#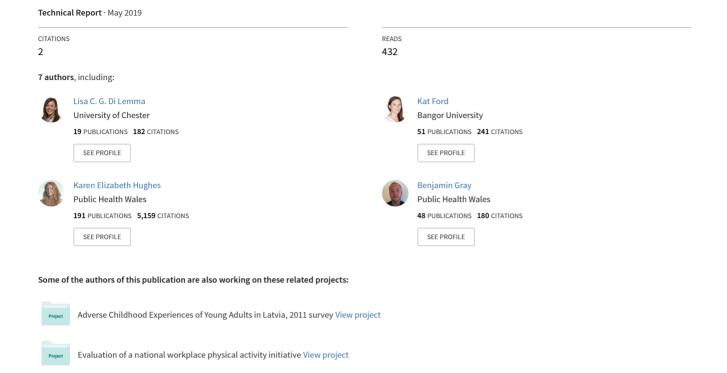 Responding to Adverse Childhood Experiences: An evidence review of interventions to prevent and address adversity across the life course.

**Technical Report** · May 2019

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# Responding to Adverse Childhood Experiences

An evidence review of interventions to prevent and address adversity across the life course

Lisa C.G. Di Lemma, Alisha R. Davies, Kat Ford, Karen Hughes, Lucia Homolova, Benjamin Gray and Gillian Richardson

## Authors and Contributions

Lisa C.G. Di Lemma[1], Alisha R. Davies[1], Kat Ford[2], Karen Hughes[1,2], Lucia Homolova[1], Benjamin Gray[1] and Gillian Richardson[1].

[1] Public Health Wales NHS Trust
Capital Quarter No.2, Tyndall Street
Cardiff
CF10 4BZ
Tel: +44 (0)2920 227744

[2] Public Health Collaborating Unit
Bangor Institute for Health and Medical Research
School of Health Sciences
Bangor University
Wrexham Technology Park
Wrexham
LL13 7YP
Tel: +44 (0)1248 383519

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## Suggested citation

# Contents

# Abbreviations used in the report

| | |
|---|---|
| **ACEs** | Adverse childhood experiences |
| **AUDIT** | Alcohol Use Disorders Identification Test |
| **BBBS** | Big Brothers Big Sisters programme |
| **CPP** | Child-Parent Psychotherapy |
| **CTC** | Communities That Care |
| **EIF** | Early Intervention Foundation |
| **FCU** | The Family Check-Up |
| **FAST** | Families and Schools Together |
| **GBG** | Good Behaviour Game |
| **IPP** | Infant-Parent Psychotherapy |
| **IY** | The Incredible Years |
| **IPV** | Intimate partner violence |
| **MI** | Motivational Interviewing |
| **MST** | Multisystemic Therapy |
| **MTFC** | Multidimensional Treatment Foster Care |
| **NBP** | New Beginnings Program |
| **NFP (or FNP)** | Nurse-Family Partnership (or Family Nurse Partnership) |
| **NICE** | National Institute for Health and Care Excellence |
| **PATHS** | Promoting Alternative Thinking Strategies |
| **PTSD** | Post-traumatic stress disorder |
| **PLH** | Parenting for Lifelong Health |
| **PSQ** | Parent Screening Questionnaire |
| **ROI** | Return on Investment |
| **SEEK** | Safe Environment for Every Kid |
| **TRM** | Trauma Recovery Model |
| **UK** | United Kingdom |
| **USA** | United States of America |
| **WHO** | World Health Organization |
| **WSIPP** | Washington State Institute for Public Policy |

# 1. Introduction

## 1.1 About this report

Adverse childhood experiences (ACEs) are stressful events during childhood that can have a profound impact on an individual's present and future health (Section 1.3). Growing up in the face of such adversities is recognised as an important public health concern in Wales and internationally (Welsh Government, 2017a; World Health Organization [WHO], 2014). **Actions to prevent and mitigate ACEs and their associated harms are essential to improve population health for present and future generations** (Bethell et al., 2017; Pachter et al., 2017).

In Wales, many sectors are working to identify and respond to adversity in order to improve outcomes for those who have experienced ACEs. Whilst a number of evidence-based interventions target specific types of adversity (e.g. domestic violence), we know that ACEs are strongly correlated (e.g. individuals exposed to adversity are often exposed to more than one type; Hughes et al., 2017). Thus, complex adversity requires a response which extends across sectors including health, social care, policing, education, community and others, and across the life course from early childhood through to adulthood.

To support innovation in addressing ACEs we have undertaken a review of evidence on common approaches to prevent ACEs and/or mitigate their negative impacts. **Over 100 interventions were identified and collated across four common approaches**: supporting parenting; building relationships and resilience; early identification of adversity; and, responding to trauma and specific ACEs (Chapter 3). Whilst the interventions vary in type, the review identified cross-cutting themes, which could be used to inform a whole system approach (spanning individual, family and community levels) to tackle ACEs across the life course, supporting the development of an ACE-informed approach (Chapter 4). The report concludes by highlighting current gaps in the evidence and suggests key areas for further work to tackle ACEs for our future generations (Chapter 5).

The report is not an exhaustive systematic evidence review of the interventions for specific ACE types, nor does it advocate any specific intervention, rather it seeks to present a summary of the research evidence and information on common approaches across the prevention of ACEs and mitigation of their impact. We hope the report will be a useful resource for service planners, practitioners and commissioners to support innovation and development towards an ACE-free future.

## 1.2 Why now?

**In Wales, current policy context and legislation is supportive of addressing ACEs.** The ground-breaking *Wellbeing of Future Generations (Wales) Act* (2015), provides the foundation for all public services to work collaboratively towards an integrated life course approach to wellbeing. Additionally, *Prosperity for All: the national strategy* (Welsh Government, 2017a) sets out national commitments for the establishment of foundations for lifelong wellbeing (e.g. investing in early years) and the prevention of ACEs through the creation of ACE-aware public services[1]. *A Healthier Wales: our Plan for Health and Social Care* recognises the lifelong importance of addressing adversity experienced in childhood (Welsh Government, 2018). This context enables (and is in line with) Public Health Wales' priorities of building resilience across the life course and of addressing harmful behaviours and protecting health (Public Health Wales, 2018).

Action to prevent and mitigate the consequences of ACEs is essential to improve population health. This report aims to support such work by summarising existing international evidence of common approaches used in interventions which seek to prevent ACEs and mitigate their impact.



[1]Any public service (e.g. schools, housing, policing and health) adopting a trauma-informed approach.

## 1.3 Overview of ACEs

**ACEs are stressful events occurring in childhood**, such as being a victim of abuse, neglect, or growing up in a household in which alcohol or substance misuse, mental ill health, domestic violence or criminal behaviour resulting in incarceration are present (Felitti et al., 1998).

**ACEs are common**, with approximately 50% of the adult population (aged 18-69 years) in Wales reporting having experienced at least one ACE, and 13.5% reporting four or more (Hughes et al., 2018). These prevalence estimates are comparable to other studies conducted in Wales (Bellis et al., 2015a), the UK (Ford et al., 2016), and internationally (Hughes et al., 2017).

**ACEs can have a detrimental impact on health across the life course**, contributing to increased health inequality and morbidity (Table 1). In Wales, those who suffer four or more ACEs are six times more likely to be a smoker, four times more likely to drink alcohol at harmful levels (Bellis et al., 2015a), two times more likely to suffer from a chronic disease (e.g. asthma, cancer, obesity, heart and respiratory disease; Ashton et al., 2016), and six times more likely to have ever received treatment for mental illness (e.g. depression or anxiety; Hughes et al., 2018). A history of exposure to ACEs has also been associated with an increased demand on health services (Bellis et al., 2017a;  Chartier et al., 2010).

**ACEs and their negative effects can extend beyond a single generation**, with their replication driven by complex interactions between personal and social environmental factors, leading to their intergenerational transmission (Larkin et al., 2012; Leitch, 2017; Lomanowska et al., 2017). Therefore, addressing the consequences of ACEs in adults may have the potential to also prevent exposure to ACEs for the next generation. For example, a person who uses drugs and/or alcohol as a coping mechanism for trauma may be vulnerable to exposing their own children to ACEs in the form of both parental substance misuse and the associated effects on parent-child interaction. The impact of exposure to ACEs in early life can be long lasting, where the psychological stressors in childhood result in physiological disruption and increased vulnerability to disease across the life course - a process referred to as biological embedding (Danese et al., 2015). As such, ACEs should be considered not as an isolated issue to be tackled, but as part of a whole life course approach to understanding and improving health and wellbeing (Kimple and Kansagra, 2018).

**Table 1. ACE prevalence in Wales and harms associated with experiencing four or more (4+) ACEs**

## Child maltreatment

| ACE | Verbal abuse | Physical abuse | Sexual abuse | Emotional neglect | Physical neglect |
|---|---|---|---|---|---|
| **% in Wales** | 20% | 16% | 7% | 7% | 4% |

## Childhood household included

| ACE | Parental seperation | Mental illness | Domestic violence | Alcohol abuse | Drug abuse | Incarceration |
|---|---|---|---|---|---|---|
| **% in Wales** | 25% | 18% | 17% | 13% | 6% | 4% |

## Increased risk of associated harms for those individuals with 4+ ACEs compared to those with no ACEs

- 3 times more likely to develop heart or respiratory disease or to have attended (or stayed overnight) in a hospital
- 4 times more likely to be a high-risk drinker
- 6 times more likely to have ever received treatment for mental illness
- 6 times more likely to be a smoker

- 6 times more likely to have had or caused an unplanned teenage pregnancy
- 15 times more likely to have perpetrated violence in the last year
- 16 times more likely to have used substances (i.e. heroin or crack)
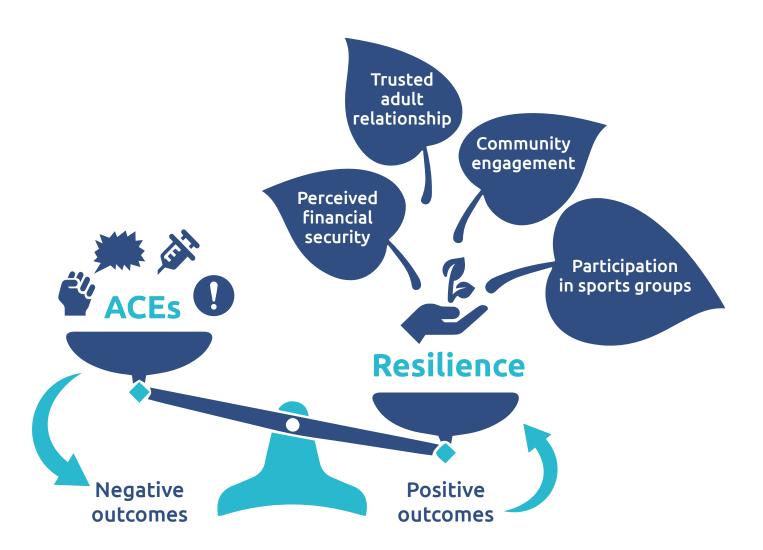- 20 times more likely to have been incarcerated

Sources: Ashton et al., 2016; Bellis et al., 2015a; Hughes et al., 2018.

**The role of resilience as a protective factor to migitage against the impact of ACEs is increasingly evident** (Biglan et al., 2017; Hornor, 2017). Recent studies have shown that resilience resources in childhood and adulthood can moderate the negative outcomes associated with ACEs (Bellis et al., 2017b; Gouin et al., 2017) and show protective effects on mental ill health (Hughes et al., 2018), and childhood health and educational attendance (Bellis et al., 2018). Childhood resilience resources which help mitigate against the negative impact of ACEs include having a stable trusted relationship with an adult and participating in sport clubs (Bellis et al., 2017b; Bellis et al., 2018; Hughes et al., 2018; National Scientific Council on the Developing Child, 2015). Sources of resilience amongst adults shown to be important mitigating factors include regular participation in community activities and perceived financial security (Hughes et al., 2018). Thus, whilst efforts are needed to reduce exposure to ACEs, strengthening resilience in children and adults is also important to protect against the impact of ACEs through the life course (Figure 1).

**Figure 1. Resilience balance scale**



Adapted from: Hughes et al., 2018 and Center on the Developing Child, Harvard University, see https://developingchild.harvard.edu/science/key-concepts/resilience/

# 2. Methodology

A series of literature searches were undertaken to identify research evidence on the prevention of ACEs and work to mitigate their harms (for full details of the methodology see Appendix 1). These searches explored reviews from both academic peer-reviewed literature and publicly available reports, published from 2008 to 2018. Given the strong correlation between many ACEs (AcademyHealth, 2016; Early Intervention Foundation [EIF], 2017; Purewal Boparai et al., 2018), the initial search approach focused on interventions to address ACEs and their consequences as a collective term. Subsequent targeted searches to address gaps in the evidence were undertaken.

This review is not an exhaustive review of interventions to address each individual ACE type. However we have drawn on previous reviews of evidence (Altafim and Linhares, 2016; Asmussen et al., 2016; Conley et al., 2015; Fortson et al., 2016; Guy et al.,2014;  Hardcastle et al., 2015; Heise, 2011; Reavley and Jorm, 2010; Walsh et al., 2015; WHO, 2012; WHO, 2014; WHO, 2016; WHO, 2017; and WHO, 2018). Due to time and resource limitations it is possible that not all interventions have been included in this report. Further, the report is not an exhaustive systematic evidence review on the interventions for specific ACE types, nor does it advocate any specific intervention, rather it seeks to present a summary of the research evidence and information on common approaches across the prevention of ACEs and mitigation of their impact.

Searches retrieved 180 eligible records (see Appendix 1), from which 110 interventions were identified (see Appendix 2). A more detailed summary of each intervention included is available online (see supporting evidence tables available at http://www.wales.nhs.uk/sitesplus/888/document/337714). Both universal interventions (e.g. addressing the entire population) and those targeted to populations at risk were identified.

# 3. Evidence-based interventions and approaches

Across interventions, four common approaches were identified as summarised in the following sections and in Table 2.

**Table 2. An overview of the common components, interventions and settings within each of the four approaches to prevent and mitigate the harms of ACEs**

| APPROACHES | COMPONENTS | PROGRAMMES | SETTINGS |
|---|---|---|---|
| **Supporting parenting (Section 3.1)** | • Ensuring the best start in life<br>• Supporting the building of positive adult-child relationships and attachment<br>• Empowering parents by building knowledge and resilience (protective skills) | • Parenting interventions | • Home<br>• Primary care<br>• School<br>• Community<br>• Welfare |
| **Building relationships and resilience (Section 3.2)** | • Promotion of children's overall development and wellbeing<br>• Building positive relationships<br>• Building knowledge<br>• Strengthening social and emotional competency (protective skills)<br>• Behavioural regulation (preventing conduct disorder)<br>• Promotion of wellbeing, mental health and healthy lifestyle<br>• Holistic approaches to deal with stress<br>• Multi-agency approaches | • School-based interventions<br>• Mentoring interventions<br>• Interventions building resilience<br>• Community-based interventions | • School<br>• Community |
| **Early identification of adversity (Section 3.3)** | • Raise awareness<br>• Ensure the best start<br>• Specific early actions (e.g. referrals to services) | • Early identification of adversities in households | • Home<br>• Primary care<br>• Community |
| **Responding to trauma and specific ACEs (Section 3.4)** | • Psychological and pharmacological treatments for substance abuse<br>• Welfare services<br>• Policy measures and guidelines<br>• Multi-agency approaches<br>• Building resilience by developing coping and emotional strategies (protective skills)<br>• Tailored treatments to support families, parents and children<br>• Addressing parent-child relationships in families experiencing trauma<br>• Promote wellbeing and mental health | • Psycho-therapeutic treatments<br>• Specific interventions | • Home<br>• Primary care<br>• School<br>• Community |

# 3.1. Supporting parenting

## Key messages

- Positive attachment and parenting practices have a profound beneficial effect on child emotional and behavioural development.
- Parenting interventions can be cost-effective approaches that support positive parenting and are beneficial in preventing and mitigating ACEs.
- Identified key approaches to prevention and mitigation focus on interventions ensuring the best possible start in life, by supporting the building of positive parent-child relationships, positive and supportive parenting practices and parental empowerment.

## 3.1.1 Context

In Wales, child maltreatment is not uncommon (Hughes et al., 2018) and protecting children from abuse and neglect is of national importance (Welsh Government, 2017b). Neglect (e.g. failure to meet a child's basic needs of food, clothing, or emotional support) is the most common reason for taking child protection action in the UK, with an estimated 1,270 children in need of protection from neglect in Wales (National Society for the Prevention of Cruelty to Children [NSPCC], 2017). Children who experience these and other adversities are more likely to develop negative consequences (e.g. have a greater propensity towards violence, health harming behaviours, and are at increased risk of poor mental and physical health; Felitti et al., 1998; Hughes et al., 2017). **Positive and supportive parenting practices and positive parent-child relationships** can have a profoundly beneficial effect on child development (United Nations International Children's Emergency Fund [UNICEF], 2017), can help facilitate early identification of adversity and are thought to be key factors in supporting children to overcome stress/adversity (Beckmann, 2017; Bellis et al., 2017b; Bellis et al., 2018). Their development is a Welsh Government priority (Welsh Government, 2017a).

## 3.1.2 Actions

**Parenting interventions** (including home-visiting interventions) have been shown to help children have the best possible start in life (Gray et al., 2013), and have been suggested to be key factors for the prevention of ACEs (Asmussen et al., 2016; Beckmann, 2017; Flynn et al., 2015; Oral et al., 2016; Purewal Boparai et al., 2018).

The development of parent-child relationships, especially in the first 1000 days of life, is thought to be a key factor in supporting children at risk of early stress/adversity. Parental empowerment (e.g. helping parents to build confidence and make positive changes),

developing positive and supportive parental practices and promoting positive attachment are the typical focus of these interventions. Positive and supportive parenting has consistently been linked with positive emotional and behavioural outcomes in childhood (Beckmann, 2017), with evidence also showing positive effects in the universal prevention of child maltreatment (e.g. reductions on reports of harsh discipline; Altafim and Linhares, 2016; Chen and Chan, 2016; Sethi et al., 2018). Therefore, supporting the development of parent-child relationships has the potential to protect against ACEs and their potential impact. Even though parenting interventions may be resource intensive, they have been found to offer substantial return on investment (ROI) depending on location and population. Parenting interventions, especially those focusing on early years, **have been shown to be cost-effective** (O'Neill et al., 2013; Public Health England, 2018) offering potentially significant cost-saving over the long-term (Stevens, 2014).

Parenting interventions vary in intensity and training and can be provided universally (for all parents or caregivers) or targeted to specific at-risk groups (e.g. parents with substance misuse, in poverty or where children are identified as being at risk of maltreatment). Many parental interventions, both targeted and universal, have been shown to be cost-effective in improving parenting practices and children's cognitive and emotional development (Fortson et al., 2016). Two examples of evidence-based interventions which have been implemented in Wales and further afield, targeting childhood abuse and neglect, are the **Incredible Years (IY)** – a universal intervention consisting of three separate curriculums (Hutchings et al., 2016) and the **Family Nurse Partnership (FNP) or Nurse-Family Partnership (NFP)** - a home visiting intervention – offering regular one to one support from trained nurses to at-risk families (e.g. first-time young mothers or families from low income households; Olds et al., 2014; see Appendix 3 for additional examples).

A UK cost-analysis of IY showed that 68% of the children involved in the intervention improved their conduct disorder scores, relative to children on a waiting list, with delivery costs ranging from £1,612 to £2,418 per child ([BASIC] level delivered in Birmingham, depending on group numbers; Edwards et al., 2016). In Washington State, USA, estimates suggest that for each $1 invested in NFP there were $1.63 in benefits realised[1] (Washington State Institute for Public Policy [WSIPP], 2018a). However, a UK evaluation found the cost of the intervention to be greater than standard care for young pregnant women (costing on average £1,812 more per participant; Corbacho et al., 2017), and concluded that a lack of evidence of better outcomes in the UK meant the intervention was unlikely to be cost-effective compared with existing services. Differences between countries with more positive study outcomes may be related to different levels of universal support to mothers (e.g. in the USA mothers may not be able to access universal supportive health and social services) and other factors such as length of follow up (Burwick and Zaveri, 2014; Corbacho et al., 2017).

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[1]Figures calculated using a cost benefit analysis (CBA) economic model, which considers the costs and benefits that occur over time for a specific programme. Benefits include direct benefits to participants and indirect benefits to taxpayers and wider society. For more technical information from the WSIPP for Public Policy Benefit-Cost model see http://www.wsipp.wa.gov/TechnicalDocumentation/WsippBenefitCostTechnicalDocumentation.pdf

Examples of parenting interventions which protect against specific ACEs (e.g. abuse and neglect), which have been adopted within the UK and other high economic countries are: **Triple P (Positive Parenting Program)**, a universal multi-component programme including five levels of delivery, education and support of increasing intensity (e.g. media campaigns, low intensity single parenting sessions to more comprehensive and targeted sessions such as on conduct disorder), and **Safecare**, a targeted intervention delivered in modules (e.g. safety, monitoring and coaching) to parents with young children at risk of maltreatment. These interventions show improvements in parenting practices and overall reductions in child maltreatment rates (Avellar et al., 2014; Chen and Chan, 2016; EIF, 2015; Fortson et al., 2016), with reductions in disruptive childhood behaviour for those following the Triple P programme. Both interventions have been found to be cost-effective. In Washington State, USA, estimates suggest that for each $1 invested in Triple P and Safecare, the benefits realised were $10.41 and $22.41 respectively (WSIPP, 2018b; WSIPP, 2018c). Multiple types of Triple P programmes were also rated by the EIF and considered to be medium or low cost[2] (depending on the programme type) to set up and deliver in a UK context (EIF, 2016). In addition, a promising non-profit programme highlighted by WHO as an affordable parenting programme to prevent forms of violence in low resource settings is the **Parenting for Lifelong Health (PLH)**. PLH has been implemented in South Africa and shows improvements in parenting practices and overall reductions in substance abuse in adolescents and caregivers, with also improvements in caregivers mental health and household finances (WHO, 2018).

[2]Low cost is defined as equivalent to an estimated unit cost of less than £100; Medium-low cost is defined as an estimated unit cost of £100 -£499; Medium cost is defined as an estimated unit cost of £500-£999. https://guidebook.eif.org.uk/guidebook-help/how-to-read-the-guidebook#what-is-the-cost-rating For more information on how the cost ratings are assigned see Annex 3 in EIF (2016) Foundation for life: What works to support parent child interaction in the early years. https://www.eif.org.uk/files/pdf/foundations-for-life.pdf

# 3.2. Building relationships and resilience

## Key messages

- Individuals exposed to ACEs have fewer resilience resources (e.g. protective factors, such as a positive, trusted relationship).
- Mentoring interventions, school-based and community-based interventions, and life skills interventions are cost-effective interventions that build relationships and resilience.
- Identified key approaches to prevention and mitigation focus on interventions supporting the building of positive relationships, knowledge and resilience to face stress, and on promoting overall development (e.g. life skills) and wellbeing.

## 3.2.1 Context

Research suggests that connectiveness, building and maintaining supportive relationships, building self-efficacy (e.g. the feeling of being able to overcome hardship) and skills that help manage behaviour and emotions can be protective, moderating the negative effects associated with ACEs (Bellis et al., 2017b; Gouin et al., 2017; Hughes et al., 2018; NSCDC, 2015; Zolkoski and Bullock, 2012). *The Welsh ACE and Resilience Survey* highlighted strong relationships between childhood and adult resilience and the impact of ACEs on mental health. Individuals who were exposed to four or more ACEs had fewer resilience resources, and such resources were found to be protective against the long-term impact of ACEs on mental ill health (Hughes et al., 2018). **Investing in interventions to support resilience is likely to be beneficial to reduce the impact of ACEs on population health.**

## 3.2.2 Actions

Interventions aimed at building relationships and resilience may be effective in the prevention of ACEs and mitigation of their harms, as they show demonstrable impact on increasing self-esteem and decision-making skills (Himelstein et al., 2015), reducing stress or anxiety (Kilbourne et al., 2017), poor health behaviours and violence (Bellis et al., 2017c). There is considerable variation in the delivery format and intensity, with most interventions focusing on high-income countries, and including elements of development, support, supervision, modelling (e.g. learning from imitation), and education to assist individual and community health and wellbeing (e.g. reduction of stress; Barry et al., 2017; CASEL, 2012; Hodder et al., 2017; Joyce et al., 2018).

Three main interventions types have been identified (see Appendix 3 for details on all interventions):

**1. Mentoring interventions;**
**2. Community-based interventions;**
**3. School-based interventions.**

**1. Mentoring interventions** are relationship-based interventions largely targeted at children and youth who are at risk of adversity, strengthening resilience networks to potentially protect against the consequences of ACEs. They involve a more experienced individual, either an older person or peer, helping to guide the 'mentee', offering support and a trusted positive relationship. Well-implemented mentoring interventions amongst young people who have faced adversities have shown effectiveness across multiple outcomes, including reducing drug misuse, crime and violence, while improving academic performance (Barry et al., 2017; DuBois et al., 2011; Tolan et al., 2014). In some studies poorly implemented interventions have been associated with adverse effects (DuBois et al., 2011).

An example of an evidence-based mentoring intervention, implemented in several countries (including the USA, Australia, Canada, India, and New Zealand), is the **Big Brothers Big Sisters programme (BBBS)**. BBBS is delivered in communities and provides young people with a positive adult role model, matched on gender and mutual interests. BBBS has been implemented amongst those who have experienced multiple ACEs (e.g. abuse, neglect, household misuse, mental illness, and incarceration) and has demonstrated improvements in family and peer relationships, academic success, and has shown reductions in violence and in the initiation of alcohol and drug use (Dolan et al., 2011) – thus, helping to protect against the detrimental impact of ACEs. However, impact on self-worth has been variable (Bellis et al., 2017c; Herrera et al., 2013), and in the USA the costs of programme delivery may outweigh the benefits (Washington State estimates suggest that for each $1 invested in BBBS there were $0.45 in benefits realised; WSIPP, 2018d). Currently there is no cost-analysis of the programme available for the UK.

**2. Community[3]-based interventions** can build collective resilience, support individuals with services, and build strong bonds to a group (or a culture), all of which have been shown to be important factors in preventing and mitigating the impacts of ACEs. The recent *Welsh ACE and Resilience Survey* highlighted strong cultural connectedness, regular participation in groups (e.g. sports clubs), and higher perceived levels of support from public services and employers, were found to moderate the increased risk of mental ill health from ACEs (Hughes et al., 2018).

There are many interventions which have been implemented at a community level to build resilience (Joyce et al., 2018). Examples adopted in many countries targeting multiple ACEs (including incarceration) include **Communities That Care (CTC)**, a cost-effective universal multi-agency community programme. CTC is designed to plan, develop, deliver and mobilise

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[3]Communities can be defined as geographical areas, formal structures (e.g. schools, organisations) and informal contexts (e.g. neighbourhoods, groups with common culture/interests; see: Alexander et al., 2010; Kais and Islam, 2016; Gil-Rivas and Kilmer, 2016).

effective prevention services that are evidence-based and responsive to local needs. CTC has been implemented in the UK and overseas, and communities implementing the programme (relative to communities not adopting CTC) have reported enhancement in the overall development of children; and reductions in: rates of school absence and failure, substance misuse in males, mental illness and antisocial behaviour (Hawkins et al., 2009; Kuklinski et al., 2015; Oesterle et al., 2010). In Washington State, USA, estimates suggest that for each $1 invested in CTC there were $4.95 in benefits realised (WSIPP, 2018e).

A number of programmes to support vulnerable families span organisational boundaries, for example **the Multidimensional Treatment Foster Care (MTFC)** which aims to improve the adoption of and access to, specific tailored services with trained professionals and has been found to be cost-effective. The MTFC programme consists of multi-component training that aims to build resilience and support youth removed from their homes, via cooperation between services, showing significant reductions in antisocial and unhealthy, risky behaviours (Rhoades et al., 2013). In Washington State, USA, estimates suggest that for each $1 invested in MTFC there were $1.82 benefits realised (WSIPP, 2018f).

**3. School-based interventions** have been associated with a positive impact on children's socio-emotional development (building resilience to protect against the impact of ACEs), and address behavioural change and wellness (addressing the externalisation of the consequences of ACEs; WHO, 2016).

School-based interventions contribute towards building resilience by providing and promoting universal health (including mental health) and wellbeing support to pupils (e.g. increasing awareness, improving social and emotional competency, and addressing poor or risky behaviours which may be a reflection of coping mechanisms for adversity); and support and build family relationships (Agabio et al., 2015; Carta et al., 2015; Champion et al., 2012; Clarke et al., 2015; Ross, 2017; Rudolph and Zimmer-Gembeck, 2016; Teesson et al., 2012; Walsh et al., 2015). School-based interventions to support resilience tend to be delivered through a combination of interactive educational and psychosocial based activities to groups for a relatively low cost. School-based interventions for enhancing social-emotional skills have been shown to be effective (Conley et al., 2015; Durlak et al., 2011; Sancassiani et al., 2015), protecting against forms of violence (e.g. child maltreatment, intimate partner violence – and therefore ACEs), and aggressive or defiant behaviour (Ross, 2017; Walsh et al., 2015; WHO 2018). For example **Safe Dates**, is a universal programme for adolescents that is typically delivered in schools to promote resilience and protect against intimate partner violence (IPV). The programme aims to raise awareness, increase knowledge, change gender stereotypes, challenge violence norms, and promote resilience (e.g. dealing with conflict). In the USA, the programme has shown reductions in dating abuse victimisation and perpetration, and prevention of other types of youth violence (e.g. peer violence victimisation; Foshee et al., 2014). However, cost estimates are not available.

Evidence on school-based interventions to promote mental health and prevent mental ill health is growing, with the most effective interventions being those implemented across the whole school (Carta et al., 2015; Mellor, 2014; Weare and Nind, 2011). The state of heightened anxiety, as a result of past or current exposure to ACEs, may be expressed externally as adverse physical and emotional responses to certain situations, such as increased likelihood of violence or aggressive behaviour. **School-based interventions** also address these consequences of ACEs, to improve social and emotional competency alongside reducing conduct disorders and health risk behaviours. Examples adopted worldwide include the universal behaviour management programme **Good Behaviour Game (GBG)** delivered by teachers to primary school children (Poduska et al., 2011; Kellam et al., 2014). In Washington State, USA, estimates suggest that for each $1 invested in GBG there were $66.29 in benefits realised (WSIPP, 2018g); and the intervention was rated by the EIF as having low[4] set up and delivery costs in the UK (EIF, 2016). **Promoting Alternative Thinking Strategies (PATHS)**, is a behaviour management programme for primary school age children that has been implemented in Wales and internationally. PATHS has been found to reduce aggressive behaviour, prevent crime and improve school climate and social-emotional competencies (Arda and Ocak, 2012; Crean and Johnson, 2013; Fishbein et al., 2016). Overall, interventions to prevent conduct disorders (including parenting interventions) show high ROI in various sectors (over a six year period, UK estimates indicate a return of £8 for every £1 spent; Knapp et al., 2011).

A further example of school-based interventions are programmes seeking to strengthen family relationships. These help to prevent ACEs and mitigate against their impact through strengthening sources of resilience. One example, adopted worldwide and in Wales, is the **Families and Schools Together (FAST)** programme. FAST is an evidence-based intervention that supports targeted families (e.g. with risk factors such as abuse, young parents, poverty) by strenghtening resilience through building relationships within and between these families and the school/communities. FAST shows effects in improving child academic outcomes and reducing anxiety and externalising behaviour (Asmussen et al., 2016). In Washington State, USA, estimates suggest that for each $1 invested in FAST there were $0.46 in benefits realised (WSIPP, 2018h).

Lastly, research has shown that strong partnerships between local agencies, services and members of the community may effectively prevent a range of behaviours strongly associated with ACEs, including crime, substance misuse and violence (Bethell et al., 2017; Heise 2011; Pachter et al., 2017; Petersen et al., 2016). Best practice guidance (the National Institute for Health and Care Excellence [NICE], 2010; 2014; 2017) recognises the need for effective partnerships and cross-sectoral approaches to protect and support children and vulnerable families at risk of adversity. Such partnerships can facilitate the early identification of adversity, provide access to specific services (e.g. foster care, health services) for families at risk, as well as providing tailored support and training for professionals.

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[4]Low cost is defined as equivalent to an estimated unit cost of less than £100 https://guidebook.eif.org.uk/guidebook-help/how-to-read-the-guidebook#what-is-the-cost-rating For more information on how the cost ratings are assigned see Annex 3 in EIF (2016) Foundation for life: What works to support parent child interaction in the early years. https://www.eif.org.uk/files/pdf/foundations-for-life.pdf

# 3.3. Early identification of adversity

## Key messages

- Early identification of adversity in childhood can enable early intervention to prevent detrimental outcomes and reduce future treatment costs in health and social services.
- Key approaches focus on the early identification of adversity in families in the early years to ensure a better start in life, and raising professional awareness of the impact of parental or caregiver conditions which may potentially contribute to ACEs in children.

## 3.3.1 Context

Early identification of conditions which might contribute to adversity in childhood includes early identification of (a) adversity directed at a child (e.g. assessment for childhood abuse and neglect; Read et al., 2018), or (b) conditions which affect the health of the parent or caregiver, and potentially contribute to ACEs in children who witness or are indirectly exposed to such adversity (e.g domestic violence in the household, or parent or caregiver consuming alcohol at harmful levels).

## 3.3.2 Actions

There are a number of validated tools used to identify children at risk of adversity, to support early identification and action. In Wales, these include assessment for individual ACEs in pregnancy by midwives and health visitors, in particular alcohol and drug use, maternal mental health and domestic violence. Such tools can help identify adverse situations and facilitate action to allow a better start for children at risk of ACEs (Bellis et al., 2017c; Flynn et al., 2015). Increasing awareness amongst health professionals of the risks associated with domestic violence or alcohol consumption in pregnancy is supported in clinical best practice guidance (NICE, 2017).

There is a wealth of evidence and clinical guidance to support action in health and social care on individual ACE types, in particular abuse and neglect (see NICE, 2017).

Some of the specific programmes identified in the review which focus on identifying adversity and supporting families, included **targeted psychosocial screening tools and programmes.** These are applied at specific points (e.g. during pregnancy) to identify families dealing with complex issues, many of which are ACEs (e.g. domestic violence, neglect, abuse, substance misuse, mental ill health; Flynn et al., 2015). Examples of these administered to either parents or children/teenagers

are the *Pediatric Symptom Checklist* (PSC) or the *Parent Screening Questionnaire* (PSQ). The PSQ, for example, is an element of the **Safe Environment for Every Kid (SEEK)** model, adopted in the USA during paediatric primary care check-ups in the first five years of age, as a universal screening tool to assess adversities in the child's environment (Dubowitz, 2014). SEEK is a targeted intervention which, following identification of at-risk families, offers support (e.g. counselling), specialised care and referrals to programmes, treatments, services and community resources. Another element of the intervention focuses on training professionals to utilise the PSQ and the SEEK model. The intervention has shown to be successful in reducing the number of incidents of child maltreatment in clinical records and improving overall child health. However, cost-benefit analyses are not yet available (Dubowitz et al., 2009; Dubowitz et al., 2012).

An additional example from the USA is the **Family Check-up (FCU) & Every Day Parenting (EDP)** programme, a targeted multi-phased family-based intervention. The intervention consists of an FCU assessment phase, followed by parental training that motivates and empowers parents to face stress, and the development of positive and supportive parenting practices. The intervention has showed effectiveness in the prevention of children's antisocial/disruptive conduct behaviour, violence and crime (Dishion et al., 2014) and significant improvements in child and parental mental wellbeing (EIF, 2015; Reuben et al., 2015). In Washington State, USA, it is estimated that for every $1 invested in FCU there were $0.62 benefits realised (WSIPP, 2018i). The FCU was considered to have a medium-low[5] cost rating for set up and delivery (EIF, 2016).

It is possible that identification and early action against health harming behaviours or circumstances affecting the parent or caregiver (e.g. alcohol misuse or domestic violence), has the potential to reduce adversities in the household, and therefore if children are present, reduce ACEs. In the UK, examples include the use of the *AUDIT* tool (for alcohol misuse in primary care), or *DASH* tool (for domestic violence) in adults, alongside brief advice and supported by local multi-agency frameworks (NICE, 2010; 2014). Whilst these may be effective in addressing the health harming behaviours or circumstances affecting the parent or caregiver, their utility in the mitigation of the potential detrimental impact to a child in the environment is untested.

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# 3.4. Responding to trauma and specific ACEs

## Key messages

- The impact of ACEs on individuals can be traumatic and have a detrimental impact on physical and mental health (e.g. anxiety and depression) over the life course. It is not possible within this overview to examine the extensive impact on health from childhood to later life, so in this section we have focused on the impact of trauma on mental health and responding to specific ACEs (e.g. domestic violence).
- There are a number of specialist approaches to responding and mitigating trauma through the provision of clinical tailored support (e.g. clinical treatments, welfare services) for families, youth and adults exposed to ACEs.
- Alongside specialist interventions, there is a need to raise awareness about the impact of ACEs, prevention and response amongst non-specialist professional groups across sectors to support a universal approach to ACEs.
- Although ACEs co-occur, the majority of interventions identified by this review respond to specific adversities, (e.g. abuse, neglect, domestic violence, and alcohol and substance misuse). A lack of evidence was identified for interventions which aim to prevent and address parental separation and incarceration.

## 3.4.1 Context

ACEs are strongly associated with mental ill health (e.g. anxiety, depression, post-traumatic stress disorder [PTSD]; Von Cheong et al., 2017) with certain groups, including women and those living in deprived areas found to be at increased risk (Hughes et al., 2018). Mental ill health is one of the largest contributors of disease burden in the UK, associated with the adoption of health harming behaviours, poor physical health, and low levels of education and unemployment; resulting in estimated societal costs of £110 billion and £7.2 billion a year in the UK and Wales respectively (Friedli and Parsonage, 2009; Public Health Wales, 2016). The use of early cost-effective interventions and trauma-informed approaches to address the consequences of ACEs and prevent poor mental health has the potential to reduce the risk of negative health outcomes.

## 3.4.2 Actions

### Responding to trauma

Evidence identified in this review to mitigate ACE-related harms revolves around the provision of **tailored clinical support for those individuals that have experienced trauma** (Chu and Lieberman, 2010; Korotana et al., 2016). The majority of interventions identified were mostly targeted at adults, adolescents and families, who have experienced ACEs. Most interventions have been developed and used in primary care (and some subsequently have been applied in other settings such as schools, etc.; Korotana et al., 2016). However, there is variation in their format

of delivery, and training for those delivering it, with most interventions focusing on high-income countries. Such interventions play an important role in mitigating the long-term consequences of ACEs, by helping to develop coping and emotional strategies, and by potentially reducing ACE exposure in the next generation.

In particular, there is evidence that specific **psychotherapy treatments** are effective vehicles of recovery from trauma-related symptoms (e.g. anxiety, anger, depression, PTSD, shame, etc.), even though they have a high cost to implement individually (Chu and Lieberman, 2010; Korotana et al., 2016). Underpinning trauma recovery in children is the **Trauma Recovery Model** (TRM, Skuse and Mathew, 2015), a series of sequenced interventions, tailored to the needs of the individual, which focus on relational therapy to mediate the impacts of trauma. NICE highlights the importance in initiating treatment as early as possible in order to reach full recovery, and early access to interventions could lead to considerable long-term savings to other public services (NICE 2014; Public Health Wales, 2016). For example, the health and social care costs of treating someone experiencing PTSD as a result of domestic violence and abuse was estimated to be £4,700 per person per month in 2014 (NICE, 2014), and the annual cost of domestic violence and abuse across public services in Wales could be £303.5 million per year (Robinson et al., 2012; Public Health Wales, 2016).

Examples of evidence-based psychotherapy treatments, targeting ACEs, used globally, found to reduce trauma symptoms and have beneficial impact on parent-child attachment are the **Child- Parent Psychotherapy (CPP) and Infant-Parent Psychotherapy (IPP)**. In CPP and IPP, therapists and parents work together within the context of play to resolve traumatic experiences and improve dysfunctional aspects in the relationship (Asmussen et al., 2016; Oral et al., 2016; Purewal Boparai et al., 2018). Cost-effectiveness analysis for these is not currently available. However, it has been suggested that focusing on early years interventions can produce considerable ROI (Marmot et al., 2010). An additional example of a treatment widely used globally that supports the family and addresses family conflict is **Multisystemic Therapy (MST)**, an intense psychotherapeutic treatment proven to be effective in reducing reports of arrests, behavioural problems and improving family functioning and bonds (Bellis et al., 2017c; Wagner et al., 2014). In Washington State, USA, estimates suggest that for each $1 invested in MST, there were $1.77 in benefits realised, but the ROI varies depending on specific disorders targeted (WSIPP, 2018j). Analysis for the UK showed for every £1 spent a ROI in the justice system of £2.04 (Social Research Unit, 2013). For a more extensive review of psychotherapy treatments for adults exposed to ACEs refer to Korotana et al., (2016).

## Responding to specific adversities

Addressing ACEs includes both appropriately responding to individuals who have experienced ACEs, and preventing and protecting against exposure to ACEs in the next generation. For example, those who experience ACEs are more likely to consume alcohol at harmful levels in adulthood, and early identification of excessive alcohol consumption mitigates the long term impact of ACEs experienced by an individual, but may also prevent exposure to ACEs (alcohol misuse) in the next generation. However, the potential of these interventions to prevent ACEs in the next generation is not known.

The majority of the interventions discussed in this report are multi-component approaches (and include a measure of prevention or mitigation, which sometimes overlap) specific to a single or small number of adversities (e.g. domestic abuse, neglect, alcohol and drugs, etc.), and their effectiveness has been shown to span across a range of outcomes. For example, there is a sufficient range of evidence-based interventions for preventing abuse and neglect (this evidence overlaps with previous sections, with examples including the NFP, Triple P, IY; see Section 3.1) and against domestic violence (e.g. Safe Dates targeting IPV; see Section 3.2).

Focusing on **mental ill health**, tailored clinical treatments and parenting interventions (such as NFP; see Section 3.1) are a range of evidence-based interventions that have a demonstrable impact on preventing and addressing mental ill health, related to exposure to ACEs. The existing evidence is mostly implemented in high-income countries and in primary care settings. Moreover, there are a range of evidence-based interventions, implemented worldwide and delivered in a variety of settings, showing demonstrable impact on preventing and addressing alcohol and substance misuse. Prevention efforts include: focusing on the early identification of misuse, increasing knowledge and awareness of their associated harms, supporting positive parental changes, and promoting resilience (such as mentoring, community, parenting and screening interventions: e.g. BBBS, NFP, FCU; see Section 3.1). School-based alcohol interventions have been found to be ineffective in reducing harmful drinking. However, have shown effectiveness when adopting a generic psychosocial approach (such as PATHS and GBG; see Section 3.2.2; Faggiano et al., 2014; Foxcroft et al., 2011). **Motivational Interviewing (MI)** and **Alcohol Brief Interventions (ABIs)** are two examples of cost-effective tailored treatments delivered in primary care mitigating alcohol abuse (Kaner et al., 2018). In the UK, £1 investment in MI in primary care for people with alcohol dependence could return £5 to the public sector in reduced health, social care and criminal justice costs (Kings Fund and Local Government Association, 2014). Whilst these programmes have been evaluated for their impact on outcomes (e.g. alcohol misuse) resulting from ACEs, little work has addressed their impact on preventing ACEs in the home environment.

Interventions and approaches for alcohol and drug use typically focus on the harms experienced by the individual, neglecting the harms that this can place on others, such as family members and friends. Research has highlighted the threat to health and wellbeing that arises from being exposed to other people's alcohol consumption (Bellis et al., 2015b; Quigg et al., 2016). Parental substance misuse can have a serious impact on children at every age, and many families struggling with parental substance misuse are often unknown to support services and can remain a 'hidden' population (Laslett et al., 2015). Alongside identifying and responding to the needs of those experiencing adversity (e.g. substance users), policy and practice must also seek to reduce the hidden harm to others (Advisory Council on the Misuse of Drugs, 2003).

Additionally, implementing NICE guidance of multi-agency approaches, enforcement and regulating policies (local government measures) can reduce alcohol and drug misuse; and have been estimated to be highly cost-effective (Public Health Wales, 2016; WHO, 2014). The introduction of alcohol regulations to prevent its misuse and reduce its availability (e.g. minimum-legal age limit for the purchase of alcohol, restricting hours/days for purchase) when

fully enforced are estimated to create significant reduction in rates of consumption, violence, crime and in health care services (Fitterer et al., 2015). For example, an analysis of the proposed introduction of minimum unit pricing (increase in 50p per sale of unit) for alcohol in Wales found a projected 4% overall reduction in consumption, with higher estimates for hazardous drinkers, that would result in fewer alcohol-related deaths per year (Angus et al., 2018). There is the potential for these positive population health outcomes (e.g. lower levels of harmful alcohol consumption, substance misuse, reductions in violence, in particular domestic violence) to have a beneficial impact on reducing childhood adversity in a home environment. However, there is little research exploring the potential intergenerational impact of national enforcements and regulating policies on ACEs in a home environment.

Despite a high prevalence of **parental separation and divorce** in society, we identified an insufficient range of evidence-based interventions for preventing and addressing parental separation. The only evidence-based intervention identified targeting parental separation is the **New Beginnings Program (NBP)**. NBP is a 10 session programme focusing on the promotion of resilience in both parents and children. NBP showed improvements in child externalising problems (e.g. aggression, sexual partners and, in males, alcohol consumption), parent-child relationships, parental practices, and parental depression (McClain et al., 2010; Wolchik et al., 2014). There is currently no evidence for their cost-effectiveness. Additionally, although not directly targeting these types of ACEs, other high-quality interventions developed and implemented in high-income countries may also provide benefits for adversity caused by parental separation (e.g. Triple P).

We also identified insufficient evidence-based interventions for preventing and mitigating harms related to **incarceration or family member imprisonment**. Due to the high co-morbidity with other ACEs (Hughes et al., 2018), some interventions used to address ACEs associated with abuse, neglect and alcohol/substance misuse, have been applied to incarceration (e.g. MST [see Section 3.4.2]).

Sensitive enquiry by practitioners about a patient's history of ACEs, to help improve the openness and the relationship between practitioner and patient, has been evaluated in primary care settings in the UK (Hardcastle and Bellis, 2018; Quigg et al., 2018). However, routinely enquiring about ACEs needs careful consideration before implementation, as research on its feasibility, acceptability, and impact on patient outcomes is limited (Ford et al., 2019).

# 4. Cross-cutting themes

This review highlights the complexity of ACEs and approaches to prevent and mitigate their impact. It provides an overview on the importance of building parental relationships (Section 3.1) and resilience (Section 3.2) to protect against ACEs and their consequences; early identification of ACEs (Section 3.3), and support for those who have experienced past trauma (Section 3.4); see Appendix 2 for the full list of interventions identified. Whilst differences exist across these interventions, how they are delivered and to whom, we have identified seven cross-cutting themes which are common across the approaches. These cross-cutting themes have the potential to guide and inform the development and innovation of a multi-sector **ACE-informed approach** across the life course (Box 1).

Given the complexity of ACEs, a multi-component comprehensive strategy combining different approaches is likely to be of benefit for preventing and responding to ACEs.
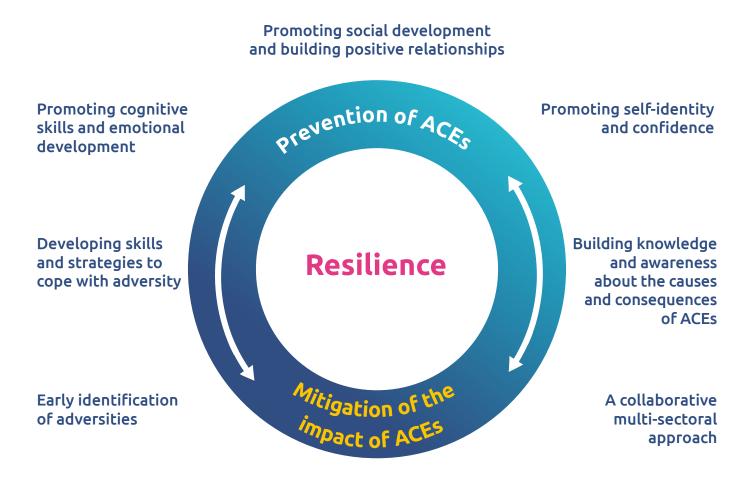
## Box 1. Cross-cutting themes to support an ACE-informed approach

1. **Promoting social development, cohesion and positive relationships across the life course:** This includes an emphasis on positive parent-child relationships (both universal and targeted support to those at greater risk of adversity; Section 3.1); alongside enhancing emotional regulation, empathy, social awareness (e.g. the ability to adopt the perspective of others), interpersonal functioning, and communication skills across the life course to enable the development of positive relationships with others (Section 3.1 and 3.2).

2. **Promoting cognitive-behavioural and emotional development in childhood:** Largely through parenting interventions, both universal and targeted, to those at greater risk of adversity (Section 3.1), and youth programmes to promote emotional regulation, decision-making, self-control, problem-solving and behaviour management (Section 3.2).

3. **Promoting self-identity and confidence in both children and adults:** Working across a range of school, community and psychotherapy programmes to improve elements of self-efficacy, aspirations, self-esteem, confidence, self-respect, and reduce any shame or embarrassment related to trauma (Section 3.1). This is usually implemented through a range of strategies that support the individual's needs: for example mentoring, modelling other peers, or observing a role model (Section 3.2).

4. **Building knowledge and awareness about the causes and consequences of ACEs amongst the public and professionals:** This can be directed at parents, professionals (e.g. teachers, health workers, social care workers), as well as those who have experienced ACEs to increase understanding and empower response. It can include information on the impact of adversity on a child's developmental stages and long term health (Section 1); the harms related to specific ACEs (e.g. substance misuse; Section 3.4); the importance of protective elements including positive and supportive parenting practices (Section 3.1); and available services or policies to respond and support effectively (Section 3.4).

5. **Developing new skills and strategies for those affected to cope with adversity:** This includes the development of coping skills, relaxation techniques and wellbeing strategies to enable individuals to handle problematic situations or behaviours, and cope with everyday life (Section 3.4). These skills and strategies can focus on the ability to regulate stress, and identify and regulate negative and dysfunctional moods, thoughts and behaviours (e.g. regulation of anger), in order to reduce conduct disorders and manage more positive and responsible choices and responses (Section 3.2).

6. **Early identification of adversities by therapeutic and interfacing services to identify and support parents, children and those affected through the life course (Section 3.3):** This includes the early identification of conditions which might affect health and contribute to adversity in childhood (e.g. assessment for childhood abuse and neglect), and internalised (e.g. depression or anxiety) or externalised behaviours (e.g. harmful levels of alcohol consumption - those who experience ACEs are more likely to consume alcohol at harmful levels) to support early intervention (Section 3.4). It is important to evaluate the implementation of tools and approaches across sectors (e.g. from criminal justice services through to health and social care).

7. **A collaborative approach across sectors and organisations:** Given the significant challenges ACEs pose to individuals across the life course, their impact extends across a range of organisations. The prevention and response to ACEs requires a multi-sector collaborative response supported by the necessary legal, social and economic infrastructure, to deliver an evidence-based approach to prevent and resolve ACEs (Sections 3.1 to 3.4).

The outlined cross-cutting themes are closely aligned with the building blocks of resilience (e.g. building and supporting stable positive relationships, feeling a sense of mastery over life circumstances, being equipped with core life skills, feeling grounded and connected to a community; NSCDC, 2015). Across the interventions identified by the review, these themes reflect a combination of protective factors (e.g building blocks) that predispose and support individuals facing adversities towards more positive future outcomes (Figure 2). **These core common themes should inform decision-making and help guide policymakers' and programme developers' future action plans to improve ACE-related outcomes.**

**Figure 2. Overview of the key themes of an ACE-informed approach, developed from potential interventions aiming to prevent and respond to ACEs**

Promoting social development
and building positive relationships

Promoting cognitive
skills and emotional
development

Promoting self-identity
and confidence

**Prevention of ACEs**

**Resilience**

Developing skills
and strategies to
cope with adversity

Building knowledge
and awareness
about the causes
and consequences
of ACEs

**Mitigation of the impact of ACEs**

Early identification
of adversities

A collaborative
multi-sectoral
approach

There remain gaps in our knowledge and understanding necessary to support effective multi-sectoral responses to ACEs (as a collective group of childhood stressors) rather than responding to individual ACE types, to break the intergenerational cycle of ACEs. Promising examples of an ACE-informed approach here in Wales focus on the adoption of a specific ACE training that emphasises the importance of trauma-informed skills across workforces (e.g. police, education and housing sector) working with vulnerable individuals/families exposed to ACEs. Recent pilot evaluations of these training programmes have shown promising results in raising ACE knowledge and awareness (Barton et al., 2018; Ford et al., 2017; Grey and Woodfine, 2018). However, further evaluation of their effectiveness, impact, scalability and transferability is required.

# 5. What next?

**This report provides a broad overview of the international evidence on interventions to prevent and address ACEs, and their harms and consequences.** Whilst recognising the complexity of ACEs (Chapter 1) and the breadth of the interventions in practice, it seeks to begin to build knowledge and increase clarity on potential new and existing approaches that can be implemented to address ACEs. This review synthesises global evidence, thus the generalisability and replicability of interventions across sectors and cultures should be taken into account, when considering their implementation elsewhere (Chapter 2). Previous ACE evidence reviews have focused on interventions for specific populations and sectors, such as adults who have been exposed to adversities and access to primary care (Korotana et al., 2016), or specific clinical outcomes, such as biological changes in those exposed to adversities in specialised care (Purewal Boparai et al., 2018). This review forms a broader resource summarising the available evidence from early childhood through to adulthood.

Overall, **we have identified a number of cost-effective, evidence-based interventions to prevent ACEs and support those affected by ACEs** (Chapter 3). Most of the identified interventions were considered to be aligned to a single, or small number of ACEs, yet it is recognised that ACEs are strongly correlated (e.g. individuals exposed to adversity are often exposed to more than one type; Hughes et al., 2017). Thus, complex adversity requires a response which extends across sectors (e.g. health, social care, policing, education etc.) and the life course. This review identified four common approaches across interventions: supporting parenting (Section 3.1), building relationships and resilience (Section 3.2), early identification of adversity (Section 3.3) and responding to trauma and specific ACEs (Section 3.4).

Interventions largely support the protective effects of a trusted adult relationship in child's development (focused on improving parental practices, overall childs development and parent-child relationships, such as parenting interventions: IY, NFP, SEEK model, Triple P [EIF, 2017]; Section 3.1), and building resilience to protect against the impact of ACEs (Section 3.2). The mitigation of ACE-related harms focuses on the provision of tailored clinical support for individuals that have experienced trauma (Section 3.4), alongside specialist interventions. Increased awareness about the impact of ACEs, and appropriate ACE prevention and response amongst non-specialist professional groups and across sectors, could help to support a universal approach to ACEs.

**A gap in the evidence was identified for adversities related to parental separation and incarceration, and interventions across non-health sectors, such as housing** (Appendix 3). Research is urgently required to test which interventions can be implemented successfully across different sectors to support progress towards achieving an ACE-informed society. In Wales, such an approach is currently being introduced and evaluated within housing, education and criminal justice sectors, and early results are positive (Barton et al., 2018; Ford et al., 2017; Grey and Woodfine, 2018).

Across the four approaches, irrespective of the intervention, method of delivery and/or population, there were **seven common themes which when brought together have the potential to inform successful efforts in preventing and responding to ACEs** (Chapter 4, Box 1). These core themes are the potential building blocks for an ACE-informed approach to prevent and address harms and potentially prevent the intergenerational transmission of ACEs. Lastly, findings suggest that in order to break the potentially complex cycle of intergenerational transmission of ACEs, **efforts should be made to ensure a long-term combined and coordinated approach** across the life course.

**A number of limitations of this review should however be considered in the interpretation of the findings**. Firstly, most of the evidence focuses on adversities related to maltreatment, followed by substance misuse and mental ill health. Many interventions are delivered at the parental level, and as such other areas are under-represented here (Chapter 3). Secondly, most of the interventions included in this review have been developed and implemented in the USA (a different societal systems to the UK e.g. across education, health and social care) and in specific sectors, such as primary care settings which means the findings may not be generalisable to other countries or settings (Chapter 3). However, some of the interventions reviewed have shown their applicability to different populations, countries, and sectors (e.g. from health to education).

**There remain gaps in our knowledge and understanding on what works to prevent ACEs, and to support those affected by adversity in childhood across their life course**. A focus on assessing the long-term impact of the interventions to mitigate the effects of ACEs across the life course, alongside evidence-informed approaches to prevent ACEs is needed to support efforts towards an ACE-free society. Achieving this will require **collaborative working across organisational boundaries** in order to accelerate progress towards the prevention of ACEs across generations.

# References

AcademyHealth. 2016. Rapid Evidence Review: What evidence-based interventions for parents and families help mitigate adverse childhood experiences among children? http://www.academyhealth.org/files/RapidEvidenceReview.ACEs_.Prevention.pdf [Accessed 08/01/18].

Advisory Council on the Misuse of Drugs. 2003. Hidden harm: responding to the needs of children of problem drug users: the report of an inquiry by the Advisory Council on the Misuse of Drugs. London: Home Office. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/120620/hidden-harm-full.pdf [Accessed 08/01/2018].

Agabio R, Trincas G, Floris F, Mura G, Sancassiani F, and Angermeyer MC. 2015. A systematic review of school-based alcohol and other drug prevention programs. Clinical Practice and Epidemiology in Mental Health; 11: 102-12.

Alexander A, Brindley D, Cuming K, Elegbe O, Gilchrist K, Hine P, Lawrence L, Pickin M, Scam-bler M, Scanlon T, Wilkinson P. 2010.  Annual Report of the Director of Public Health: Resilience. NHS Brighton & Hove: Brighton & Hove. https://www.brighton-hove.gov.uk/sites/brightonhove.gov.uk/files/2010%20BH_Directorofpublichealthannualreport.pdf [Accessed 08/01/18].

Altafim ERP, Linhares MBM. 2016. Universal violence and child maltreatment prevention programs for parents: A systematic review. Psychosocial Intervention; 25(1): 27-38.

Angus C, Holmes J, Brennan A, Meier P. 2018. Model-based appraisal of the comparative impact of Minimum Unit Pricing and taxation policies in Wales: Final report. Cardiff: Welsh Government. https://gweddill.gov.wales/docs/caecd/research/2018/180222-comparative-impact-minimum-unit-pricing-taxation-policies-en.pdf [Accessed 29/01/2019].

Arda TB, Ocak S. 2012. Social Competence and Promoting Alternative Thinking Strategies: PATHS Preschool Curriculum. Educational Sciences: Theory & Practice; 12(4): 2691–2698.

Ashton K, Bellis MA, Davies AR, Hardcastle K, Hughes K. 2016. Adverse childhood experiences and their association with chronic disease and health service use in the Welsh adult population. Cardiff: Public Health Wales.

Asmussen K, Feinstein L, Martin J, Chowdry H. 2016. Foundations for life: what works to support parent child interactions in the early years. London: Early Intervention Foundation. https://www.eif.org.uk/report/foundations-for-life-what-works-to-support-parent-child-interaction-in-the-early-years/ [Accessed 29/01/2019].

Avellar S, Paulsell D, Sama-Miller E, Del Grosso P. 2014. Home Visiting Evidence of Effectiveness Review: Executive Summary. Washington, DC: Department of Health and Human Services. https://homvee.acf.hhs.gov/HomVEE_Executive_Summary_2013.pdf [Accessed 08/01/18].

Barry MM, Clarke AM, Morreale SE, Field CA. 2017. A Review of the Evidence on the Effects of Community-based Programs on Young People's Social and Emotional Skills Development. Adolescent Research Review; 3:13–27.

Barton ER, Newbury A, Roberts J. 2018. An evaluation of the Adverse Childhood Experience (ACE)-Informed Whole School Approach. Cardiff: Public Health Wales. https://www.ehcap.co.uk/content/sites/ehcap/uploads/NewsDocuments/331/Police--Crime-Comm-ACEs-Whole-School-Approach-Eng-web.PDF [Accessed 08/01/18].

Beckmann KA. 2017. Mitigating Adverse Childhood Experiences Through Investments in Early Childhood Programs. Academic Pediatrics; 17(7S): S28–S29.

Bellis MA, Ashton K, Hughes K, Ford K, Bishop J, Paranjothy S. 2015a. Welsh Adverse Childhood Experiences (ACE) Study: Adverse childhood experiences and their impact on health-harming behaviours in the Welsh adult population. Cardiff: Public Health Wales.

Bellis MA, Quigg Z, Hughes K, et al. 2015b. Harms from other people's drinking: an international survey of their occurrence, impacts on feeling safe and legislation relating to their control. BMJ Open; 5(12): e010112.

Bellis MA, Hughes K, Hardcastle K, Ashton K, Ford K, Quigg Z, Davies A. 2017a. The impact of adverse childhood experiences on health service use across the life course using a retrospective cohort study. Journal of Health Services Research & Policy; 22(3): 168-177.

Bellis MA, Hardcastle K, Ford K, Hughes K, Ashton K, Quigg Z, Butler N. 2017b. Does continuous trusted adult support in childhood impart life-course resilience against adverse childhood experiences: a retrospective study on adult health-harming behaviours and mental wellbeing. BMC Psychiatry; 17(1): 110.

Bellis MA, Hardcastle K, Hughes K, Wood S, Nurse J. 2017c. Preventing Violence, Promoting Peace: A Policy Toolkit for Preventing Interpersonal, Collective and Extremist Violence. London: The Commonwealth Secretariat. http://www.wales.nhs.uk/sitesplus/888/news/44972 [Accessed 08/01/18].

Bellis MA, Hughes K, Ford K, Hardcastle KA, Sharp CA, Wood S, Homolova L, Davies A. 2018. Adverse childhood experiences and sources of childhood resilience: a retrospective study of their combined relationships with child health and educational attendance. BMC Public Health; 18(1):792.

Bethell CD, Carle A, Hudziak J, Gombojav N, Powers K, Wade R, Braveman P. 2017. Methods to Assess Adverse Childhood Experiences of Children and Families: Toward Approaches to Promote Child Well-being in Policy and Practice. Academic Pediatrics; 17(7): S51–S69.

Biglan A, Van Ryzin MJ, Hawkins JD. 2017. Evolving a More Nurturing Society to Prevent Adverse Childhood Experiences. Academic Pediatrics; 17(7S): S150–S157.

Burwick A, Zaveri H, et al. 2014. Costs of early childhood home visiting: an analysis of programs implemented in the supporting evidence-based home visiting to prevent child maltreatment initiative. Princeton: Mathematica Policy Research. https://www.mathematica-mpr.com/our-publications-and-findings/publications/costs-of-early-childhood-home-visiting-an-analysis-of-programs-implemented-in-the-supporting [Accessed 08/01/18].

CASEL: Collaborative for Academic, Social, and Emotional Learning. 2012. CASEL GUIDE: Effective Social and Emotional Learning Programs: Preschool and Elementary School Edition. Chicago: CASEL. http://casel.org/wp-content/uploads/2016/01/2013-casel-guide-1.pdf [Accessed 08/01/18].

Carta MG, Di Fiandra T, Rampazzo L, Contu P, Preti A. 2015. An Overview of International Literature on School Interventions to Promote Mental Health and Well-being in Children and Adolescents. Clinical Practice and Epidemiology in Mental Health; 11(1): 16–20.

Chartier MJ, Walker JR, Naimark B. 2010. Separate and cumulative effects of adverse childhood experiences in predicting adult health and health care utilization. Child Abuse & Neglect; 34(6): 454-464.

Champion KE, Newton NC, Barrett EL, Teesson M. 2012. A systematic review of school-based alcohol and other drug prevention programs facilitated by computers or the internet. Drug and Alcohol Review; 32(2): 115–23.

Chen M, Chan KL. 2016. Effects of Parenting Programs on Child Maltreatment Prevention: A Meta-Analysis. Trauma Violence Abuse; 17(1): 88–104.

Chu AT, Lieberman AF. 2010. Clinical implications of traumatic stress from birth to age five. Annual Review of Clinical Psychology; 6(1): 469–494.

Clarke AM, Morreale S, Field CA, Hussein Y, Barry MM. 2015. What works in enhancing social and emotional skills development during childhood and adolescence? A review of the evidence on the effectiveness of school-based and out-of-school programmes in the UK. National University of Ireland Galway: WHO Collaborating Centre for Health Promotion Research. https://aran.library.nuigalway.ie/handle/10379/4981 [Accessed 08/01/18].

Conley CS, Durlak JA, Kirsch AC. 2015. A Meta-analysis of universal mental health prevention programs for higher education students. Prevention Science; 16(4): 487–507.

Corbacho B, Bell K, Stamuli E, Richardson G, Ronaldson S, Hood K, Sanders J, Robling M, Torgerson D. 2017. Cost-effectiveness of the Family Nurse Partnership (FNP) programme in England: Evidence from the building blocks trial. Journal of Evaluation in Clinical Practice; 23(6):1367-1374.

Crean HF, Johnson DB. 2013. Promoting Alternative Thinking Strategies (PATHS) and Elementary School Aged Children's Aggression: Results from a Cluster Randomized Trial. American Journal of Community Psychology; 52: 56–72.

Danese A, De Bellis MD, Teicher MH. 2015. Biological Effects of ACEs. Academy on Violence and Abuse. http://www.avahealth.org/resources/aces_best_practices/biological-impacts.html [Accessed 08/01/2018].

Dishion TJ, Brennan LM, Shaw DS, McEachern AD, Wilson MN, Jo B. 2014. Prevention of problem behavior through annual family check-ups in early childhood: intervention effects from home to early elementary school. Journal of Abnormal Child Psychology; 42(3): 343-354.

Dolan P, Brady B, O Regan C, Canavan J, Russell D, Forkan C. 2011. Big Brothers Big Sisters (BBBS) of Ireland: Evaluation Study. Report 3: Summary Report. Galway: Child and Family Research Centre. https://aran.library.nuigalway.ie/bitstream/handle/10379/4498/BBBS_Report_3.pdf?sequence=1&isAllowed=y [Accessed 08/01/18].

DuBois DL, Portillo N, Rhodes JE, Silverthorn N, Valentine JC. 2011. How effective are mentoring programs for youth? A systematic assessment of the evidence. Psychological Science in the Public Interest; 12(2): 57–91.

Dubowitz H, Feigelman S, Lane W, Kim J. 2009. Pediatric primary care to help prevent child maltreatment: the Safe Environment for Every Kid (SEEK) Model. Pediatrics; 123(3): 858-864.

Dubowitz H. 2014.The Safe Environment for Every Kid (SEEK) Model: helping promote children's health, development, and safety: SEEK offers a practical model for enhancing pediatric primary care. Child Abuse & Neglect; 38(11): 1725-1733.

Dubowitz H, Lane WG, Semiatin JN, Magder LS. 2012. The seek model of pediatric primary care: Can child maltreatment be prevented in a low-risk population? Academic Pediatrics; 12(4): 259–268.

Durlak JA, Weissberg RP, Dymnicki AB, Taylor RD, Schellinger KB. 2011. The impact of enhancing students' social and emotional learning: a meta-analysis of school-based universal interventions. Child Development; 82(1): 405-432.

Early Intervention Foundation. 2015. The best start at home. What works to improve the quality of parent-child interactions from conception to age 5 years? A rapid review of interventions. London: Early Intervention Foundation. https://www.eif.org.uk/report/the-best-start-at-home/ [Accessed 08/01/18].

Early Intervention Foundation. 2016. Foundations for life: what works to support parent child interaction in the early years.  https://www.eif.org.uk/files/pdf/foundations-for-life.pdf [Accessed 08/01/2018].

Early Intervention Foundation. 2017. Evidence-based early years intervention: an enquiry by the Science and Technology Select Committee. London: Early Intervention Foundation. https://www.eif.org.uk/files/blog/eif-aces-early-years-scitech-submission.pdf [Accessed 08/01/18].

Edwards RT, Jones C, Berry V, Charles J, Linck P, Bywater T, Hutchings J. 2016. Incredible Years parenting programme: cost-effectiveness and implementation. Journal of Children's Services; 11(1): 54–72.

Faggiano F, Minozzi S, Versino E, Buscemi D. 2014. Universal school-based prevention for illicit drug use. Cochrane Database Systematic Review; 12: 1-167.

Felitti VJ, Anda RF, Nordenberg D, Williamson DF, Spitz AM, Edwards V, Koss MP, Marks JS. 1998. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. American Journal of Preventive Medicine; 14(4): 245–258.

Fishbein DH, Domitrovich C, Williams J, Gitukui S, Guthrie C, Shapiro, D, Greenberg M. 2016. Short-Term Intervention Effects of the PATHS Curriculum in Young Low-Income Children: Capitalizing on Plasticity. Journal of Primary Prevention; 37(6): 493–511.

Fitterer JL, Nelson TA, Stockwell T. 2015. A Review of Existing Studies Reporting the Negative Effect of Alcohol Access and Positive Effects of Alcohol Control Policies on Interpersonal Violence. Frontiers in Public Health; 3(253): 1-11.

Flynn AB, Fothergill KE, Wilcox HC, Coleclough E, Horwitz R, Ruble A, Burkey MD, Wissow LS. 2015. Primary care interventions to prevent or treat traumatic stress in childhood: a systematic review. Academic Pediatrics; 15(5): 480–492.

Ford K, Butler N, Hughes K, Quigg Z, Bellis MA. 2016. Adverse Childhood Experiences (ACEs) in Hertfordshire, Luton and Northamptonshire. Liverpool: Centre for Public Health. http://www.cph.org.uk/wp-content/uploads/2016/05/Adverse-Childhood-Experiences-in-Hertfordshire-Luton-and-Northamptonshire-FINAL_compressed.pdf [Accessed 08/01/2018].

Ford K, Newbury A, Meredith Z, Evans J, Roderick J. 2017. An evaluation of the Adverse Childhood Experience (ACE) Informed Approach to Policing Vulnerability Training (AIAPVT) pilot. Public Health Wales. https://research.bangor.ac.uk/portal/en/researchoutputs/a-process-and-feasibility-evaluation-of-the-pilot-adverse-childhood-experience-ace-informed-approach-to-policing-vulnerability-training(4d39e14a-bc6e-4005-99b1-41fb31988231)/export.html [Accessed 08/01/18].

Ford K, Hughes K, Hardcastle K, Di Lemma L, Davies AR, Edwards S, Bellis MA. 2019. The evidence base for routine enquiry into adverse childhood experiences: A scoping review. Child Abuse & Neglect; 91: 131-146.

Fortson BL, Klevens J, Merrick MT, Gilbert LK, Alexander SP. 2016. Preventing Child Abuse and Neglect: A Technical Package for Policy, Norm, and Programmatic Activities. Atlanta: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Foshee VA, Reyes LM, Agnew-Brune CB, Simon TR, Vagi KJ, Lee RD, Suchindran C. 2014. The effects of the evidence-based Safe Dates dating abuse prevention program on other youth violence outcomes. Prevention Science; 15(6): 907-916.

Foxcroft DR, Tsertsvadze A. 2011. Universal school-based prevention programs for alcohol misuse in young people. Cochrane Database of Systematic Review; 11(5): CD009113.

Friedli L, Parsonage M. 2009. Promoting mental health and preventing mental ill health: the economic case for investment in Wales. Cardiff: All Wales Mental Health Promotion Network. http://www.wales.nhs.uk/news/15934 [Accessed 08/01/19].

Gil-Rivas V, Kilmer RP. 2016 .Building community capacity and fostering disaster resilience. Journal of Clinical Psychology; 72(12): 1318-1332.

Gouin JP, Caldwell W, Woods R, Malarkey WB. 2017. Resilience resources moderate the association of adverse childhood experiences with adulthood inflammation. Annals of Behavioural Medicine; 51(5): 782-786.

Gray J, Jordanova Pesevska D, Sethi D, Ramiro González MD, Yon Y. 2013. Handbook on developing national action plans to prevent child maltreatment. Copenhagen: WHO Regional Office for Europe. http://www.euro.who.int/__data/assets/pdf_file/0019/329500/Child-maltreatment-PAP-handbook.pdf [Accessed 08/01/18].

Grey C, Woodfine L. 2018. Adverse Childhood Experience (ACE)-Informed training for Housing Vulnerability: Report and Evaluation of Ace-informed Training for Housing. Cardiff: Public Health Wales. http://www.wales.nhs.uk/sitesplus/899/news/49527 [Accessed 08/01/18].

Guy J, Feinstein L, Griffiths A. 2014. Early intervention in domestic violence and abuse. London: Early Intervention Foundation. https://www.eif.org.uk/report/early-intervention-in-domestic-violence-and-abuse [Accessed 08/01/18].

Hardcastle KA, Bellis MA, Hughes K, Sethi D. 2015. Implementing child maltreatment prevention programmes: what the experts say. Copenhagen: WHO: Regional Office for Europe.

Hardcastle K, Bellis MA. 2018. Routine enquiry for history of adverse childhood experiences (ACEs) in the adult patient population in a general practice setting: A pathfinder study. Wrexham: Public Health Wales NHS Trust.

Hawkins JD, Oesterle S, Brown EC, Arthur MW, Abbott RD, Fagan AA, Catalano RF. 2009. Results of a type 2 translation research trial to prevent adolescent drug use and delinquency: a test of Communities That Care. Archives of Paediatrics & Adolescent Medicine; 163(9): 789-798.

Heise L. 2011. What works to prevent partner violence? An evidence overview. Working paper. London: London School of Hygiene and Tropical Medicine. http://researchonline.lshtm.ac.uk/21062/1/Heise_Partner_Violence_evidence_overview.pdf [Accessed 08/01/18].

Herrera C, DuBois DL, Grossman JB. 2013. The role of risk: mentoring experiences and outcomes for youth with varying risk profiles. New York: MDCR. https://eric.ed.gov/?id=ED544233 [Accessed 08/01/18].

Himelstein S,Saul S, Garcia-Romeu A. 2015. Does Mindfulness meditation increase effectiveness of substance abuse treatment with incarcerated youth? A pilot randomized controlled trial. Mindfulness; 6(6): 1472-1480.

Hodder RK, Freund M, Wolfenden L, Bowman J, Nepal S, Dray J, Kingsland M, Yoong SL, Wiggers J. 2017. Systematic review of universal school-based "resilience" interventions targeting adolescent tobacco, alcohol or illicit substance use: a meta-analysis. Preventive Medicine; 100: 248-268.

Hornor, G. 2017.Resilience. Journal of Pediatric Health Care; 31(3): 384–390.

Hughes K, Bellis MA, Hardcastle KA, Sethi D, Butchart A, Mikton C, Jones L, Dunne MP. 2017. The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. The Lancet Public Health; 2: e356-e366.

Hughes K, Ford K, Davies AR, Homolova L, Bellis MA. 2018. Sources of resilience and their moderating relationships with harms from adverse childhood experiences. Report 1: mental illness: Welsh Adverse Childhood Experience (ACE) and Resilience Study. Cardiff: Public Health Wales. http://www.wales.nhs.uk/sitesplus/888/news/47341 [Accessed 08/01/18].

Hutchings J, Griffith N, Bywater T, Williams ME. 2016. Evaluating the Incredible Years Toddler Parenting Programme with parents of toddlers in disadvantaged (Flying Start) areas of Wales. Child: Care, Health and Development; 43(1): 104-113.

Joyce S, Shand F, Tighe J, Laurent SJ, Bryant RA, Harvey SB. 2018. Road to resilience: a systematic review and meta-analysis of resilience training programmes and interventions. BMJ Open; 8(6): e017858.

Kais SM, Islam MS. 2016. Community capitals as community resilience to climate change: conceptual connections. International Journal of Environmental Research and Public Health; 13(12): 1211.

Kaner EFS, Beyer FR, Muirhead C, Campbell F, Pienaar ED, Bertholet N, Daeppen J, Saunders JB, Burnand B. 2018. Effectiveness of brief alcohol interventions in primary care populations (Review). Cochrane Database of Systematic Reviews; Issue 2.

Kellam SG, Wang W, Mackenzie AC, Brown CH, Ompad DC, Or F, Ialongo NS, Poduska JM, Windham A. 2014. The impact of the Good Behavior Game, a universal classroom-based preventive intervention in first and second grades, on high-risk sexual behaviors and drug abuse and dependence disorders into young adulthood. Prevention Science; 15(1): S6–18.

Kilbourne AM, Barbaresso MM, Lai Z, Nord KM, Bramlet M, Goodrich DE, Post EP, Almirall D, Bauer MS. 2017. Improving physical health in patients with chronic mental disorders: 12 months results from a randomized controlled collaborative care trial. The Journal of Clinical Psychiatry; 78(1): 129-137.

Kimple KS, Kansagra SM. 2018. Responding to Adverse Childhood Experiences: It Takes a Village. North Carolina Medical Journal: 79(2): 95-98.

The Kings Fund, Local Government Association (2014). Making the case for public health interventions: Public health spending and return on investment. [Infographic]. https://www.kingsfund.org.uk/sites/default/files/media/making-case-public-health-interventions-sep-2014.pdf [Accessed 08/01/2019].

Korotana LM, Dobson KS, Pusch D, Josephson T. 2016. A review of primary care interventions to improve health outcomes in adult survivors of adverse childhood experiences. Clinical Psychology Review; 46: 59-90.

Knapp M, McDaid D, Parsonage M. 2011. Mental health promotion and mental illness prevention: the economic case. London: Department of Health. http://eprints.lse.ac.uk/32311/?from_serp=1 [Accessed 08/01/18].

Kuklinski MR, Fagan AA, Hawkins JD, Briney JS, Catalano RF. 2015. Benefit-cost analysis of a randomized evaluation of Communities That Care: monetizing intervention effects on the initiation of delinquency and substance use through grade 12. Journal of Experimental Criminology; 11(2): 165-192.

Larkin H, Beckos BA, Shields JJ. 2012. Mobilizing resilience and recovery in response to adverse childhood experiences (ACE): A restorative integral support (RIS) case study. Journal of Prevention and Intervention in the Community; 40(4): 335–346.

Laslett AM, Mugavin J, Jiang H, Manton E, Callinan S, MacLean S, Room R. 2015. The hidden harm: alcohol's impact on children and families. Canberra: Foundation for Alcohol Research and Education.

Leitch L. 2017. Action steps using ACEs and trauma-informed care: a resilience model. Health Justice; 5(1): 5.

Lomanowska AM, Boivin M, Hertzman C, Fleming AS. 2017. Parenting begets parenting: A neurobiological perspective on early adversity and the transmission of parenting styles across generations. Neuroscience; 342: 120–139.

Marmot M, Allen J, Goldblatt P, Boyce T, McNeish D, Grady M, Geddes I. 2010. Fair Society, Healthy Lives: strategic review of health inequalities in England post- 2010. The Marmot Review. https://www.parliament.uk/documents/fair-society-healthy-lives-full-report.pdf [Accessed 08/01/18].

McClain DB, Wolchik SA, Winslow E, Tein JY, Sandler IN, Millsap RE. 2010. Developmental cascade effects of the new beginnings program on adolescent adaptation outcomes. Development and Psychopathology; 22(4): 771–784.

Mellor C. 2014. School-based interventions targeting stigma of mental illness: systematic review. The Psychiatric Bulletin; 38(4): 164-171.

National Institute for Health and Care Excellence. 2010. Alcohol-use disorders: prevention: Public health guidance [PH24]. https://www.nice.org.uk/guidance/ph24 [Accessed 08/01/19].

National Institute for Health and Care Excellence. 2014. Domestic violence and abuse: multi-agency working: Public health guidance [PH50]. https://www.nice.org.uk/guidance/ph50 [Accessed 08/01/2019].

National Institute for Health and Care Excellence. 2017. Child maltreatment: when to suspect maltreatment in under 18s: clinical guideline [CG89]. https://www.nice.org.uk/guidance/cg89/chapter/1-Guidance [Accessed 08/01/19].

National Society for Protection of Cruelty to Children. 2017. Neglect: Facts and statistics. Fact sheet. https://www.nspcc.org.uk/preventing-abuse/child-abuse-and-neglect/neglect/child-neglect-facts-statistics/ [Accessed 08/01/2019].

National Scientific Council on the Developing Child. 2015. Supportive Relationships and Active Skill-Building Strengthen the Foundations of Resilience: Working Paper 13. Cambridge: Center on the Developing Child, Harvard University. https://developingchild.harvard.edu/wp-content/uploads/2015/05/The-Science-of-Resilience.pdf [Accessed 08/01/18].

O'Neill D, McGilloway S, Donnelly M, Bywater T, Kelly P. 2013. A cost-effectiveness analysis of the Incredible Years parenting programme in reducing childhood health inequalities. The European Journal of Health Economics; 14(1): 85–94.

Oesterle S, Hawkins JD, Fagan AA, Abbott RD, Catalano RF. 2010. Testing the universality of the effects of the Communities That Care prevention system for preventing adolescent drug use and delinquency. Prevention Science; 11(4): 411-423.

Olds DL, Kitzman H, Knudtson MD, Anson E, Smith JA, Cole R. 2014. Effect of home visiting by nurses on maternal and child mortality: results of a 2-decade follow-up of a randomized clinical trial. JAMA Paediatrics; 168(9): 800-806.

Oral R, Ramirez M, Coohey C, Nakada S, Walz A, Kuntz A, Benoit J, Peek-Asa C. 2016. Adverse childhood experiences and trauma informed care: the future of health care. Pediatric Research; 79(1–2): 227–233.

Pachter LM, Lieberman L, Bloom SL, Fein JA. 2017. Developing a community-wide initiative to address childhood adversity and toxic stress: a case study of the Philadelphia ACE task force. Academic Pediatrics; 17(7): S130-S135.

Petersen I, Evans-Lacko S, Semrau M, Barry MM, Chisholm D, Gronholm P, Egbe CO, Thornicroft G. 2016. Promotion, prevention and protection: interventions at the population and community-levels for mental, neurological and substance use disorders in low and middle-income countries. International Journal of Mental Health Systems; 10: 30.

Poduska JM, Kellam SG, Foxcroft D. 2011. Good Behaviour Game. REP08. Centre for Analysis of Youth Transitions (CAYT). http://cayt.mentor-adepis.org/wp-content/uploads/2015/03/CAYT_Rep08.pdf [Accessed 08/01/2018].

Public Health England. 2018. Cost-effectiveness and Return on Investment (ROI) of interventions associated with the Best Start in Life. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/686911/BSIL_ROI_Report.pdf [Accessed 08/01/18].

Public Health Wales. 2016. Making a difference: Investing in Sustainable Health and Wellbeing for the People of Wales. Cardiff: Public Health Wales. www.wales.nhs.uk/sitesplus/888/page/87106 [Accessed 08/01/18].

Public Health Wales. 2018. Public Health Wales Long term strategy 2018-30: working to achieve a healthier future for Wales. Cardiff: Public Health Wales NHS Trust. http://www.wales.nhs.uk/sitesplus/888/page/96924 [Accessed 07/01/2019].

Purewal Boparai SP, Au V, Koita K, Oh DL, Briner S, Harris NB, Bucci M. 2018. Ameliorating the biological impacts of childhood adversity: A review of intervention programs. Child Abuse & Neglect; 81: 82–105.

Quigg Z, Bellis MA, Grey H, Ashton K, Hughes K, Webster J. 2016. Alcohol's harms to others: the harms from other people's alcohol consumption in Wales. Liverpool: Liverpool John Moores University.

Quigg Z, Wallis S, Butler N. 2018. Routine Enquiry about adverse childhood experiences: implementation pack pilot evaluation, final report. Liverpool: Public Health Institute https://www.gov.uk/government/publications/routine-enquiry-about-adverse-childhood-experiences-implementation-pack-evaluation [Accessed 08/01/2018].

Read J, Harper D, Tucker I, Kennedy A. 2018. Do adult mental health services identify child abuse and neglect? A systematic review. International Journal of Mental Health Nursing; 27(1): 7–19.

Reavley N, Jorm AF. 2010. Prevention and early intervention to improve mental health in higher education students: a review. Early Intervention in Psychiatry; 4(2): 132–142.

Reuben JD, Shaw DS, Brennan LM, Dishion TJ, Wilson MN. 2015. A family-based intervention for improving children's emotional problems through effects on maternal depressive symptoms. Journal of Consulting and Clinical Psychology; 83(6): 1142-1148.

Rhoades KA, Chamberlain P, Roberts R, Leve LD. 2013. MTFC for High Risk Adolescent Girls: A Comparison of Outcomes in England and the United States. Journal of Child Adolescent Substance Abuse; 22(5): 435–449.

Robinson A, Brisbane J, Farrar J, Hardy P, Jones B, Pickles J, Shepherd JP. 2012. The Welsh Government's proposed 'Ending Violence Against Women and Domestic Abuse (Wales) Bill': recommendations from the Task and Finish Group. Cardiff: Welsh Government. http://orca.cf.ac.uk/64054/ [Accessed 08/01/18].

Ross K. 2017. School Based Interventions for School-Aged Children with Oppositional Defiant Disorder: A Systematic Review. Master of Social Work Clinical Research Papers; https://sophia.stkate.edu/msw_papers/788 [Accessed 08/01/18].

Rudolph J, Zimmer-Gembeck MJ. 2016. Reviewing the Focus: a summary critique of child-focused sexual abuse prevention. Trauma, Violence, & Abuse; 19(5): 543-554.

Sancassiani F, Pintus E, Holte A, Paulus P, Moro MF, Cossu G, Angermeyer MC, Carta MG, Lindert J. 2015. Enhancing the Emotional and Social Skills of the Youth to Promote their Wellbeing and Positive Development: A Systematic review of universal school-based randomized controlled trials. Clinical Practice & Epidemiology in Mental Health; 11(Suppl 1 M2): 21–40.

Sethi D, Yon Y, Parekh N, Anderson T, Huber J, Rakovac I, Meinck F. 2018. European status report on preventing child maltreatment. Copenhagen: WHO Regional Office for Europe. http://www.euro.who.int/en/publications/abstracts/european-status-report-on-preventing-child-maltreatment-2018 [Accessed 08/01/18].

Skuse T, Matthew J. 2015. The Trauma Recovery Model: sequencing youth justice interventions for young people with complex needs. Prison Service Journal; 220: 16-24.

Social Research Unit. 2013. Youth Justice: Investing in Children. http://betterstart.dartington.org.uk/wp-content/uploads/2012/11/Investing-in-Children-Youth-Justice-Report-November-2012.pdf [Accessed 08/01/2018].

Stevens M. 2014. The cost-effectiveness of UK parenting programmes for preventing children's behaviour problems–a review of the evidence. Child & Family Social Work; 19(1): 109-118.

Teesson M, Newton NC, Barrett EL. 2012. Australian school-based prevention programs for alcohol and other drugs: A systematic review. Drug and Alcohol Review; 31(6): 731-736.

Tolan PH, Henry DB, Schoeny MS, Lovegrove P, Nichols E. 2014. Mentoring programs to affect delinquency and associated outcomes of youth at risk: a comprehensive meta-analytic review. Journal of Experimental Criminology; 10(2): 179–206.

United Nations International Children's Emergency Fund (UNICEF). 2017. Early Moments Matter for every child. New York: UNICEF. https://www.unicef.org/publications/files/UNICEF_Early_Moments_Matter_for_Every_Child.pdf [Accessed 08/01/18].

Von Cheong E, Sinnott C, Dahly D, Kearney PM. 2017. Adverse childhood experiences (ACEs) and later-life depression: perceived social support as a potential protective factor. BMJ Open; 7(9): e013228.

Wagner DV, Borduin CM, Sawyer AM, Dopp AR. 2014. Long-term prevention of criminality in siblings of serious and violent juvenile offenders: a 25-year follow-up to a randomized clinical trial of multisystemic therapy. Journal of Consulting and Clinical Psychology; 82(3): 492–499.

Walsh K, Zwi K, Woolfenden S, Shlonsky A. 2015. School-based education programmes for the prevention of child sexual abuse (Review). Cochrane Database of Systematic Reviews; 4: 1465-1858. https://www.cochrane.org/CD004380/BEHAV_school-based-programmes-for-the-prevention-of-child-sexual-abuse [Accessed 07/01/2019].

Washington State Institute for Public Policy. 2018a. Nurse Family Partnership: Public Health & Prevention: Home or family based. http://www.wsipp.wa.gov/BenefitCost/Program/35 [Accessed 08/01/2018].

Washington State Institute for Public Policy. 2018b. Triple-P Positive Parenting Program (System): Public Health & Prevention: Population-level policies. http://www.wsipp.wa.gov/BenefitCost?AreaSelection=BC&SearchQueries%5B0%5D.paramType=KEYWORD_ANY&SearchQueries%5B0%5D.paramJoin=AND&SearchQueries%5B0%5D.valueString=triple+P [Accessed 07/01/2019].

Washington State Institute for Public Policy. 2018c. SafeCare: Child Welfare. http://www.wsipp.wa.gov/BenefitCost/Program/160 [Accessed 07/01/2019].

Washington State Institute for Public Policy. 2018d. Big Brothers Big Sisters Community-Based (taxpayer costs only): Public Health & Prevention: community-based. http://www.wsipp.wa.gov/BenefitCost/Program/765 [Accessed 08/01/2019].

Washington State Institute for Public Policy. 2018e. Communities that care: Public Health & Prevention: community-based. http://www.wsipp.wa.gov/BenefitCost/ProgramPdf/115/Communities-That-Care [Accessed 07/01/2019].

Washington State Institute for Public Policy. 2018f. Multidimensional Treatment Foster Care: Juvenile Justice. http://www.wsipp.wa.gov/BenefitCost/ProgramPdf/20/Multidimensional-Treatment-Foster-Care [Accessed 07/01/2019].

Washington State Institute for Public Policy. 2018g. Good Behaviour Game: Public Health & Prevention: school-based. http://www.wsipp.wa.gov/BenefitCost/Program/82 [Ac-cessed 08/01/2019].

Washington State Institute for Public Policy. 2018h. Families and Schools Together (FAST): Public Health & Prevention: Community-based. http://www.wsipp.wa.gov/BenefitCost/Program/150 [Accessed 07/01/2019].

Washington State Institute for Public Policy. 2018i. Family check-up (Positive Family Support): Public Health & Prevention: Home or Family-based. http://www.wsipp.wa.gov/BenefitCost/Program/380 [Accessed 07/01/2019].

Washington State Institute for Public Policy. 2018j. Multisystemic Therapy (MST): Juvenille Justice. http://www.wsipp.wa.gov/BenefitCost/Program/36 [Accessed 07/01/2019].

Weare K, Nind M. 2011. Mental health promotion and problem prevention in schools: what does the evidence say? Health Promotion International; 26(1): i29-69.

Wellbeing of Future Generations Act. 2015. https://gov.wales/topics/people-and-communities/people/future-generations-act/?lang=en [Accessed 08/01/18].

Welsh Government. 2017a. Prosperity for All: the national strategy. http://gov.wales/about/programme-for-government/?lang=en [Accessed 08/01/18].

Welsh Government. 2017b. Safeguarding. https://gweddill.gov.wales/topics/health/socialcare/safeguarding/?lang=en [Accessed 08/01/18].

Welsh Government. 2018. A healthier Wales: our Plan for Health and Social Care. https://gweddill.gov.wales/topics/health/publications/healthier-wales/?lang=en [Accessed 07/01/2019].

Wolchik SA, Sandler IN, Tein JY, Mahrer NE, Millsap RE, Winslow E, Vélez C, Porter MM, Luecken LJ, Reed A. 2014. Fifteen-year follow-up of a randomized trial of a preventive intervention for divorced families: effects on mental health and substance use outcomes in young adulthood. Journal of Consulting and Clinical Psychology; 81(4): 660–673.

World Health Organization. 2012. European action plan to reduce the harmful use of alcohol 2012-2020. Copenhagen: WHO Regional Office for Europe. http://apps.who.int/iris/bitstream/handle/10665/107307/E96726. pdf?sequence=1&isAllowed=y [Accessed 08/01/18].

World Health Organization. 2014. Investing in children: the European child maltreatment prevention action plan 2015-2020. Copenhagen: WHO Regional Office for Europe. http://www.euro.who.int/en/about-us/governance/ regional-committee-for-europe/past-sessions/64th-session/documentation/working-documents/eurrc6413-investing-in-children-the-european-child-maltreatment-prevention-action-plan-20152020 [Accessed 08/01/18].

World Health Organization. 2016. INSPIRE: seven strategies for Ending Violence Against Children. Geneva: World Health Organization. https://www.who.int/violence_injury_prevention/violence/inspire/en/ [Accessed 07/01/2019].

World Health Organization. 2017. Responding to children who have been sexually abused: WHO clinical guidelines. Geneva: World Health Organization. http://www.who.int/reproductivehealth/publications/violence/clinical-response-csa/en/ [Accessed 08/01/18].

World Health Organization. 2018. Parenting for Lifelong Health (PLH): supporting families in low-resource settings. Geneva: World Health Organization.  https://www.who.int/violence_injury_prevention/violence/child/plh/en/  [Accessed 08/01/18].

Zolkoski SM, Bullock LM. 2012. Resilience in children and youth: a review. Children and Youth Services Review; 34(12): 2295-2303.

# Appendices

## Appendix 1. Detailed methodology

**Searches:** We conducted literature searches for ACEs as a collective term in studies published between 2008 and 2018 across databases: COCHRANE library, EMBASE, NICE evidence, PsychINFO and PubMed. Databases were selected by NHS availability. Results were supplemented with additional searches of grey literature for 11 individual ACE types, using a combination of key words relevant to ACE prevention and intervention (Table A1). Grey literature searches included information sourced from online resources. There were no limits to the geographical context, language, target population (e.g. any ethnicity or age), or delivery methods (e.g. one to one, groups or media, such as online delivery).

## Table A1. Search terms used for the literature searches (database and grey)

| Search | Search number | Term(s) used |
|---|---|---|
| Database | S1 | "adverse childhood experiences" |
| Database | S2 | Limit 7 to yr="2008 - 2018" |
| Database | S3 | intervention* or prevention* or programme* |
| Database | S4 | S2 AND S3 |
| Grey | S5 | "sexual abuse"* or "emotional abuse" or "physical abuse" or "domestic violence" |
| Grey | S6 | "emotional neglect" or "physical neglect" |
| Grey | S7 | "parental alcohol misuse" or "alcohol" |
| Grey | S8 | "parental drug misuse" or "drug" |
| Grey | S9 | "parental separation" or "parental divorce" or "divorce" |
| Grey | S10 | "parental mental illness" or "mental health" |
| Grey | S11 | "parental incarceration" |
| Grey | S12 | "homeless" or "housing" |
| Grey | S13 | S4 AND S5 to S12 |
| Grey | Online resource | Blue prints programmes (BPP) http://www.blueprintsprograms.com/programs |
| Grey | Online resource | California Evidence-Base Clearinghouse for child welfare (CEBC) http://www.cebc4cw.org |
| Grey | Online resource | Early Intervention Foundation (EIF) http://guidebook.eif.org.uk/ |
| Grey | Online resource | Substance abuse and Mental health services Administration national register of evidence-base programme and practices (SAMSHA) https://nrepp.samhsa.gov/AllPrograms.aspx |
| Grey | Online resource | Washington State Institute for Public Policy (WSIPP) http://www.wsipp.wa.gov/BenefitCost?topicId |

**Eligibility:** Searches were limited to well-established evidence (e.g. systematic reviews, meta-analysis and evidenced-based reports), and then to address gaps were expanded to include narrative and scoping reviews. Due to the size and complexity of the review, only interventions with a demonstrable change in a variety of health-related outcomes in adults and children (e.g. changes in knowledge, attitudes, beliefs, feelings, cognitive or social-emotional skills, HHBs or other mental and physical health outcomes) associated with an intervention were included in the programme list and evidence table (see Appendix 2 and 3).

**Extraction and synthesis:** Database searches were completed by one researcher (LDL) and checked by a second reviewer (KF). An Excel database was created to extract and manage the data. Searches identified more than 17,968 records. Where records were identified through more than one source, duplicates were removed. From remaining records a title and a subsequent abstract screening was conducted, followed by full-text eligibility screening. 180 records were included, from which 110 interventions were extracted (some interventions were identified through more than one record).

Interventions were grouped based on common characteristics (e.g. universal prevention or targeted interventions, the specific ACEs addressed, population, modality of delivery, outcomes, and quality and cost-benefits analysis [if any]). A list of all included interventions are presented in Appendix 2, for details of each intervention refer to Appendix 3.

## Appendix 2. List of interventions identified in the review

1. Across Ages
2. Adults and Children Together Raising Safe Kids (ACT-RSK)
3. Alcohol and other Substance Regulations
4. Alcohol Brief Interventions (ABIs)
5. Alcohol Screening: AUDIT & ICD-10
6. Al's Pal
7. 'All stars/Project star'
8. Arkansas Cares Programme
9. Attachment and Biobehavioural Catch-Up (ABC) Intervention
10. Big Brothers Big Sisters (BBBS)
11. Brief Alcohol Screening For College Students (BASICS)
12. Bucharest Early Intervention Project
13. Cash Transfer Projects (e.g. Opportunidades)
14. Chicago Parent Program (CPP)
15. Child First (CF)
16. Children Parent Psychotherapy (CPP)
17. Choices: Changing High-Risk Alcohol Use and Increasing Contraception Effectiveness Study
18. Circle Of Security (Part Of The New Orleans Intervention Model; COS)
19. Climate School
20. Coaching for Communities
21. Cognitive Behavioural Therapy (CBT), Cognitive Behavioural Intervention For Trauma In Schools (CBITS)
22. Cognitive Behavioural Analysis System Of Psychotherapy (CBASP)
23. Cognitive Processing Therapy (CPT)
24. Community-based education programmes (e.g. Programme H or M, Soul City, Yaari Dosti, Coaching boys into men)
25. Communities Reinforcements Approaches (e.g. CRA + vouchers)
26. Cognitive Behavioral Analysis System of Psychotherapy (CBITS)
27. Domestic Abuse Intervention Project (DAIP – The Duluth Model)
28. Drug Abuse Resistance Education (DARE)
29. E-Check Up To Go (E-Chug)
30. Emotional Focused Therapy (EFT)
31. Emotion Regulation
32. Empowering Parents, Empowering Communities (EPEC)
33. Empowerment and Livelihood for Adolescents (ELA)
34. Enhanced Foster Care Intervention and Social Welfare Services
35. Expressive Writing
36. Eye Movement Desensitization and Reprocessing
37. Family Check- up (FCU) and Everyday Parenting (EDP)
38. Families and Schools Together (FAST)
39. Family Foundations (FF)
40. Feminist therapy
41. Fostering Healthy Futures
42. Good Behaviour Game (GBG)
43. Good Governance: UN Convention on the Rights of the Child (CRC) or Children and Parents Code
44. Guiding Good Choices (GGC or Preparing for the Drug-Free Years & Nice Recommendations 3 Curriculum Approaches)
45. Health Campaigns (e.g. Alcohol Free Pregnancy; Alcohol Less Is Better?)
46. Healthy Families America (HFA)
47. Home Instruction for Parents of Preschool Youngsters (HIPPY)
48. I Can Problem Solve (ICPS)
49. Imagery Rescripting and Rehearsal (IRR)
50. Infant-Parent Psychotherapy (IPP)
51. Interpersonal Therapy (IPT)
52. Life Goals Collaborative Care (LGCC)
53. Life Skills Training (LST)
54. Life Space Crisis Intervention (LSCI)
55. Linking the Interests of Families and Teachers (LIFT)
56. Living in the Face of Trauma (LIFT)
57. Micro-finance programmes: Intervention for Microfinance for AIDS and Gender Equity (IMAGE)

58. Matrix Model IOP
59. Mindfulness-Based Therapy (Mb), Mindfulness in Schools Project (MiSP), Mindfulness-based Cognitive Therapy (MBCT) and Mindfulness-based stress Reduction (MBSR)
60. Motivational Interviewing (MI)
61. Multidimensional Treatment Foster Care (MTFC) or named Treatment Foster Care Oregon (TFCO)
62. Multisystemic Therapy (MST)
63. New Beginnings Program (NBP)
64. Nurse-Family Partnership (NFP, or Family Nurse Partnership, FNP)
65. Family Matters
66. Parenting for Lifelong Health (PLH)
67. Parents Anonymous
68. Parents as Teachers (PAT, or named Parents as First Teachers, PAFT)
69. Play and Learning Strategies (PALS)
70. Policy Changes to address Poverty and other Inequalities
71. Positive Action (PA)
72. Positive Parenting Programme (Triple P)
73. Prolonged Exposure Therapy (PE)
74. Promoting Alternative Thinking Strategies (PATHS)
75. Promoting First Relationships (PFR)
76. Promoting School-Community-University Partnership to Enhance Resilience (PROSPER)
77. Project Northland
78. Psychodynamic Therapy
79. Psychoeducational Interventions
80. Rational Emotive Behavior Therapy (REBT)
81. Resilient Peer Treatment
82. RISHTA project
83. Safe Dates
84. Safe Environment For Every Kid (SEEK)
85. School Health and Alcohol Harm Reduction Project (SHAHRP)
86. Screening for Intimate partner violence (IPV) COMBINED with Interventions: U.S. preventive Services Task Force
87. Screening: SEEK - Parent Screening Questionnaire (PSQ) or Pediatric Symptom Checklist (PSC)
88. Seattle Social Development Project (SSDP)
89. Second Step
90. Seeking Safety
91. Sexual Assault Referral Centre (SARCS) or Rape Crisis centres or Young Women's Advocacy Project
92. Sexual Health Intervention Programmes
93. Skills Training In Affective and Interpersonal Regulation followed by Modified Prolonged Exposure (Stair-MPE)
94. SOS - Help For Parents!
95. Stabilizing Group Treatment
96. Staff Training based on the Crisis Intervention model (e.g. Stad Project)
97. Stepping Stones
98. A Stop Smoking in Schools trials (ASSIST)
99. Strengthening Families Programme (SFP)
100. Strong African American Families (SAAF)
101. SURE START Children's Centres or Troubled Families Initiatives
102. Systematic Training For Effective Parenting (STEP)
103. Teens & Toddlers
104. The Incredible Years (IY)
105. Treatment for Children and Family Members of Alcoholics
106. Trauma-focused cognitive behavioural therapy (TF-CBT) or Trauma-focused treatment (TFT), Parent-focused treatment (PFT) or Trauma Informed Care (TIC)
107. Trauma Recovery and Empowerment Model (TREM)
108. Unplugged
109. WE CARE Family Psychosocial Screening tool
110. 1-2-3 Magic

## Appendix 3. Supporting evidence

Tables summarising details of the included interventions supporting the report, can be retrieved online on http://www.wales.nhs.uk/sitesplus/888/document/337714 . These are presented as below.

Table 1. Parenting and home visiting interventions
Table 2. Mentoring interventions
Table 3. Interventions building resilience
Table 4. School-based interventions
Table 5. Community-based interventions
Table 6. Early identification (Screening Programmes)
Table 7. Specific interventions
Table 8. Psychotherapy approaches

Public Health Wales NHS Trust
Capital Quarter No.2, Tyndall Street
Cardiff
CF10 4BZ
Tel: +44 (0)2920 227744

Public Health Collaborating Unit
Bangor Institute for Health and Medical Research
School of Health Sciences
Bangor University
Wrexham Technology Park
Wrexham
LL13 7YP
Tel: +44 (0)1248 383519