Treatment/ Child Wellbeing: Mental Health

High-quality foster care which removes children from terrible institutional care and cognitive behavioural therapy (CBT) for sexually abused minors are two effective interventions which improve mental health for children who have suffered adverse experiences.

Evidence status	Some concerns	Moderate evidence of impact on mental health outcomes

The summary in brief

This cell includes two primary studies (which are studied in seven separate research papers[1]) and three systematic reviews. The interventions in both primary studies started / were given over 20 years ago. They assess the effects of interventions to improve mental health in children who have experienced extremely adverse conditions such as living in dreadful institutions or being sexually abused and exploited or both. The cell also contains one protocol for a new study (in the UK).

Six papers are written about *The Bucharest Early Intervention Project (BEIP),* a (then) novel foster care programme introduced in 2000 to address the aftermath of the Ceausescu political regime which left Romania with many children living in terrible orphanages. At the time of launch, foster care was very uncommon in Romania. Researchers took 'advantage' of that scarcity to create an RCT: children in the orphanages (yet to reach their third birthday) were randomly assigned to either move to foster homes (i.e., receive *BEIP*) or to remain in the orphanages (institutions). In the foster care intervention, foster caregivers received regular support from trained social workers, who aimed to facilitate a strong bond between children and their foster carers. Both groups (foster care and treatment-as-usual in the orphanages) were compared with children who had always lived at home with their birth families.

Mental health outcomes were measured when children were about eight years old, again when they were 12 years old, and recently at 16 years of age. They suggest that children in the foster care group had better outcomes than children who remained in orphanages on many (though not all) outcomes. Children who lived at home with their birth families had consistently better mental health outcomes than children who were ever in institutional care. Early entry into foster care and longer length of stable foster care led to improved mental health outcomes compared to remaining in orphanage care.

The other primary study in this cell examined psychotherapy for children who had suffered sexual abuse. A year after receiving therapy many mental health outcomes improved but others were not different for the therapy group and the group that did not get it.

Two systematic reviews in the cell found only a small number of RCTs of therapy interventions for children who are victims abuse or for perpetrators of abuse (both adults and children) against children.

[1] The difference between a study and a paper is this. One study is one set of participants. Sometimes, many measures are taken about them – e.g., at different times – and those can become separate research papers. For example, in the Bucharest Early Intervention Project, there was one set of children who were randomised to receive foster care or care-as-usual. They are therefore one study. But multiple research papers have been written about them.

Cognitive behavioural therapy has been tested in the few trials that exist with mixed results. The third systematic review was on trauma-informed out-of-home care models which found a small number of studies most of which had a high risk of bias.

Contents of the cell

There are 11 papers in this cell:

- two primary studies about *BEIP* (six papers*:* Troller-Renfree 2015, Humphreys 2015, Wade 2019, Wade 2020, Wade 2020a, Colich 2021)
- Sullivan 1992, a QED in the US
- three systematic reviews (Radford 2017, Bailey 2019, Sneddon 2020) and
- one protocol for an RCT (Hiller 2021).

On geography: both completed RCTs are from US and Romania, ie., middle-high income countries. The systematic reviews also cover high-income countries plus South Africa (which has the highest inequality in the world, so is like a high-income country co-located with a low-income one).

A. Primary Studies	
Troller-Renfree 2015, Humphreys 2015 Wade 2019 Wade 2020 Wade 2020a Colich 2021 RCT, moderate risk of bias	Romania. Children in institutional care (orphanages) in Bucharest. Evaluation of the *Bucharest Early Intervention Project (BEIP),* a foster care programme for children in institutional care. Six papers from *BEIP* reporting on mental health outcomes in the long-term (age 8-16 years).
Sullivan 1992 QED, moderate risk of bias	USA. Sexually abused children in residential care (for deaf children) Evaluation of psychotherapy compared to no treatment for sexually abused children from one residential school.
Hiller 2021 RCT protocol, results not yet reported	UK. Children 10-17 years in out-of-home care with high post-traumatic stress symptoms due to experiencing or witnessing maltreatment. Evaluation of an online low-intensity group therapy programme called 'Teaching Recovery Techniques (TRT).'
B. Systematic Reviews	

Radford 2017 Systematic Review, low quality rating	Rapid review commissioned by independent panel investigating institutional failures in England and Wales to protect children from CSA and exploitation. The rapid review aimed to find effective interventions that institutions in countries outside England and Wales have implemented. Included studies in review relevant to this cell are from the US and Canada.
Bailey 2019 Systematic Review, low quality rating	Systematic review of organisation-wide, trauma-informed care models in out-of-home care (OoHC) settings. Included studies were all from the US.
Sneddon 2020 Systematic Review, high quality rating	Systematic review of Cognitive Behavioural Therapy (CBT) for adolescents (10-18 years) with harmful sexual behaviour. Included studies are from the US (three) and one from South Africa.

A. Primary Studies

The interventions

Under the Ceausescu dictatorship in Romania (until 1989), abandoned children lived in dreadful orphanages[2]. Bucharest had six institutional care centres ("orphanages"), which were characterised by terrible environments for children to grow physically, mentally, socially, or emotionally. Foster care was practically non-existent in Romania during this time.

In the year 2000, *The Bucharest Early Intervention Project (BEIP)* was created to provide foster care*. BEIP* established 56 foster families that could take in children from institutions. Randomisation of children to *BEIP* or continuing institutional care was rationalised since, without *BEIP,* all children would continue to live in awful conditions. This was a chance to identify an effective intervention that could be used to address this issue.

Foster care recruitment and training were standardised and relevant to the local context. Three social workers supported foster caregivers on a regular basis. Social worker roles focused on monitoring the relationship between children and their foster caregivers, promoting parent-child attachment relationships, providing support for behavioural management as needed, and serving as a resource for foster caregivers on the special needs of their children. Social workers were trained and received ongoing support from US-based mental health practitioners every week. Overall, social workers promoted a committed relationship between foster caregivers and the children.

Children entered foster care between five and 31 months of age. An assessment conducted when a child was four and a half years old showed that most *BEIP* children were still with their foster family. *BEIP* was

[2] Weir, K: American Psychological Association. (June,2014). The lasting impact of neglect. Retrieved from https://www.apa.org/monitor/2014/06/neglect

not directly supported by the local government initially, but after a few years, the local government in Bucharest provided financial and administrative support for foster families and children.

More details on BEIP are provided in other summaries in the guidebook (Bick 2015 and Johnson 2010; and the syntheses of Treatment X Child Cognitive Functioning and Treatment X Mental Health).

Troller-Renfree 2015 assessed children's attention biases (a tendency to focus on certain things while ignoring others – and a potential sign of future mental illness) when the children were eight to nine years old, and Humphreys 2015 reported mental illness-related symptoms at 12-13 years of age. The more recent papers about BEIP reported on externalizing symptoms ("acting out") and general psychopathology after the children reached 16 years of age.

Sullivan 1992 reported the impact of psychotherapy on sexually abused children (ages 12-16) living in a residential school for deaf children in the US. The type of abuse suffered ranged from witnessing sexual abuse to being victims of sexual violence (most children in the study experienced severe abuse). All children were offered psychotherapy but only some parents accepted the offer. Other parents refused and their children did not receive therapy elsewhere either. The investigation of the abuse in this school was very public and many parents and even some school staff strongly denied that the children were sexually abused.

Hiller 2021 is a protocol of an ongoing RCT in the UK. Adolescents in care settings without a biological parent and with high levels of post-traumatic stress usually due to maltreatment at home are offered low-intensity group therapy delivered virtually. The goal of this programme is to provide skills to children to deal with their post-traumatic stress symptoms.

Do these interventions work in improving children's mental health?

The papers about *BEIP* studied various aspects of mental health. Troller-Renfree 2015 looked at attention bias which is considered a precursor to mental illnesses, such as anxiety disorder and depressive disorders. The primary outcome in Humphreys 2015 was the symptom counts for mental illnesses such as internalising disorders (anxiety, depression), externalising disorders (oppositional defiant disorder and conduct disorder) and attention deficit hyperactivity disorder (ADHD).

Troller-Renfree 2015 used a validated test called the 'dot-probe task[3]' to assess attention bias. In summary, this test presents a pair of emotional faces (some combination of angry, happy, and neutral) followed immediately by a symbol (+) behind one of the images. The children are meant to very quickly indicate which side the symbol is on. Bias scores are calculated by subtracting the reaction time when the symbol was behind an emotion face (angry or happy) from that when it was behind a neutral face. A positive bias score indicates a bias towards threat or positive stimuli and negative scores are the converse, i.e., bias away from threat or positive stimuli. A zero score means no bias was shown.

[3]Bradley, B.P., Mogg, K., White, J., Groom, C., & De Bono, J. (1999). Attentional bias for emotional faces in generalized anxiety disorder. British Journal of Clinical Psychology, 38 (3), 267–278. doi:10.1348/014466599162845

Children in the orphanage group (n=50, i.e., the group had 50 people) showed a significant bias towards threat stimuli while those that went into foster care (n=55) showed that towards positive stimuli, but when all three groups were compared to each other there were no significant differences. Children who were always at home with their biological parents (n=52) had no bias to either positive stimuli or threats. The size of the positive bias was associated with fewer externalizing problems (acting out, aggression), better prosocial behaviour and engagement and fewer signs of being emotionally withdrawn. However, the size of the threat bias was not significantly associated with any social outcomes. Entering foster care (whether *BEIP* or government foster care) at a younger age was related to a large positive attention bias (and therefore, better social outcomes).

Humphreys 2015 used the Diagnostic Interview Schedule for Children, 4th edition (DISC-IV)[4] to interview caregivers (parent or institutional caregiver) to get information on "symptom levels, duration or persistence, age of onset and functional impairment" when the children were close to 12 years of age. 44% of the orphanage group (n=55) fulfilled criteria for "any psychiatric disorder," 27% for those in "stable foster care" i.e., children who continued in *BEIP* foster care, 43% for those in "disrupted foster care" i.e., where the BEIP foster care arrangement was changed (for e.g., placement into government foster care, readmitted to institutional care) and 16% for children always at home (n=49). The prevalence of "any psychiatric disorder" was 39% for children who were ever in institutional care.

Internalising symptoms, externalising symptoms, ADHD symptoms were statistically significantly lower for children always at home than children who had ever been in institutional care. Results were similar for both girls and boys - except for internalising symptoms in boys which was still lower for the never-institutionalized group but not statistically significant. Institutionalized children (specifically boys in this group) had statistically significantly higher externalising symptoms than the foster care group but internalising symptoms and ADHD symptoms were similar between groups.

"Disrupted foster care" children had higher symptoms across all categories compared to "stable foster care" children suggesting that such stability is an important factor in mental health outcomes.

Both papers use data gathered quite a while after *BEIP* began: they followed up with children in the long term, when they were age 8-12. In fact, the papers cover a period of four years. The children in the two 'treatment' groups (*BEIP* vs institutional care) experienced many life changes over the years that could affect our understanding of the effects of *BEIP*. Of the children moved into *BEIP* foster case, only about half stayed there: some went into government foster care while others returned to their biological families or were lost to follow-up. Similarly, of the 68 children in the study who stayed in institutional care, only 43 were available at age eight: only about a quarter of them were still in institutional care, whereas others had moved to foster care or returned to their families. This pattern continued when another assessment was done at age 12.

The more recent studies of BEIP (Wade 2019, Wade 2020, Wade 2020a, Colich 2021) assessed outcomes up to age 16 to understand how early adversity and the foster care intervention affected mental health

[4] Shaffer D, Fisher P, Lucas CP, Dulcan MK, Schwab-Stone ME. NIMH diagnostic interview schedule for children vIV (NIMH DISC-IV): description, differences from previous versions, and reliability of some common diagnoses. *J Am Acad Child Adolesc Psychiatry* 2000; **39:** 28–38.

in adolescence. In general, they found that externalizing symptoms ("acting out") and psychopathology in general were lower for foster care children compared to their peers who remained in orphanages.

Sullivan 1992 reported on 72 children who had been sexually abused at a residential school for deaf children. The severity of abuse was ranked from 1-4 (with 4 being most severe) and close to 80% were in categories 3 and 4. Psychotherapy was delivered by three therapists (Master's level) with supervision by a psychologist and a psychiatrist. 35 children (21 boys, 14 girls) received therapy and 37 children (30 boys, seven girls) whose parents refused therapy were controls. Treatment goals were: "alleviation of guilt; treatment of depression; learning to express anger relevant to the event; basic information on normal human sexuality and interpersonal relationships; sexual preference and homosexual issues; maltreatment issues; self-protection techniques; affective vocabulary for emotions and feelings; emotional independence; establishment of a meaningful and stable identity; personal value system; and a capacity for lasting relationships." Each child received a two-hour weekly session of therapy for 36 weeks.

One year after therapy began, boys in the therapy group had significantly lower scores (lower is better) as reported by their "house parents" (presumably guardians assigned to each child in the residential school) than the control group on behaviour scales for – total, internal, external, somatic, uncommunicative, immature, hostile, delinquent, aggressive, and hyperactive. No differences were seen for schizoid and obsessive scales. For girls, those that got therapy did better than controls on total, external, depressed, aggressive, and cruel. There were no differences between groups in internal, anxious, schizoid, immature, somatic, and delinquent scales.

Have the interventions been implemented at scale?

Not really. BEIP was a unique study in Bucharest in a situation that was quite out of the ordinary. The therapy intervention described in Sullivan 1992 was implemented for children in only one residential school.

Which type of organisation delivered the intervention?

For *BEIP,* the intervention and the associated RCT was designed by researchers from various US universities. The investigators partnered with a local NGO (SERA Romania) to implement various intervention activities. The team also collaborated with local authorities at the Ministry of Health and the Directorates of Child Protection.

The implementing organisation is not mentioned in Sullivan 1992.

What do the interventions cost?

No cost data is reported.

How is the programme meant to work? The theory of change

No specific theory is mentioned in either study.

Are the results generalisable?

BEIP covered the entire Bucharest area since children in all six institutional care facilities were included in the programme. It was implemented in Bucharest at a time when foster care was uncommon in Romania. Findings from this trial are probably generalisable to jurisdictions looking to ramp up support for fostering children - because *BEIP* was a newly created foster programme.

We can't say much about generalisability on the findings from Sullivan 1992 as it was implemented only in one residential school.

How reliable is the evidence?

Moderately reliable.

Risk of Bias for Randomised Controlled Trials (RCTs)

Study (Author and year)	Overall risk of bias	Randomisation process	Deviations from intended interventions	Missing outcome data	Measurement of the outcome	Selection of the reported result
Troller-Renfree 2015	Some concerns	Some concerns	Some concerns	Some concerns	Low risk	Some concerns
Humphreys 2015	Some concerns	Low risk	Some concerns	Low risk	Some concerns	Some concerns
Wade 2019	Some concerns	Low risk	Some concerns	Low risk	Some concerns	Some concerns
Wade 2020	Some concerns	Low risk	Some concerns	Low risk	Some concerns	Some concerns
Wade 2020a	Some concerns	Low risk	Some concerns	Low risk	Some concerns	Some concerns
Colich 2021	Some concerns	Low risk	Some concerns	Low risk	Some concerns	Some concerns

Risk of Bias for Quasi-Experimental Designs (QEDs)

Study	Overall risk of bias	Confounding	Selection bias	Bias in intervention classification	Deviation from intended intervention	Missing outcome data	Measurement of the outcome	Selection of the reported result
Sullivan 1992	Moderate	Moderate	Low	Low	Low	Moderate	Moderate	Low

B. Systematic Reviews (Radford 2017, Bailey 2019, Sneddon 2020)

What are the systematic reviews about?

Radford 2017 was a rapid review commissioned by the *Independent Inquiry into Child Sexual Abuse in England and Wales (IICSA)* which investigated whether public and non-state institutions have done enough to protect children and young people from child sexual abuse and exploitation. The focus of the rapid review was to learn how institutions (state and non-state) outside England and Wales prevented and responded to child sex abuse and exploitation.

Sneddon 2020 is a systematic review on the effectiveness of cognitive behavioural therapy (CBT) for young people who show 'problematic or harmful sexual behaviour.' Typically, these children have received a formal reprimand or conviction for their behaviour and are receiving treatment in residential facilities.

Bailey 2019 is another systematic review examining trauma-informed care models for children and youth living in out-of-home care.

What are the findings on children's mental health outcomes?

Radford 2017 included studies on treatment for sexually abuse and exploited children such as cognitive behavioural therapy (CBT). Fifteen studies – seven systematic reviews (one review was an update) and eight primary studies (six from the US and two from Canada) – examined the effectiveness of various treatment programmes for victims and survivors of child sexual abuse.

Their findings are as follows:

- The overall evidence is poor with few RCTs.
- CBT with a trauma focus is a promising treatment to overcome the adverse effects of sexual abuse for minors.
- Other promising therapeutic approaches are drama-based therapy, Eye Movement Desensitization and Reprocessing - EMDR (which uses eye movements to reduce the emotional impact of past trauma and adverse events) and Modular Approaches to treatment and support

(uses a menu of evidence-based treatment modules for different issues such as depression, anxiety, trauma and conduct problems)

- Interventions to help children who have suffered online abuse is an evidence gap, i.e., more studies are needed.
- Benefit is increased by: longer duration of therapy, working with older children, and tailoring therapy to an individual's specific needs.

From Sneddon 2020, no studies reported on mental health outcomes such as self-harm and suicidality. Only one study reported on sexual aggression and found no difference between those who got CBT and those who didn't.

Bailey 2019 found only a few studies on organizational-wide trauma-informed care models. All studies were from the US. Three models of care were identified – Attachment Regulation and Competency framework (ARC), the Children and Residential Experiences programme (CARE), and The Sanctuary Model. Studies reported different measures of mental health and the results were generally better for children in these programmes compared to usual care. However, most studies in the review were rated as having a high risk of bias meaning low confidence in the "positive" findings for outcomes.

What information is available on cost and cost-effectiveness?

No information is provided on cost or cost-effectiveness.

Are results generalisable?

Unclear. The inconsistent findings limit generalizability. CBT approaches to reduce the adverse effects of sexual abuse in minors is likely applicable to settings that can provide resources and professionals to deliver it.

How reliable is the evidence?

Unclear. On quality, one systematic review is rated as low, and the other as high.

Radford 2017 did not combine effect sizes statistically, so the overall impact is not clear, nor is whether results were consistent across included studies.