises Text Line or text-bases crises support for young people can provide an opportunity for providing low-cost and easily accessible mental health service afterdisasters.
School-based disaster recovery: Promotion of children's mental health over the long haul Peacock-Chambers, et al. 2017(27)	• A report from Dichato, Chile describing the children's mental health recovery process after the 2010 earthquake and tsunamis. • A multidisciplinary team conducted formal needs assessments with the community members and identified a need for psychological support for young children (3-6 years), their families and teachers. • Case management: a local psychologist was hired as a case manager for children and their families and helped them with navigating the health and social systems and advocated on their behalf. • Resource development: the case manager identified needs and available services. The multidisciplinary team facilitated partnership between key partners, including government

Source	Summary
Peer reviewed sources	

	departments and schools, in identifying and applying for resources. Partnerships with schools were built and a local primary school was chosen as a 'model school' for implementing programs.
	• The current programs in support of child mental health include:
	  ○ teacher and parent training in managing difficult child behaviour, promoting early literacy and wellbeing by psychiatry professionals or department of health staff
	  ○ *Love of the Sea* activities, such as swimming, sailing, kayaking and aqua education, in response to children's fear of the sea
	  ○ kinesiology programs in managing aggressive behaviours in preschool children.
	• Lessons learned and future directions.
	  ○ Disaster recovery is a long process, which may take years post-disaster.
	  ○ Social and mental health problems are likely to persist.
	  ○ Bridging resources, building partnerships, especially with schools, and being creative can be helpful.

Addressing the needs of preschool children in the context of disasters and terrorism: Assessment, prevention, and intervention Wolmer, et al. 2017 (34)	• This review article aims to provide an overview of the literature regarding the assessment, prevention and intervention strategies for preschool children in response to disasters and terrorism. • Assessing and screening for mental health problems with preschool children can be challenging due to their limited abilities. It is recommended that screening activities to be integrated into normal institutional activities and that professionals who interact with children be trained in trauma assessment and care. A number of available screening and assessment tools were described. • Disaster preparation and prevention efforts could focus on resilience building among children and the families. • Following mass disasters, the following interventions could be implemented. ○ Mass intervention: it may not be feasible to provide intervention on individual basis following a mass disaster, therefore, interventions a group format maybe better suited

Source	Summary
Peer reviewed sources	
	to cater to the needs of children. Studies have shown that teacher-delivered interventions can be promising. ○ Individual intervention: trauma-focused cognitive behavioural therapy, child-centred play therapy, prolonged exposure therapy and Huggy-Puggy intervention are among the individual interventions that have shown to be promising for preschool children with severe post trauma reactions. ○ Dyadic therapy and family interventions: such interventions aim to enhance parent and family resilience and coping skills. ○ Psychopharmacology: expert review does not recommend using psychopharmacology to treat post-traumatic stress disorder among preschool children and such interventions should be treated with much caution. • This review concludes that mass intervention for preschool children should be developed, delivered and implemented following mass disasters and terrorism.
Teacher-delivered resilience-focused intervention in schools with traumatized children following the second Lebanon War Wolmer, et al. 2011 (15)	• This before and after study describes the teacher-delivered resilience-focused intervention for 983 school children (age 8-12) in Israel. • This intervention was implemented after the 2006 Lebanon War and data was collected before and three and 12 months after the intervention. The intervention elements included: ○ 16-week week program delivered weekly by teachers. Each weekly session consisted of 45-minutes didactic modules ○ coping-enhancement framework used in the modules ○ topics such as positive and negative experiences, stress, emption and thought management ○ teachers receiving preparatory and supervisory briefs. • Children who received the intervention had significantly less symptoms after the intervention. • Compared to control group of children (n=1152), children in the intervention group had significantly less symptoms at 12 months. • This article concludes that teacher-delivered interventions can be a cost-effective within the context of mass trauma.

Source	Summary
Peer reviewed sources	
School-based psychoeducation and storytelling: Associations with long-term mental health in adolescent survivors of the Wenchuan earthquake Tanaka, et al. 2019 (16)	• A cross-sectional study with adolescents who experienced Wenchuan earthquake in China. • It explores whether disaster education delivered at school and storytelling are associated with mental health outcomes. • 1028 adolescents with a mean age of 15 were surveyed. • Adolescents who did storytelling (expressing memories and feelings) to lay supporters had better mental health outcomes than those who consulted health professionals or never did storytelling. • Adolescents who received school-based psychoeducation were more likely to having had expressed their feelings with lay support persons than those who did not receive scool-based psychoeducation. • This article concludes that storytelling to lay support persons and school-based psychoeducation could be helpful in promoting long term mental health for adolescents after a disaster.

Asiasiga: a Samoan intervention to address the immediate mental health needs of Samoan communities after a tsunami
 	
Tamasese, et al. 2020 (28)
	• This study describes a single-session group intervention designed for children and adolescents from Samoa flowing a tsunami.
	• An Indigenous Samoan psychosocial response program was designed using a Samoan cultural concept and based on the requests from the community leaders.
	  ○ Each program was run in a large open space and lasted for three hours.
	  ○ Village elders, local ministers or priests and previous participants were involved in the programs.
	  ○ Program was interactive, strength based, and used metaphors that are accessible and relatable to participants.
	  ○ For clinical and cultural reasons, recounting of traumatic events were avoided.
	  ○ Trauma-focused body work exercise and ‘Tree of life’ drawing exercise were incorporated.
	• The program was well accepted by the community members and the participants.
	• This article concludes psychological response programs after a disaster need to be community based and culturally appropriate.

Source	Summary
Peer reviewed sources	
Randomized controlled trial of group cognitive behavioural therapy for post-traumatic stress disorder in children and adolescents exposed to tsunami in Thailand Pityaratstian, et al. 2015 (35)	• A randomised controlled trial study from Thailand testing the effect of group cognitive behavioural therapy for children (aged 10-15) exposed the tsunami. • The intervention included 3 days of 2 hours perday group sessions followed by daily homework and self-monitoring. • Compared the control group (n=18), children in the intervention group (n=6) had significant improvements in post-traumatic stress disorder symptoms one month after the intervention. • This article concludes that group therapy combined with daily homework and self-monitoring can be effective.

The burden of disaster: part II. Applying interventions across the child's social ecology
 	
Pfefferbaum, et al. 2012 (31)
	• This article proposes using socioecological paradigm in applying disaster mental health interventions for children.
	  ○ Microsystem interventions targeting parents, siblings, family members, friends and involving psychoeducation, role modelling and emotional support.
	  ○ Mesosystem interventions which are delivered by schools and faith-based organisations.
	  ○ Exosystem interventions involving community, health, workplace, media and other organisations.

Universal preventive interventions for children in the context of disasters and terrorism
 	
Pfefferbaum, et al. 2014 (19)
	• This review article provides an overview of the child mental health interventions delivered pre and post disaster and terrorism events.
	• 17 empirical studies were included, with five addressing disaster preparedness and 12 addressing post-disaster measures.
	• Organisation and structure of disaster mental health services
	  ○ Public health component with a focus on wellness and resilience
	  ○ Clinical component with a focus on psychopathology and treatment
	• Timing of intervention delivery
	  ○ Post-event interventions focused on screening and case finding and normalising reactions, reducing symptoms and fostering coping skills
	  ○ Studies show that interventions can be beneficial even when delivered a long time after the disaster and can have long term impact.

Source	Summary
Peer reviewed sources	

	• Delivery sites
	  ○ Community settings including schools, pre-schools, faith-based settings, community centres or refugee camps
	  ○ All but one of the studies included in this review were conducted in the school settings
	  ○ Those interventions can be delivered in groups and reach large number of children.
	• Providers
	  ○ Teachers and school personnel
	  ○ Psychologists and volunteers.
	• This review concludes that universal mental health interventions for children within the context of mass disaster are usually delivered in group format in school settings.

School-based psychological screening in the aftermath of a disaster: are parents satisfied and do their children access treatment? Poulsen, et al. 2015 (36)	• This study investigates parents' satisfaction with school-based screening program after a major flooding event in Queensland in 2012. • The screening program targeted students in grades 3 to 12. 224 students with a mean age of 10.97 (range 7-18) consented to participate in screening for emotional distress. • 62.1% of students had none or minimal distress, 18.4% had moderate distress and 19.6% had severe distress. • Only 29.5% of parents of children with severe distress had sought assistance prior to screening and 86.7% completed treatment after the screening. • 99.2% of parents stated they were very or mostly satisfied with the screening program.

School-based mental health intervention for children in war-affected Burundi: a cluster randomized trial
Tol, et al. 2014 (38)
	• This study describes a cluster randomised study investigating the effect of a school-based mental health intervention on children's (aged 8-17) mental health in war-affected Burundi.
	• Children (n=153) in the intervention group received the following intervention.
	  ○ 15 sessions of classroom-based intervention delivered over five weeks.
	  ○ Non-specialised local facilitators were trained and supervised.

Source	Summary
Peer reviewed sources	
	○ The session manual included psychoeducation, cognitive behavioural techniques, and creative expressive activities. ○ Themes included in the sessions were information, safety, control, stabilisation, awareness, self-esteem, trauma narrative, resource identification, coping skills, reconnection and future planning. • Compared the control group of children (n=176), no main effect of the intervention on outcomes (post-traumatic stress disorder and depressive symptoms) was identified. • This article concludes that intervention outcome may depend on individual and contextual factors.
Exploring the use of the interactive systems framework to guide school mental health services in post-disaster contexts: building community capacity for trauma-focused interventions Taylor, et al. 2012 (33)	• Based on literature review, stakeholder meeting and experience in school mental health programs, this article proposed an interactive systems framework to guide school mental health services in post-disaster contexts. • This framework includes: ○ synthesis and translation of information in partnership with research and community agencies; establishment of school mental health workgroup ○ building intervention support systems in partnership with the school-community; fostering trauma-informed school mental health services ○ establishing intervention delivery system with technical assistant leads providing training, coaching and reporting.
Promoting student success: How do we best support child and youth survivors of catastrophic events? Taylor,et al. 2019 (46)	• This article reviews the evidence on effects of war, terrorism and natural disasters on child and youth mental health and provides recommendations for supporting survivors. • This review identifies that school teachers and professionals, as well as a supportive school environment, policies and procedures, can play key role in facilitating screening, assessment and intervention activities for children.
Delivering solid treatments on shaky ground: Feasibility study of an online therapy for child anxiety in the	• This study explores the feasibility of an online therapy program for children and adolescents experiencing anxiety following the Canterbury earthquakes in New Zealand. • 42 children and adolescents with a mean age of 11.1 years participated in an online BREAVE-ONLINE cognitive behavioural

Source	Summary
Peer reviewed sources	
aftermath of a natural disaster Stasiak, et al. 2018 (25)	therapy. Children were referred to the program by primary care clinicians. • At 6 months post intervention, participants' anxiety and mood symptoms significantly improved. 55% of the participants who were assessed post intervention no longer have anxiety disorder. • This article concludes that online therapy following a natural disaster can be feasible and acceptable.

Web intervention for adolescents affected by disaster: Population-based randomized controlled trial
 	
Ruggiero, et al. 2015 (26)
	• This study reports on a population-based randomised controlled trial of a web intervention for adolescents (n=2000, mean age 14.5) following tornados in northern Alabama, USA.
	• Parents and adolescents were recruited using address-based sampling and they were given unique password and access to the study web portal, *Bounce Back Now.*
	• Participants were randomised into three groups:
	  ○ *Bounce Back Now* intervention for youth
	  ○ *Bounce Back Now* plus 7-module adult self-help intervention for parents
	  ○ online assessment only.
	• At 12 months follow up, youth in the interventional groups had significantly less depressive and post-traumatic stress disorder symptoms. *Bounce Back Now* intervention without the parent component had better outcomes than those with the parent component.
	• This article concludes that web-based interventions can be feasible, effective and scalable in the aftermath of disasters.

Child disaster mental health services: A review of the system of care, assessment approaches, and evidence base for intervention
 	
Pfefferbaum, et al. 2016 (18)
	• This review summarises evidence on a system of care for children on disaster mental health.
	• This review identifies a population risk pyramid and proposes a stepped care approach, where children are matched to intervention levels through assessment, screening and clinical evaluations.
	  ○ Community-based broad-scale public health interventions
	  ○ Specialised interventions for selective populations of children

Source	Summary
Peer reviewed sources	
	○ Highly specialised interventions for children with serious symptoms and needs treatment. • This review concludes that child disaster mental health services can be stratified based on trauma exposure and risk and through assessment. A stepped care approach for children based on their needs can match them with care that is most appropriate.
Mental health interventions for children exposed to disasters and terrorism Pfefferbaum, et al. 2014 (47)	• This literature review identifies nine types of mental health interventions for children exposed to disasters and terrorism. ○ Preparedness interventions ○ Psychological first aid: interventions delivered immediately after the events which focuses on providing comfort, support and information ○ Psychological debriefing: a single-session intervention for individuals and groups to recount experiences and discuss coping strategies ○ Psychoeducation ○ Cognitive behavioural techniques ○ Exposure and trauma narrative ○ Traumatic grief information ○ Eye movement desensitisation and reprocessing. • This review concludes that mental health interventions for children following a disaster or terrorism can be helpful, or at minimum, not harmful.
Building resilience after disasters through the Youth Leadership Program: The importance of community and academic partnerships on youth outcomes Osofsky, et al. 2018 (29)	• This article describes the *Youth Leadership Program* that was developed in partnership between the school community and the university after the Hurricane Katrina in the USA. ○ The *Youth Leadership Program* curriculum had focused on leadership, resilience, self-efficacy and mental health. ○ Facilitator trained in theory and met with mental health professional weekly. ○ Students chose volunteer projects. ○ Students had weekly meetings during lunch time. ○ The programs included a month-long summer program and a leadership summit program.

Source	Summary
Peer reviewed sources	
	○ Participants were aged between 15 and 17. A total of 212 student data were analysed, of which 71 participated in the *Youth Leadership Program*. • Students who participated in the *Youth Leadership Program* had higher self-efficacy compared to control students. • This article concludes that resilience-based leadership programs for students can be promising in enhancing the post-disaster recovery process.
Meta-analytic review of psychological interventions for children survivors of natural and man-made disasters Newman, et al. 2014 (48)	• This article is a meta-analytic review of psychological interventions for children survivors of natural and man-made disasters. • 24 studies with a total of 2630 subjects (mean age 10.9) were included. • The results show that children and adolescents who received psychological intervention had better outcomes on post-traumatic stress disorder than control or waitlist group. • Cognitive behavioural therapy, eye movement desensitisation and reprocessing, exposure relaxation and eclectic with cognitive behavioural therapy were all found to be effective. • Children receiving individual therapy compared to group therapy had greater improvements. Interventions delivered by mental health professionals had greater improvements compared to those delivered by other professionals. Interventions delivered in refugee camps, followed by mental health facilities and schools, had the greatest effect. • This review concludes that disaster psychological interventions for children can be effective in reducing the adverse mental health outcomes.
Developing a comprehensive trauma-and resiliency- focused program after Superstorm Sandy in New York City Scigliano, et al. 2019 (30)	• This article describes a comprehensive trauma-and resiliency-focused program that was implemented in New York City, USA after Superstorm Sandy. • The key components of this program. ○ Participatory program development: This program was developed in partnership with medical officers, psychologists, a social worker and case manager,

Source	Summary
Peer reviewed sources	
	community mental health providers, local school officials and hospital staff. ○ Building community-wide resilience: 24 workshops and outreach events with a focus on mental health stigma reduction, psychoeducation on post trauma reactions, and sensitising the community on child mental health problems. ○ Integration with the local school system: training sessions for educators of local elementary school and workshops for students to enhance coping skills and facilitate referrals. ○ Clinical mental health care: provision of trauma-focused cognitive behavioural therapy both in individual and group format; establishing a mobile mental health clinic.
A meta-review of school-based disaster interventions for child and adolescent survivors Fu, et al. 2015 (23)	• This meta-review article provides an overview and synthesis on the school-based disaster interventions for child and adolescent survivors. • Eleven studies, of which four were about natural disasters and seven were about conflict-affected areas, were included. • Intervention approaches used in the included studies were psychoeducation and cognitive behavioural therapy, with some incorporating physical education, art therapy and narrative reconstructing of memories. • Meta-analysis results show that school-based interventions in either natural disaster or conflict settings can significantly reduce the post-traumatic stress disorder symptoms compared to controls. • This review concludes that school-based disaster interventions, which were delivered by either the teachers or paraprofessionals, can be effective in improving the post-traumatic stress disorder symptoms.
Toward best-practice post-disaster mental health promotion for children: Sri Lanka Commers, et al. 2014 (22)	• This study describes and evaluation of a low-cost mental health intervention model for children following a tsunami in Sri Lanka. • *The Happy/Sad Letter Box* project was implemented in 68 schools. ○ Locked cardboard letterboxes were placed in schools 5-7 months after the disaster. ○ Teachers formed a working group in each school who read the letters and children who were identified to have been

Source	Summary
Peer reviewed sources	
	experiencing trauma were invited to visit a school counsellor. ○ Children were invited to submit letters either by name or anonymously. • The project was evaluated by conducting surveys, interviews and consultations with children, teachers, principals, parents and educational directors. ○ Teachers and teacher-counsellors estimated that 33% of children at least submitted one letter. ○ 67.9% of teachers, 80% of teacher-counsellors and 100% of principals rated the project as efficient in terms of resource use. ○ Majority of the teachers, teacher-counsellors and the principals rated the project as very helpful to somewhat helpful. ○ Unexpected outcomes included reporting and identifying of sexual abuse, domestic violence and neglect. ○ Young children were more likely to submit a letter than older children. • The project was received as effective, non-stigmatised, relevant, and helpful in catering to children's mental health needs during the recovery process.
Public disaster communication and child and family disaster mental health: A review of theoretical frameworks and empirical evidence Houston, et al. 2016 (20)	• This is a review article examining the empirical evidence on public child and family disaster communication following disasters. • Three main functions of the disaster communication were identified. ○ Fostering preparedness intends to prepare for, prevent and lessen the negative mental health consequences of the disasters. Such functions can be delivered by children's television programs, or websites for children and their families or through other public messaging methods. ○ Providing psychoeducation intends to provide support in dealing with and normalising reactions and building resilience and coping skills. Psychoeducation can be delivered in the formats of advertisements on public platforms, mass media, and online or social media

Source	Summary
Peer reviewed sources	
	○ Conducting outreach intends to deliver mental health services and information outside the usual mental health settings, such as community or other public space settings. ○ Schools were identified as a core implementation site for child and family mental health interventions.
Grief and trauma intervention for children after disaster: exploring coping skills versus trauma narration Salloum, et al. 2012 (17)	• This is a randomised controlled trial examining the effects of two interventions for children following the Hurricane Katrina: ○ grief and trauma intervention with coping skills and trauma narrative processing ○ grief and trauma Intervention with coping skills only. • Both interventions involved 11 group sessions for children and one parent meeting. • 70 African-American children (aged 6-12) were randomly assigned to one of the interventions. • Compared to pre-intervention, children in both groups experienced significant improvements in distress related symptoms and social support post intervention, with the exception that the externalisation of symptoms remained similar in children attending the coping skills only intervention. • This study concludes that both the interventions can be effective in improving distress symptoms post-disaster.
Does a one-day educational training session influence primary care pediatricians' mental health practice procedures in response to a community disaster? Results from the reaching children initiative (RCI) Adams, et al. 2013 (49)	• A post-intervention evaluation to assess whether one day primary care training for paediatricians increased their capacity to respond to the social or emotional problems of children after the World Trade Centre terrorist attacks and improve the quality of services to disaster affected children. • Overall, 137 paediatricians attended a workshop covering best practice treatments for mental health problems with an emphasis on trauma, bereavement, and medication use. • At six months post-intervention, 64% of the clinicians reported instituting practice changes recommended during training. Reported use of formal mental health screening instruments increased and use of medications was more limited. • The training was effective in altering the behaviour of primary care physicians for screening and treatment of social and emotional problems in children.

Source	Summary
Peer reviewed sources	
	• Changes suggested through the training were associated with higher parents' satisfaction.
Schools and disasters: Safety and mental health assessment and interventions for children Lai, et al. 2016 (21)	• A review, which focuses on school aged children (kindergarten to grade 12), highlighting the importance of schools as critical sites for mental health assessment and interventions during and after a disaster. • A systematic review of 24 studies of interventions for children affected by armed conflict demonstrated that 60% of the associated interventions took place in schools. • Another review of 48 studies of child disaster mental health interventions revealed that 34 (71%) were delivered in school sites. The evidence also indicates that disaster services for children may be more successful if they are based in schools versus clinics.
School interventions after the Joplin tornado Kanter, et al. 2014 (32)	• Qualitative observational study to describe interventions by schools to meet children's needs six months after the Joplin, Missouri tornado. • Interviews were conducted with school staff (teachers, psychologists, guidance counsellors, nurse, and principal), public health official, and physicians. • Important post-disaster school interventions included rapid reopening to provide and coordinate services; rapidly contacting displaced families; involvement of experts to promote mental health; just-in-time training of staff; and selective referral of children to community providers when needs exceed school based capabilities.
A school-based post-Katrina therapeutic intervention Goldman, et al. 2015 (37)	• A descriptive study after the implementation of a set of school-based interventions in a greater New Orleans school district one year following Hurricane Katrina. • The interventions included adaptation and implementation of evidence-based treatments in a crisis situation with at-risk youth which involved training and clinical challenges. • Overall, 386 students found to have significant depressive and/or disruptive disorder symptoms received treatment from the School Therapeutic Enhancement Program.

Source	Summary
Peer reviewed sources	
	• A district-wide mental health needs assessment of middle and high school students (n=11,861) screened for behavioural and emotional difficulties at the beginning and end of the school year provided a benchmark for community youth's emotional and behavioural distress. • The findings support the efficacy of a school based intervention for youth struggling with the after effects of a highly disruptive natural disaster.
A teacher-delivered intervention for adolescents exposed to ongoing and intense traumatic war-related stress: a quasi-randomized controlled study Berger, et al. 2012 (24)	• This quasi-randomised controlled study evaluates the effect of a teacher-delivered intervention for adolescents (seventh and eighth grade, age 11-13) in a war-affected area of Israel. • 154 students either participated in the intervention, which is a 16-session, weekly, 90-minute intervention or were in the waiting-list control group. ○ The intervention emphasised religious and spiritual practices, affect modulation strategies, self-affirmations, combatting fears and social skills. • Students in the intervention group had significant reduction in post-traumatic stress related symptoms, somatic complaints, functional impairment, and anxiety symptoms compared to control group. • This study concludes that a universal teacher-delivered skill-oriented program can have the potential to reduce trauma related mental health symptoms among adolescents.

Appendix

PubMed search terms

Search 1

("Mental Disorders"[MeSH Terms] OR "mental health"[Title/Abstract] OR "mental ill*"[Title/Abstract] OR "mental disorder*"[Title/Abstract] OR "psychiat*"[Title/Abstract] OR "psychosis"[Title/Abstract] OR "schizophrenia"[Title/Abstract] OR "bipolar"[Title/Abstract] OR "depress*"[Title/Abstract] OR "anxiety"[Title/Abstract] OR "obsessive compulsive"[Title/Abstract] OR "psychological stress"[Title/Abstract]) AND ("CAMHS"[Title/Abstract] OR "child*"[Title/Abstract] OR "boy"[Title/Abstract] OR "girl*"[Title/Abstract] OR "infant*"[Title/Abstract] OR "juvenil*"[Title/Abstract]

OR "minors"[Title/Abstract] OR "paediatric*"[Title/Abstract] OR "pediatric*"[Title/Abstract] OR "school*"[Title/Abstract] OR "kindergarten"[Title/Abstract] OR "nursery"[Title/Abstract] OR "adolesc*"[Title/Abstract] OR "preadolesc*"[Title/Abstract] OR "pre adolesc*"[Title/Abstract] OR "pubert*"[Title/Abstract] OR "pubescen*"[Title/Abstract] OR "pupil*"[Title/Abstract] OR "teen*"[Title/Abstract] OR "young"[Title/Abstract] OR "youth*"[Title/Abstract] OR "student*"[Title/Abstract] OR "undergrad*"[Title/Abstract] OR "high-school"[Title/Abstract] OR "high-school"[Title/Abstract]) AND ("redesign*"[Title/Abstract] OR "restructur*"[Title/Abstract] OR "re organi*"[Title/Abstract] OR "reorgani*"[Title/Abstract] OR "process improvement"[Title/Abstract] OR "Organizational Innovation"[MeSH Terms] OR "Delivery of Health Care"[MeSH Terms] OR "efficiency, organizational"[MeSH Terms] OR "hospital restructuring"[MeSH Terms] OR "Health Care Reform"[MeSH Terms] OR "Health Care Sector"[MeSH Terms] OR "Quality Improvement"[MeSH Terms] OR "Quality of Health Care"[MeSH Terms] OR "health care quality, access, and evaluation"[MeSH Terms]) AND ("2019-nCoV"[Title/Abstract] OR "ncov*"[Title/Abstract] OR "covid-19"[Title/Abstract] OR "covid19"[Title/Abstract] OR "covid-19"[Title/Abstract] OR "coronavirus"[MeSH Terms] OR "coronavirus"[Title/Abstract] OR "sars-cov-2"[Title/Abstract] OR "severe acute respiratory syndrome coronavirus 2"[Supplementary Concept]) AND 2020/01/01:3000/12/31[Date - Publication]

245 studies

Search 2

("Mental Disorders"[MeSH Terms] OR "mental health"[Title/Abstract] OR "mental ill*"[Title/Abstract] OR "mental disorder*"[Title/Abstract] OR "psychiat*"[Title/Abstract] OR "psychosis"[Title/Abstract] OR "schizophrenia"[Title/Abstract] OR "bipolar"[Title/Abstract] OR "depress*"[Title/Abstract] OR "anxiety"[Title/Abstract] OR "obsessive compulsive"[Title/Abstract] OR "psychological stress"[Title/Abstract]) AND ("CAMHS"[Title/Abstract] OR "child*"[Title/Abstract] OR "boy"[Title/Abstract] OR "girl*"[Title/Abstract] OR "infant*"[Title/Abstract] OR "juvenil*"[Title/Abstract] OR "minors"[Title/Abstract] OR "paediatric*"[Title/Abstract] OR "pediatric*"[Title/Abstract] OR "school*"[Title/Abstract] OR "kindergarten"[Title/Abstract] OR "nursery"[Title/Abstract] OR "adolesc*"[Title/Abstract] OR "preadolesc*"[Title/Abstract] OR "pre adolesc*"[Title/Abstract] OR "pubert*"[Title/Abstract] OR "pubescen*"[Title/Abstract] OR "pupil*"[Title/Abstract] OR "teen*"[Title/Abstract] OR "young"[Title/Abstract] OR "youth*"[Title/Abstract] OR "student*"[Title/Abstract] OR "undergrad*"[Title/Abstract] OR "high-school"[Title/Abstract] OR "high-school"[Title/Abstract]) AND ("models, organizational"[MeSH Terms] OR "Organizational Innovation"[MeSH Terms] OR "patient centered care/organization and administration"[MeSH Terms] OR "delivery of health care, integrated"[MeSH Terms] OR "model of care"[Title/Abstract] OR "models of care"[Title/Abstract] OR "care model*"[Title/Abstract] OR "care delivery model*"[Title/Abstract] OR "organisation of"[Title/Abstract] OR "organisational model*"[Title/Abstract] OR "organisation model*"[Title/Abstract] OR "organization of"[Title/Abstract] OR "organizational model*"[Title/Abstract] OR "organization model*"[Title/Abstract] OR "healthcare delivery model*"[Title/Abstract] OR "integrated care"[Title/Abstract] OR "integrated model*"[Title/Abstract]) AND ("redesign*"[Title/Abstract] OR "restructur*"[Title/Abstract] OR "re organi*"[Title/Abstract] OR "reorgani*"[Title/Abstract] OR "process improvement"[Title/Abstract] OR "Organizational Innovation"[MeSH Terms] OR "Delivery of Health Care"[MeSH Terms] OR "efficiency, organizational"[MeSH Terms] OR "hospital restructuring"[MeSH Terms] OR "Health Care Reform"[MeSH Terms] OR "Health Care Sector"[MeSH Terms] OR "Quality Improvement"[MeSH Terms] OR "Quality of Health Care"[MeSH Terms] OR "health care quality, access, and evaluation"[MeSH Terms]) AND 2010/01/01:3000/12/31[Date - Publication]

984 studies

Search 3

(("Mental Disorders"[MeSH Terms] OR "mental health"[Title/Abstract] OR "mental ill*"[Title/Abstract] OR "mental disorder*"[Title/Abstract] OR "psychiat*"[Title/Abstract] OR "psychosis"[Title/Abstract] OR "schizophrenia"[Title/Abstract] OR "bipolar"[Title/Abstract] OR "depression"[Title/Abstract] OR "anxiety"[Title/Abstract] OR "obsessive compulsive"[Title/Abstract] OR "psychological stress"[Title/Abstract]) AND ("CAMHS"[Title/Abstract] OR "child*"[Title/Abstract] OR "boy"[Title/Abstract] OR "girl*"[Title/Abstract] OR "infant*"[Title/Abstract] OR "juvenil*"[Title/Abstract] OR "minors"[Title/Abstract] OR "paediatric*"[Title/Abstract] OR "pediatric*"[Title/Abstract] OR "school*"[Title/Abstract] OR "kindergarten"[Title/Abstract] OR "nursery"[Title/Abstract] OR "adolesc*"[Title/Abstract] OR "preadolesc*"[Title/Abstract] OR "pre adolesc*"[Title/Abstract] OR "pubert*"[Title/Abstract] OR "pubescen*"[Title/Abstract] OR "pupil*"[Title/Abstract] OR "teen*"[Title/Abstract] OR "young"[Title/Abstract] OR "youth*"[Title/Abstract] OR "student*"[Title/Abstract] OR "undergrad*"[Title/Abstract] OR "high-school"[Title/Abstract] OR "high-school"[Title/Abstract]) AND ("pandemics"[MeSH Terms] OR "pandemic*"[Title/Abstract] OR "disease outbreak*"[Title/Abstract] OR "disaster"[Title/Abstract] OR "terror*"[Title/Abstract] OR "post crisis*"[Title/Abstract] OR "post-conflict"[Title/Abstract] OR "surge capacity"[Title/Abstract] OR "emergency response"[Title/Abstract] OR "disaster management"[Title/Abstract]) AND 2010/01/01:3000/12/31[Date - Publication]) NOT ("prenatal"[Title/Abstract] OR "postnatal"[Title/Abstract] OR "pre-natal"[Title/Abstract] OR "post-natal"[Title/Abstract] OR "pregnan*"[Title/Abstract] OR "postpartum"[Title/Abstract] OR "prepartum"[Title/Abstract])

1224 studies

Google search terms

Children, youth, adolescents, young people, mental health, model of care, surge, service response, COVID-19, natural disaster, pandemic, war, terrorism, post crisis, post conflict

Inclusion and exclusion criteria

Inclusion	Exclusion
• Population: child, adolescent and youth (aged 0-11, 12-17, 18-24) • Intervention: model of care in mental health services or interventions in response to surges in numbers of children and young people with mental health problems • Outcomes: system level and patient level outcomes, key elements to effectiveness, facilitators, barriers • Study design: interventional or experimental studies, case report studies, review studies of interventions or models of care • Published date: 2010 to present	• Publications not in English-language • Does not meet PICO and study design criteria • Letters, commentary, protocols • Studies that describe the mental health problems as a result of pandemic or disasters, however, do not describe how those problems were addressed or responded to.

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