

**Interventions for the prevention and mitigation of ACEs**

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#  1. Introduction

## 1.1 Description of search:

This summary of available literature aims to outline the interventions used to prevent and mitigate the effect of adverse childhood experiences.

## 1.2 Databases searched:

NICE Evidence, TRIP Database, Cochrane Library, LAPH database, EIF and from references within the literature.

## 1.3 Key terms:

ACE/ ACEs, adversity, adverse childhood experience, early intervention, trauma, trauma informed care, cognitive behavioural therapy/ CBT, resilience training, primary intervention, targeted intervention.

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#  Key Findings

* A multi-agency, whole systems approach to ACE prevention and mitigation has a strong evidence-base.
* NHS Scotland, the Scottish Government, and other partners have created an ACE hub which aims to reduce ACEs.
* EIF (Early Intervention Foundation) demonstrate a strong evidence base for interventions to prevent ACEs. Including: universal screenings and targeted intervention.
* Trauma informed approach to care for patients to identify and mitigate ACE has a strong evidence base, although can be expensive to implement due to training required.
* A trauma-informed approach should be implemented into institutions such as schools to deal with different ACEs and causes of trauma, as opposed to interventions developed to address one cause of trauma.
* Resilience training has a good evidence base.

# Prevention of ACEs

In 2019 the Centre of Disease Control (CDC) stated that ACEs can be prevented by creating and sustaining safe, stable and nurturing relationships and environments for all children and families[[1]](#footnote-1). CDC outline in their report ‘*Preventing Adverse Childhood Experiences’* a toolkit based on evidence from ACE studies which outlines strategies to prevent the occurrence of ACEs. These include:

* **Strengthening economic support for family’s-** research shows that financial hardship that leads to stress and anxiety can result in an increased risk of violence and other ACEs.
* **Promoting social norms that protect against violence and adversity-** research suggests that public education campaigns help parents understand the cycle of abuse and campaigns specifically targeting child physical abuse positively impact parenting practices, reduce children’s exposure to parental anger and conflict, reduce child behaviour problems (Pool, M. 2014 cited in CDC, 2019).
* **Ensure a strong start for children-** Some parents may struggle to provide a caring and nurturing environment. Early childhood home visitation can prevent ACEs by providing information, caregiver support, and training about child health, development, and care to families in their homes to build a safe, stable, nurturing and supportive home environment (David-Ferdon, C. 2016, cited in CDC, 2019).
* **Teach Skills-** Skills based learning is described as a comprehensive approach to preventing ACEs. Systematic reviews of the evidence for social emotional learning approaches finds that they significantly reduce peer violence across grade levels, school environments, and demographic groups (Hahn, R et al, 2007 and Matjasko, J. L., 2012 cited in CDC, 2019).
* **Connect youth to caring adults and activities-** Research suggests that mentoring programs improve outcomes across behavioural, social, emotional and academic domains.

## Whole-Systems approach to ACE prevention

A large-scale 2014 survey on ACEs and their relationship with resilience to health harming behaviour found that the more ACEs experienced in childhood, the more this has an effect in adulthood. [[2]](#footnote-2) Similarly, a 2017 systematic review of evidence found that an there is an increased prevalence of a range of problems in adulthood among those who suffered adversity in childhood.[[3]](#footnote-3) Public Health Wales conducted a survey in 2016 which reported a significantly increased prevalence of problems, such as mental health problems and chronic disease in adulthood for those who experienced four or more ACEs compared to those who suffered none.[[4]](#footnote-4) A US 2020 paper on the impact of ACE on quality-adjusted life expectancy found that three or more ACEs led to a significant burden of disease to a similar degree as many other well established behavioural risk factors and chronic conditions.[[5]](#footnote-5) Because of this evidence, it is argued that tackling a single ACE in children exposed to many will have little effect. 5 Multiple ACEs should be addressed with a multi-disciplinary approach focused on early prevention. “*Collaborative trauma-informed services can address the various adversities that affect individuals and families across the life course, providing integrated services to support individuals and reduce the likelihood that their own children in turn will be affected by ACEs*.” (Hughes, K. et al, 2017). There is an increased body of evidence that supports a public health, whole systems approach to tackling ACEs.[[6]](#footnote-6) [[7]](#footnote-7)

In Scotland, the prevention of ACEs and support for child resilience was identified as a top priority for the 2017/18 and 2018/19 government programme. The Scottish government has committed £1.3 million to practitioner training and has convened a multi-sectorial ACE hub, to further shape their public health approach to ACEs and other child and adult vulnerabilities.[[8]](#footnote-8) The ACE hub aims to prevent ACEs by:

* preventing household adversity
* supporting parents and families
* building resilience in children and wider communities
* encouraging wider awareness and understanding about ACEs and their impact on health and behaviour
* using encounters with adults in services such as homelessness services, addiction, prison or maternity services, to also consider the impacts on their children or future children.

The multi-disciplinary Scottish ACE Hub have worked on a developed framework to support schools and allocate Public Equity Funding (PEF) to target children affected by the poverty related attainment gap.[[9]](#footnote-9) This funding is intended for sustainable, long-term work in schools and local authorities to summaries links between early adversity, learning and behaviour.

# Early Intervention

In 2020, the Early Intervention Foundation published a report to survey the evidence relating to the prevalence, impact, and treatment of ACEs. They listed interventions with robust evidence of preventing ACEs, reducing ACE related symptoms, or stopping social mechanisms that contribute to ACEs.[[10]](#footnote-10) They argued that if these evidence-based interventions were integrated into a comprehensive public health strategy developed in response to population needs, many ACEs could be prevented or substantially reduced. Interventions included:

## Universal Screening

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| **Intervention** | **Description** | **Evidence Base** |
| Perinatal mental health screening | Routine screening of mothers for mental health problems throughout pregnancy | Shows a 2-9% reduction in the risk of depression at 3-5 months follow up. |
| Domestic violence screening | Routine screening for intimate-partner violence during the antenatal period. | Found to increase mother’s safety and improve childbirth outcomes when combined with evidence-based therapies. |

## Co-parenting Interventions

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| **Intervention** | **Description** | **Evidence Base** |
| Family Foundations\*\* | Group-based programme for couples expecting their first child. Coupled learn strategies for communication and conflict resolution | Evidence of improvements in infant soothabiity and reduction of maternal symptoms of depression and anxiety. |
| Schoolchildren and Their Families | Group based programme for couples with a child entering primary school. Learn strategies for managing child’s behaviour and improving co-parenting strategies. | Improvements in couple’s communication and satisfaction and child’s behaviour were observes in a 10 year follow up. |
| Strengthening Families 10 to 14 | Seeks to enhance family protective processes such as effective communication and child resistance to peer pressure | Evidence of small reductions in alcohol initiation at 1- and 2-year follow-ups, respectively small reductions in aggressive behaviours at a four-year follow-up, and significant improvements in academic success at a 6-year follow-up. |

Eleven **School-based interventions** were included aimed at supporting children’s social and emotional development and preventing health-harming behaviours.ASSIST (A Stop Smoking in Schools Trial)**,** Advanced Life-Skills Training**,** Friends for Life (health led)**,** Friends for Youth**,** Good Behaviour Game**,** Incredible Years Dinosaur Club**,** Lion’s Quest Skills for Adolescent Behaviours**,** PATHs Preschool**,** PATHS Elementary, Positive Action **and** Olweus Bullying Program. More information on these interventions can be found via the EIF 2020 report.

**Selective interventions** made available to families on the basis of selected demographic risks. Family Nurse Partnership\*\* (FNP) is a preventative home-visiting intervention for first time teenage mothers and their children. FNP has been shown to improve a variety of child and maternal outcomes.

**Targeted interventions** made available to children and parents based on a pre-identified need. These are interventions which include helping parents deal with and manage challenging behaviour, teaching parents to support child competence, mental health and risk reduction, and teaching parents to interact positively with their child. (Empowering Parents/ Empowering communities (EPEC), Level 4 Triple P Group & Standard, family check-up for Children, Helping the non-compliant child, Hitkashrut, The incredible Years Preschool Basic\*\*, The Incredible Years School Age Basic).

**Interventions for families where the parents are separating.** (Family Transitions Triple P, New Beginnings, Trauma-focused Cognitive Behavioural Therapy, Multidimensional Family Therapy\*\*, Child-Parent Psychotherapy, Child First.

## Specialist interventions offered as alternatives to families with a child at the edge of going into care.

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| **Intervention** | **Description** | **Evidence Base** |
| Functional Family Therapy | A therapeutic intervention for young people involved in serious antisocial behaviour and/or substance misuse and their parents. Participants are taught behavioural strategies and skills including listening skills, anger management and parental supervision techniques to replace maladaptive behaviours (i.e. antisocial behaviour and substance abuse). | Evidence from multiple studies of reduced substance misuse (Waldron et al., 2001). |
| Multisystemic Therapy \*\* | A therapeutic intervention for families with a young person who is at risk of going into care due to serious antisocial and/ or offending behaviour. The focus is on using the parents as the primary agents of change, so the intervention includes strategies to improve the parents’ effectiveness and the quality of the relationship with their child | Evidence from multiple, internationally conducted studies including a US evaluation demonstrating reduced youth offending, antisocial behaviour and psychiatric symptomology (Butler et al., 2011; Bourdin et al., 1995). A recent UK study observed that while MST reduced self-reported criminal behaviour, this improvement was not significantly better than what was achieved by standard youth justice practice (Fonagy et al., 2018). |
| Multisystemic Therapy for Child Abuse and Neglect | An intensive treatment for families who have recently been reported to Child Protection Services. A key aim of the intervention is to help families assume greater responsibility for their behaviours and actively work to resolve serious family issues. | Evidence of reduced neglect, psychological aggression, minor and severe assault, nonviolent discipline, symptoms of PTSD, dissociative symptoms, internalising symptoms, total behaviour problems and increased placement stability post-intervention (Swenson et al., 2010). |

**Note: All interventions listed here have been assessed by EIF as having level 3 evidence or higher. Level 3 evidence is the threshold at which causality can be attributed to the intervention model through robust evaluation methods involving random assignment or similarly rigorous quasi-experimental designs.**

**\*\* Indicates an intervention that have an evidence Level 4. Level 4 evidence suggests that this evidence has been established in more than one study and that there is clear evidence of a long-term outcome.**

The EIF state that there is evidence to show that the prevention interventions have a positive effect on mental health outcomes. However, the extent to which ACE prevention activities can prevent physical health problems is less clear.7

## Routine ACE Screening

ACE screening, also referred to as ‘routine enquiry’, involves using items from the original ACE questionnaire, developed in 1998 as a result of a study by CDC. [[11]](#footnote-11) The questionnaire asks children and adults about their history of ACEs, frequently resulting in an ‘ACE score’. “*This practice was informed by anecdotal evidence suggesting that the scores were useful in raising the patients’ awareness of ACEs. It also provided a therapeutic opportunity for patients to discuss their previous adverse experiences with their healthcare providers*.”1 ACE screening can help identify high-risk children and determine which children will benefit from which interventions. A recent study on the ACE screening framework aimed to make the screening process more efficient to predict trauma and other effects of ACEs in later life so that interventions could be used effectively. It concluded that a more empirically-based ACE screener would be more beneficial than the original 10-item ACE inventory model.[[12]](#footnote-12) The study interviewed children at difference ages to determine the effect of the stage in a child’s development the assessment is caried out and the outcomes of the assessment. “*Assessments with younger children may show a different set of ACEs that are most predictive of concurrent outcomes than assessments with older children, either because of critical period effects, development differences in the occurrence of particular types of ACEs, or because the proximal impact of different ACEs changes as children age*” (Heather, T. A., 2020). The study concluded that many of the ACEs included in the original screening index were good predictors of trauma symptoms for both older and younger children. However, others such as divorce and parental imprisonment were unrelated to trauma.

ACEs screening framework has also received criticism due to its limitations. Multiple issues are collapsed into single questions with ‘yes’ or ‘no’ answers in the questionnaire. This is considered poor practice in survey design.[[13]](#footnote-13)

## Resilience training

Resilience theories focus on strengths that individuals possess internally, such as coping skills, and externally, such as family and community support. There is an increasing body of evidence which looks at how these strengths can help individuals overcome exposure to ACEs.[[14]](#footnote-14)

One US national study described resilience as “*staying calm and in control when faced with a challenge”* and found that resilience lessens the impacts of ACEs on poorer education, such as repeating a grade or poor school engagement. [[15]](#footnote-15)

# Trauma-informed care

The Substance Abuse and Mental Health Services Administration (SAMHSA) defines trauma as “*a single event, multiple events, or a set of circumstances that is experienced by an individual as physically and emotionally harmful or threatening and that has lasting adverse effects on the individual’s physical, social, emotional or spiritual well­being”.[[16]](#footnote-16)*

In Goddards 2020 paper on ACEs and trauma informed care she outlines the importance of the ‘**Four R’s**’ approach to trauma-informed care: **realisation** of how ACEs affect health, the **recognition** of paediatric clinical symptoms presentation and screening protocol for aces, and the health care providers ability to **respond** and not **re-traumatise** parents when delivering evidence-based care.15 The approach was originally developed by SAMHSA (2014) as a framework for trauma-informed care which could be implemented in practice. SAMHSA outline that the six key principles of a trauma-informed approach are:

1. Safety
2. Trustworthiness and Transparency
3. Peer Support
4. Collaboration and Mutuality
5. Empowerment, Voice and Choice
6. Cultural, Historical and Gender Issues

SAMHSAs model calls for the integration of trauma sensitive care and practices within the broader structure of an organisation rather than employing specific interventions in response to a particular traumatic event.[[17]](#footnote-17) Developing a trauma informed approach requires change at multiple levels of an organisation and systematic alignments with the six key principles outline above.

SAMHSA’s trauma-informed framework has been implemented into a school setting and research papers have included recommendations for schools to implement the approach at multiple levels of service (e.g administration level, student level etc.)[[18]](#footnote-18)[[19]](#footnote-19)

Findings regarding the feasibility of trauma-informed care have been mixed, providing preliminary evidence of increased client satisfaction, improvements in children’s symptoms of trauma and increased placement stability. However, it can also be expensive to implement, and concerns have been raised about the lack of specificity in many trauma-informed care models.1

## Cognitive Behavioural Therapy

Recent (2020) literature on ACEs states that the evidence for most interventions for people who have experienced ACEs is equivocal; the most promising results are cognitive behavioural therapy (CBT) for mental health outcomes.[[20]](#footnote-20) [[21]](#footnote-21)

Accumulating evidence suggests that children exposed to ACEs sustain a range of neurobiological changes. [[22]](#footnote-22) Chronic and toxic stress experiences by ACE survivors can lead to changes in brain development and structure. [[23]](#footnote-23) Although these neurobiological and neuroendocrine systems are influenced by negative environmental experiences, the individual ability to overcome complexities from trauma includes a degree of repair through protective factors that foster resilience through childhood. 4 Experience of childhood abuse is associated in the literature with social, cognitive and emotional dysfunction in later life.[[24]](#footnote-24) A 2016 literature review of primary care interventions to improve health outcomes in adult survivors of ACEs found that CBT has the most evidence for management of health problems. Intervention trials primarily focused on social cognitive and emotional outcomes.20

# Other health outcomes

Adult physical health can be affected by ACEs experienced in childhood. Evidence shows that ACEs can lead to poorer decisions which can result in poor health outcomes. Other factors such as socioeconomic status can be an outcome of ACEs and can also lead to poorer health. A 2015 US study investigated the link between ACEs and physical health outcomes such as self-related hard, functional limitations, diabetes, and heart attack. The aim was to investigate which ACE experiences led to which poor health outcomes to establish how the outcomes can be prevented. Data was collected from a four-year period (2009-2012) from the Behavioural Risk Factor Surveillance System which collects information on health outcomes, behaviours and demographical characteristics. Measures used to determine the link between ACEs and health outcomes were: Adult health, ACE (11 questions addressing adverse experiences relating to a parent or other adults, current socioeconomic status, health and health behaviours, controls (including sex, race/ethnicity, age, marital status). The result of the study highlighted the importance of family-based ACEs on adult health outcomes and that socioeconomic status and stress-related coping behaviours may be crucial links between trauma in the childhood home and adult health. [[25]](#footnote-25)

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