Evidence Search Service
Results of your search request

Adverse Childhood Experiences (ACEs)

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ID of request: 13139
Date of request: 25th April
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If you would like to request any articles please use our online request form.

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Please acknowledge this work in any resulting paper or presentation as: Evidence search: Adverse Childhood Experiences (ACEs) (08 05 2018). REDHILL, UK: Surrey and Sussex Library and Knowledge Services.

Date range used: none specified
Limits used: see below
Search terms and notes see below

Exclusions: articles relating to children, unless there was no significant material about adults or where current policy focus is on children with ACEs.

Freetext: impact "adverse childhood experiences"; impact "adverse childhood experiences" adults; intervention*; treatment*; therap*; evaluation; measurement; training;

Resources used (provided by Library & Knowledge Services): MEDLINE, PsycINFO, HMIC; Trip Database; ClinicalKey; UpToDate;

Resources used (freely available): Cochrane Library; EThOS; Google; Google Scholar; NICE Evidence Search; Public Health England; Public Health Wales; NHS Health Scotland; ResearchGate; Social Care Online; Citation Tracking; Centers for Disease Prevention and Control; King’s Fund; OpenGrey; YouTube;
Summary

This scoping search has focussed on retrieving evidence relating to the integration of the concept of adverse childhood experiences (ACEs), within health and social care in the UK, with a focus on policy and research about the adult population with ACEs.

The impact of ACEs on the health of adults was first studied by Felliti et al. (1998) who found a "strong graded relationship between the breadth of exposure to abuse or household dysfunction during childhood and multiple risk factors for several of the leading causes of death in adults".

The World Health Organization (WHO) discusses ACEs (WHO, 2017) and includes guidance on the use of the ACE International Questionnaire (ACE-IQ) which is intended to measure ACEs in all countries, and the association between them and risk behaviours in later life. WHO suggests that interventions that build resilience are important (WHO, 2017) and that "trauma-informed care" (TIC) is a key approach to managing and reducing the effects of ACEs.

A number of programmes have been developed in the US which aim to support adults and children with ACEs and/or provide training to health, welfare, education and frontline public sector staff (Lemonade for Life, 2018; Risking Connection, 2015). Kimple (2018) describes a programme in North Carolina where multiple organisations have come together to prevent ACEs. The programme by Casey Family Programs (2017) suggests that the focus should be on creating positive experiences and supportive relationships for children experiencing ACEs as having a positive relationship can counter effects of multiple ACEs.

In Canada, the concept of trauma-informed care is integrated within the government’s approach to policy-making (Government of Canada, 2018) and in The Netherlands, the Health Council is due to publish a report on ACEs at the end of May.

In the UK, the Science and Technology Committee is currently discussing the impact of ACEs on health and wellbeing (UK Parliament, 2018). Public Health Wales and NHS Health Scotland have published reports and case studies discussing the association between ACEs and poor health and social outcomes (Hughes et al., 2018). The report by Scottish Chief Medical Officer notes that there needs to be "greater partnership working with planning, housing, transport, education, and economic policy". In its recent landscape review Public Health England (2018) discusses the need for health and policing agencies to work collaboratively to improve outcomes for both individuals and communities.

A number of organisations in the UK have given support to ACEs survivors and offered training to stakeholders including: Centre for Public Health (2016); Rock Pool (2018); Blackburn with Darwen Council (2018); and Connected For Life (2017). In the UK, The Association for Young People’s Health (2016) has produced a report with key literature discussing a public health approach to developing resilience in young people.
Two protocols for Cochrane systematic reviews have been registered (Helmreich et al., 2017; McLaughlin et al., 2014) which seek to address the issue of resilience enhancement in adults and children. Existing systematic reviews and primary research focus predominantly on establishing the association between ACEs and health and social outcomes.

There is limited research evaluating the effectiveness of ACEs interventions with patients. Programmes offering interventions for adults and children with ACEs are becoming more widely available, as are training initiatives for stakeholders in public health. However, this search retrieved limited robust evidence for the effectiveness of the ACEs programmes highlighted below. Few of the programmes have been reviewed (an exception is the Risking Connection programme). This may be due in part to the wide spectrum of conditions covered by the term ACEs.

Overall, themes arising from this broad scoping search include the need to define TIC (Baker et al., 2016); the need for greater collaboration between health, police and local governmental agencies; evaluation of tools and their value of screening for ACEs (Dube, 2018; Finkelhor, 2017); approaches to measuring, including community capacity-building to address ACEs and develop resilience (Hargreaves, 2017).

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   Journal of Affective Disorders
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   Journal of the American Association of Nurse Practitioners
   Health consequences of adverse childhood experiences: a systematic review.
Metabolism
Adverse childhood experiences and risk of type 2 diabetes: A systematic review and meta-analysis.

Pediatrics
The Association Between Adverse Childhood Experiences and Risk of Cancer in Adulthood: A Systematic Review of the Literature.

The Lancet Psychiatry
Social determinants of mental disorders and the Sustainable Development Goals: a systematic review of reviews.

The Lancet Public Health
The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis.

C. Institutional Publications

ACEs Connection
ACEs Connection

Alberta Health Services
Trauma Informed Care [Project]

Association for Young People’s Health (AYPH)
A public health approach to promoting young people’s resilience

Blackburn with Darwen Council
Adverse Childhood Experiences (ACES)

California Evidence Based Clearinghouse
Risking Connection

Casey Family Programs
Balancing Adverse Childhood Experiences (ACES) With HOPE* New Insights into the Role of Positive Experience on Child and Family Development *Health Outcomes of Positive Experience

Centers for Disease Control and Prevention (CDC)
Adverse Childhood Experiences (ACES)

Centre for Public Health
Adverse Childhood Experiences (ACES) in Hertfordshire, Luton and Northamptonshire

Child Family Community Australia Information Exchange (CFCA)
Trauma-informed care in child/family welfare services

Connected For Life
How We Can Help
Early Intervention Foundation
The role of the West Midlands Police in identifying and responding to adverse childhood experiences: a process evaluation of the implementation of TIPT

International Initiative for Mental Health Leadership
Healthy Families: From ACEs to Trauma Informed Care to Resilience and Wellbeing: examples of policies and activities across IIMHL & IIDL countries

NHS Health Scotland
Adverse Childhood Experiences
ACEs Routine Enquiry Seminar
Relationships and Resilience: Addressing childhood adversity to support children’s learning and wellbeing

Public Health England (PHE)
Policing and Health Collaboration in England and Wales: Landscape Review

Public Health Wales
Sources of resilience and their moderating relationships with harms from adverse childhood experiences
Adverse Childhood Experiences and their impact on health-harming behaviours in the Welsh adult population
Adverse Childhood Experiences and their association with Mental Well-being in the Welsh adult population
Adverse Childhood Experiences and their association with chronic disease and health service use in the Welsh adult population
Adverse Childhood Experiences (ACES)

Rock Pool: Hope Resilience Recovery
Adverse Childhood Experiences

Substance Abuse and Mental Health Services Administration (SAMHSA)
Adverse Childhood Experiences

The Health Council of the Netherlands
Attachment and adverse childhood experiences

The Mental Elf
What happened to you? Trauma informed approaches to mental health care

The Scottish Government
PRACTISING REALIST REALISTIC MEDICINE: Chief Medical Officer’s Annual Report 2016-17

The YoungMinds Trust
Addressing Adversity Prioritising adversity and trauma-informed care for children and young people in England

UK Parliament
How do adverse childhood experiences impact later life?
University of Glasgow
ACE (Adverse Childhood Experiences) Centre

University of Kansas Center for Public Partnerships and Research
What is Lemonade for Life?

University of Memphis
Adverse Childhood Experiences: What Science Tells Us and How to Foster Resilience

Warren Larkin Associates
What We Do

World Health Organization (WHO)
Building resilience: a key pillar of Health 2020 and the Sustainable Development Goals Examples from the WHO Small Countries Initiative
Adverse Childhood Experiences International Questionnaire (ACE-IQ)

D. Original Research
1. Continuing conversations about adverse childhood experiences (ACEs) screening: A public health perspective.
2. Prevention of mental disorders requires action on adverse childhood experiences.
3. Responding to Adverse Childhood Experiences: It Takes a Village
5. A simulation and video-based training program to address adverse childhood experiences
6. Advancing the measurement of collective community capacity to address adverse childhood experiences and resilience
7. Adverse childhood experiences and life opportunities: Shifting the narrative
8. Childhood adversities and distress - The role of resilience in a representative sample.
9. 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 well-being.
10. Integrating Trauma-Informed Care Into Maternity Care Practice: Conceptual and Practical Issues.
11. Integrative medicine: Breaking down silos of knowledge and practice an epigenetic approach.
12. Lemonade for Life - a pilot study on a hope-infused, trauma-informed approach to help families understand their past and focus on the future
14. Organizational and provider level factors in implementation of trauma-informed care after a city-wide training: an explanatory mixed methods assessment
15. Parenting begets parenting: A neurobiological perspective on early adversity and the transmission of parenting styles across generations.
17. Screening for adverse childhood experiences (ACEs): Cautions and suggestions.
19. The Role of Mindfulness in Reducing the Adverse Effects of Childhood Stress and Trauma.
20. A review of primary care interventions to improve health outcomes in adult survivors of adverse childhood experiences.
21. Adverse childhood experiences and trauma informed care: the future of health care
22. Development and Psychometric Evaluation of the Attitudes Related to Trauma-Informed Care (ARTIC) Scale
23. Household and community-level Adverse Childhood Experiences and adult health outcomes in a diverse urban population.
24. Relationships between adverse childhood experiences and adult mental well-being: results from an English national household survey
25. Understanding resilience: New approaches for preventing and treating PTSD.
26. A synthesis of the literature on trauma-informed care
27. Adverse childhood experience and asthma onset: a systematic review.
28. How childhood trauma affects health across a lifetime
30. Psychosocial complexity in multimorbidity: the legacy of adverse childhood experiences.
31. Resilience Intervention for Young Adults With Adverse Childhood Experiences.
32. Trauma-Informed Medical Care: A CME Communication Training for Primary Care Providers
33. Traumatic events in childhood and their association with psychiatric illness in the adult.
34. Adverse childhood experiences: Towards a clear conceptual meaning
35. Life after growing up in care: Informing policy and practice through research
36. Social Work and Adverse Childhood Experiences Research: Implications for Practice and Health Policy
37. Adverse childhood experiences and premature all-cause mortality
39. ACE’S by Vince Felitti, MD

Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults

A. National and International Guidance

Government of Canada

Trauma and violence-informed approaches to policy and practice (2018)
Government of Canada

Available online at this link

Introduction Trauma-informed approaches are familiar to many organizations and service providers. Recently, this term has been expanded to include "and violence", an important change in the language which underscores the connections between trauma and violence. Trauma and violence-informed approaches are policies and practices that recognize the connections between violence, trauma, negative health outcomes and behaviours. These approaches increase safety, control and resilience for people who are seeking services in relation to experiences of violence and/or have a history of experiencing violence. Trauma and violence-informed approaches require fundamental changes in how systems are designed, organizations function and practitioners engage with people based on the
following key policy and practice principles: Understand trauma and violence, and their impacts on peoples' lives and behaviours Create emotionally and physically safe environments Foster opportunities for choice, collaboration, and connection Provide a strengths-based and capacity-building approach to support client coping and resilience Service providers and organizations who do not understand the complex and lasting impacts of violence and trauma may unintentionally re-traumatize. The goal of trauma and violence-informed approaches is to minimize harm to the people you serve—whether or not you know their experiences of violence. Embedding trauma and violence-informed approaches into all aspects of policy and practice can create universal trauma precautions, which provide positive supports for all people. They also provide a common platform that helps to integrate services within and across systems and offer a basis for consistent ways of responding to people with such experiences. [...] 

B. Systematic Reviews

Aggression and Violent Behavior

A systematic review and meta-analysis of the intergenerational transmission of criminal behavior (2017)
Besemer, S. et al.

Children whose parents exhibit criminal behavior (CB) appear to have an increased risk of displaying CB themselves. We conducted a systematic review and pooled results from 23 samples in 25 publications (including 3,423,483 children) in this meta-analysis of intergenerational transmission of CB. On average, children with criminal parents were at significantly higher risk for CB compared with children without criminal parents (pooled OR = 2.4). Studies taking into account covariates also showed increased risk for CB (pooled OR = 1.8). Transmission was strongest from mothers to daughters, followed by mothers to sons, fathers to daughters, and fathers to sons. Moreover, transmission appeared stronger for cohorts born after 1981. When we examined methodological quality and other characteristics of studies, response rates, sample size, or use of official records vs. self- or other-reports of parental CB did not moderate outcomes. However, we found stronger transmission for samples that used convenience or case-control sampling, and in studies in which parental CB clearly preceded offspring CB. We discuss mechanisms underlying intergenerational transmission, including social learning, criminogenic environments, biological proneness, and criminal justice bias. Finally, we consider limitations and directions for future research as well as policy implications for breaking the cycle of intergenerational crime.
Centre for Reviews and Dissemination (CRD)

Systematic review of evidence relating to the health economics of interventions to reduce the effects of adverse childhood experiences [protocol] (2016)
Lloyd-Williams, H. et al.

Available online at this link

[This is a protocol for an ongoing systematic review with a focus on children under 18 years of age.] Review question To systematically review the evidence on the health economics of interventions to reduce the effects of adverse childhood experiences. Contact details for further information: Mr Lloyd-Williams huw.l.williams@bangor.ac.uk […]

Trauma-informed care psycho education programs in foster care: a systematic review [protocol] (2017)
Lotty, M. et al.

Available online at this link

[This is a protocol for a systematic review.]

Review question 1. What is the evidence of effectiveness of trauma informed care foster care psycho education programs? 2. What are the studies, intervention and participant characteristics of studies that have rigorously evaluated effects of Trauma Informed Care foster care psycho education programs? 3. What are the effects of trauma informed care foster care psycho education programs on the foster carer’s knowledge of trauma, stress management, attitudes and the effects on the child’s behavior and emotional difficulties?

Cochrane Database of Systematic Reviews

Interventions to build resilience in children of problem drinkers [protocol] (2014)
McLaughlin, A. et al.

Available online at this link

This is the protocol for a review.]

The objectives are as follows: To assess the effects of interventions for building resilience in children or young people living with parents/carers who are problem drinkers.

Psychological interventions for resilience enhancement in adults (2017)
Helmreich, I. et al.

Available online at this link

This is a protocol for a Cochrane Review (Intervention). The objectives are as follows: To assess the effects of resilience-enhancing interventions in clinical and non-clinical populations.
Journal of Affective Disorders

Sands Amy, Thompson Ellen J., Gaysina Darya

Available online at this link

BACKGROUND The prevalence of divorce in Western countries has increased in recent decades. However, there is no recent systematic review and/or meta-analysis of studies testing for long-term effects of parental divorce on offspring affective disorders. The present study conducted a systematic review and meta-analysis of studies published since 1980 testing for the association between parental divorce and offspring depression and anxiety in adulthood. METHOD PUBMED, Science Direct, Medline, PsychInfo, and PsychArticles databases were searched for eligible studies. Random-effect meta-analyses were used to synthesize effect sizes and to test whether associations of parental divorce with offspring affective disorders differed among three publication periods (i.e., before 1996, 1996-2005, 2006-2015). RESULTS In total, 29 studies were eligible for the systematic review, and 18 studies were included in the meta-analyses (depression: n=21,581; anxiety: n=2472). There was significant association between parental divorce and offspring depression (OR=1.56; 95%CI [1.31, 1.86]), but not anxiety (OR=1.16; 95%CI [0.98, 1.38]). The effect of parental divorce on offspring depression was not weaker in the reports published in more recent decades. LIMITATIONS There is limited research in relation to offspring anxiety in adulthood. CONCLUSIONS Parental divorce is associated with an increased risk of adult offspring depression, with no indication of the effect being weaker in recent publications.

Journal of the American Association of Nurse Practitioners

Kalmakis, K. et al

PURPOSE: Adverse childhood experiences (ACEs) have been associated with negative health outcomes, but the evidence has had limited application in primary care practice. The purpose of this study was to systematically review the research on associations between ACEs and adult health outcomes to inform nurse practitioners (NPs) in primary care practice. DATA SOURCES: The databases PubMed, CINAHL, PsycINFO, and Social Abstracts were searched for articles published in English between 2008 and 2013 using the search term "adverse childhood experiences." Forty-two research articles were included in the synthesis. The evidence was synthesized and is reported following the preferred reporting items for systematic reviews and meta-analysis procedure (PRISMA). CONCLUSIONS: ACEs have been associated with health consequences including physical and psychological conditions, risk behaviors, developmental disruption, and increased healthcare utilization. Generalization of the results is limited by a majority of studies (41/42) measuring childhood adversity using self-report measures. IMPLICATIONS FOR PRACTICE: NPs are encouraged to incorporate assessment of patients' childhood history in routine primary care and to consider the evidence that supports a relationship between ACEs and health. Although difficult, talking about patient's childhood experiences may positively influence health outcomes.
Metabolism

Huang, J. et al.

AIMS: It is evident that adverse childhood experiences (ACEs) can influence health status of adult life, but few large-scale studies have assessed the relation of ACEs with type 2 diabetes. This meta-analysis aimed to summarize existing evidence on the link between ACEs and type 2 diabetes in adults. MATERIALS AND METHOD: We searched all published studies from PubMed and EMBASE before Aug 2015 using keywords like adverse childhood experiences and diabetes, and scanned references of relevant original articles. We included studies that reported risk estimates for diabetes by ACEs and matched our inclusion criteria. We examined the overall relationship between ACEs and diabetes, and stratified the analyses by type of childhood adversities, study design and outcome measures, respectively. RESULTS: Seven articles fulfilled the inclusion criteria for this Meta-analysis, comprising 4 cohort and 3 cross-section studies. A total of 87,251 participants and 5879 incident cases of type 2 diabetes were reported in these studies. The exposure of ACEs was positively associated with the risk of diabetes with a combined odds ratio of 1.32 (95% confidence interval 1.16 to 1.51) in the total participants. The influence of neglect was most prominent (pooled odds ratio 1.92, 95% confidence interval 1.43 to 2.57) while the effect of physical abuse was least strong (pooled odds ratio 1.30, 95% confidence interval 1.19 to 1.42). The pooled odds ratio associated with sexual abuse was 1.39 with the 95% confidence intervals from 1.28 to 1.52. CONCLUSIONS: The results support a significant association of adverse childhood experiences with an elevated risk of type 2 diabetes in adulthood.

Pediatrics

Holman, D.

Available online at this link

CONTEXT: Adverse childhood experiences (ACEs) can affect health and well-being across the life course. OBJECTIVE: This systematic review summarizes the literature on associations between ACEs and risk of cancer in adulthood. DATA SOURCES: We searched PubMed to identify relevant publications published on or before May 31, 2015. STUDY SELECTION: We included original research quantifying the association between ACEs and adult cancer incidence. Case reports and reviews were excluded. DATA ABSTRACTION: Two reviewers independently abstracted and summarized key information (eg, ACE type, cancer type, risk estimates) from included studies and resolved all discrepancies. RESULTS: Twelve studies were included in the review. In studies in which ACE summary scores were calculated, significant associations were observed between the scores and an increased risk of cancer in adulthood. Of the different types of ACEs examined, physical and psychological abuse victimization were associated with risk of any cancer in 3 and 2 studies, respectively. Two studies also reported significant associations with regard to sexual abuse victimization (1 for
cervical cancer and 1 for any cancer). However, 2 other studies reported no significant associations between childhood sexual or physical abuse and incidence of cervical or breast cancer. LIMITATIONS: Because of heterogeneity across studies, we were unable to compute a summary effect estimate. CONCLUSIONS: These findings suggest that childhood adversity in various forms may increase a person’s cancer risk. Further research is needed to understand the mechanisms driving this relationship and to identify opportunities to prevent and mitigate the deleterious effects of early adversity on long-term health.

The Lancet Psychiatry

Lund, C. et al.

Mental health has been included in the UN Sustainable Development Goals. However, uncertainty exists about the extent to which the major social determinants of mental disorders are addressed by these goals. The aim of this study was to develop a conceptual framework for the social determinants of mental disorders that is aligned with the Sustainable Development Goals, to use this framework to systematically review evidence regarding these social determinants, and to identify potential mechanisms and targets for interventions. We did a systematic review of reviews using a conceptual framework comprising demographic, economic, neighbourhood, environmental events, and social and culture domains. We included 289 articles in the final Review. This study sheds new light on how the Sustainable Development Goals are relevant for addressing the social determinants of mental disorders, and how these goals could be optimised to prevent mental disorders.

The Lancet Public Health

Hughes, K. et al.

Available online at this link

BACKGROUND: A growing body of research identifies the harmful effects that adverse childhood experiences (ACEs; occurring during childhood or adolescence; eg, child maltreatment or exposure to domestic violence) have on health throughout life. Studies have quantified such effects for individual ACEs. However, ACEs frequently co-occur and no synthesis of findings from studies measuring the effect of multiple ACE types has been done. METHODS: In this systematic review and meta-analysis, we searched five electronic databases for cross-sectional, case-control, or cohort studies published up to May 6, 2016, reporting risks of health outcomes, consisting of substance use, sexual health, mental health, weight and physical exercise, violence, and physical health status and conditions, associated with multiple ACEs. We selected articles that presented risk estimates for individuals with at least four ACEs compared with those with none for outcomes with sufficient data for meta-analysis (at least four populations). Included studies also focused on adults aged at least 18 years with a sample size of at least 100. We excluded studies based on high-risk or clinical populations. We extracted data from published reports. We calculated pooled odds ratios (ORs) using a random-effects model. FINDINGS: Of 11 621 references identified by the search, 37 included studies provided risk estimates for 23 outcomes, with a total of 253 719 participants. Individuals with at least four ACEs were at increased risk of all
health outcomes compared with individuals with no ACEs. Associations were weak or modest for physical inactivity, overweight or obesity, and diabetes (ORs of less than two); moderate for smoking, heavy alcohol use, poor self-rated health, cancer, heart disease, and respiratory disease (ORs of two to three), strong for sexual risk taking, mental ill health, and problematic alcohol use (ORs of more than three to six), and strongest for problematic drug use and interpersonal and self-directed violence (ORs of more than seven). We identified considerable heterogeneity (I² of >75%) between estimates for almost half of the outcomes. 

INTERPRETATION: To have multiple ACEs is a major risk factor for many health conditions. The outcomes most strongly associated with multiple ACEs represent ACE risks for the next generation (eg, violence, mental illness, and substance use). To sustain improvements in public health requires a shift in focus to include prevention of ACEs, resilience building, and ACE-informed service provision. The Sustainable Development Goals provide a global platform to reduce ACEs and their life-course effect on health.

C. Institutional Publications

ACEs Connection

ACEs Connection (2018)
ACEs Connection

Available online at this link

ACEs Connection is a social network that accelerates the global movement toward recognizing the impact of adverse childhood experiences in shaping adult behavior and health, and reforming all communities and institutions -- from schools to prisons to hospitals and churches -- to help heal and develop resilience rather than to continue to traumatize already traumatized people.[...]

Alberta Health Services

Trauma Informed Care [Project] (2018)
Alberta Health Services

Available online at this link

[...] The purpose of the Trauma Informed Care (TIC) Project is to increase knowledge about trauma and the impact it has by creating connection, sharing knowledge and resources. TIC offers resources for individuals who help those impacted by trauma provide patient centred care. [...]

www.surreyandsussexlibraryservices.nhs.uk   LKS enabling the growth & use of knowledge in the NHS
Association for Young People's Health (AYPH)

A public health approach to promoting young people’s resilience (2016)
Association for Young People’s Health (AYPH)

Available online at this link

Foreword by Dr John Coleman OBE, Chair of AYPH: We know that young people face a wide range of challenges in their lives from moving schools to family breakdown to bullying. Building resilience in young people can support better outcomes for them whatever challenges they face. This resource from AYPH, funded by Public Health England, provides a welcome focus on public health approaches to supporting young people’s resilience. It builds on PHE’s framework for young people’s health, Improving young people’s health and wellbeing which was published in 2015, and on a range of other PHE tools and resources including their national youth campaign, Rise Above, which also focuses on improving young people’s resilience and helping them make positive health decisions. We know the importance of working together at a local level with a wide range of professionals involved across universal, targeted and specialist services. This resource highlights some of the ways that services have worked together, some of the interventions they have used alongside the perspectives of young people about what works well for them. We trust that this resource will support you to build on the work that you are already doing. [...]

Blackburn with Darwen Council

Adverse Childhood Experiences (ACEs) (2018)
Blackburn with Darwen Council

Available online at this link

[...] Blackburn with Darwen's approach to reducing ACEs: There is a growing recognition in Blackburn with Darwen that early intervention and collaborative working are essential to reducing the impact of ACEs. The Specialist Public Health Team at Blackburn with Darwen Borough Council has worked closely with stakeholders to raise the awareness and understanding of ACEs amongst professionals, communities, families, children and young people. The vision of the Borough is to reduce the number of adversities experienced by people in Blackburn with Darwen and to build resilience of those who have already experienced ACEs. There have been a number of approaches and initiatives that have been developed across the Borough: Raising awareness of ACEs is deeply embedded within our Children's Partnership Board, which is a sub-group of the Health and Wellbeing Board. We have written the reporting and recording of ACEs into specific public health contracts (such as those for sexual health and substance misuse). We have worked with Lancashire Constabulary to bring ACEs into the Early Action Programme. We have worked with Lancashire Care Foundation Trust to train staff to be able to routinely enquire about ACEs, through the REACh (Routine Enquiry in Adverse Childhood Experiences) initiative. We have worked with a local secondary school to be ACE-Aware and ACE-informed, through the EmBRACE (Emotional and Brain Resilience in Adverse Childhood Experiences) initiative. We have been in discussions with various stakeholders to raise the awareness of ACEs and have presented at local, regional, national and international conferences. We have started to create an environment to support social movements around ACEs. We have developed an animation on ACES in collaboration with Public Health Wales. If you would like to know more
about ACEs, the work of the Specialist Public Health Team, or be involved, please contact: publichealthadmin@blackburn.gov.uk […]  

California Evidence Based Clearinghouse

Risking Connection (2015)
California Evidence Based Clearinghouse

Available online at this link

[This is a review of the "Risking Connections" programme.]

Summary: (To include comparison groups, outcomes, measures, notable limitations) This study examines the impact of the Risking Connection trauma training on the knowledge, beliefs, and behaviors of staff trainees at child congregate care agencies. Measures utilized were the Risking Connection Curriculum Assessment (RCCA), the Trauma-Informed Belief Measure, and the Staff Behavior in the Milieu. Results showed an increase in knowledge about the core concepts of the Risking Connection training; an increase in beliefs favorable to trauma-informed care; and an increase in self-reported staff behavior favorable to trauma-informed care. In addition, these findings suggest that the Train-the-Trainer model of dissemination central to Risking Connection is effective at increasing beliefs favorable to trauma-informed care. This study is limited due to the lack of a control group, non-randomization of subjects to the different trainings, and a lack of connection to agency or client level outcomes. […]  

Casey Family Programs

Balancing Adverse Childhood Experiences (ACEs) With HOPE* New Insights into the Role of Positive Experience on Child and Family Development *Health Outcomes of Positive Experience (2017)
Sege, R. et al.

Available online at this link

This report presents evidence for HOPE (Health Outcomes of Positive Experiences) based on newly released, compelling data that reinforce the need to promote positive experiences for children and families in order to foster healthy childhood development despite the adversity common in so many families. These data: 1. Establish a spirit of hope and optimism and make the case that positive experiences have lasting impact on human development and functioning, without ignoring well-documented concerns related to toxic environments. 2. Demonstrate, through science, the powerful contribution of positive relationships and experiences to the development of healthy children and adults. 3. Describe actions related to current social norms regarding parenting practices, particularly those associated with healthy child development. These actions are based on data that suggest that American adults are willing to intervene personally to prevent child abuse and neglect. 4. Reflect upon the positive returns on investment that our society can expect as we make changes in policies, practices, and future research to support positive childhood environments that foster the healthy development of children. Thus, this report contributes to a growing body of work – the Science of Thriving – that encourages us to better understand and support optimal child health and development.
Centers for Disease Control and Prevention (CDC)

**Adverse Childhood Experiences (ACEs) (2016)**
Centers for Disease Control and Prevention (CDC)

[Available online at this link](#)

[This webpage contains a number of useful links to resources including: definitions; case studies; research data and journal articles. The focus is on children rather than adults.]

Childhood experiences, both positive and negative, have a tremendous impact on future violence victimization and perpetration, and lifelong health and opportunity. As such, early experiences are an important public health issue. Much of the foundational research in this area has been referred to as Adverse Childhood Experiences (ACEs). ACEs can be prevented. Learn more about preventing ACEs in your community.

Centre for Public Health

**Adverse Childhood Experiences (ACEs) in Hertfordshire, Luton and Northamptonshire (2016)**
Ford, K. et al.

[Available online at this link](#)

[... This study reveals that ACEs in Hertfordshire, Luton and Northamptonshire are associated with chronic ill health in later life such as the development of cancer, liver and digestive disease and ultimately premature death. Preventing ACEs would not only lessen the prevalence of health-harming behaviours and prevent unintended teenage pregnancy, but also prevent violent behaviour, thus helping to break the cycle of adversity that families can become trapped into. Findings indicate that appropriate policies and programmes need to be implemented both to prevent ACEs and to recognise and moderate their impacts in affected populations, consequently improving health across the whole life course for residents in Hertfordshire, Luton and Northamptonshire. [...]

Child Family Community Australia Information Exchange (CFCA)

**Trauma-informed care in child/family welfare services (2016)**
Wall, L. et al.

[Available online at this link](#)

This paper aims to define and clarify what trauma-informed service delivery means in the context of delivering child/family welfare services in Australia. Exposure to traumatic life events such as child abuse, neglect and domestic violence is a driver of service need. Policies and service providers must respond appropriately to people who are dealing with trauma and its effects in order to ensure best outcomes for individuals and families using these services. In addition to evidence-based programs or clinical interventions that are specific to addressing trauma symptoms, such as trauma-focused cognitive behaviour therapy, there is a need for broader organisational- or service-level systems of care that respond to the needs of clients with a lived experience of trauma that go beyond a clinical response. Some of the challenges identified in implementing and embedding trauma-informed care across services and systems are discussed.
**Connected For Life**

**How We Can Help** (2017)
Connected For Life

Available online at this link

We offer training around a range of themes which include but are not limited to: Adverse Childhood Experiences (ACES), resilience, attachment, trauma, stress and building safe and respectful relationships. Our training is tailored to the needs of your organisation / group. Below are just some examples of the types of training we offer: [...]

**Early Intervention Foundation**

**The role of the West Midlands Police in identifying and responding to adverse childhood experiences: a process evaluation of the implementation of TIPT** (2017)
Hughes, N. et al.

Available online at this link

[This is a PPT of a police training programme for identifying and responding to ACEs.]

**International Initiative for Mental Health Leadership**

**Healthy Families: From ACEs to Trauma Informed Care to Resilience and Wellbeing: examples of policies and activities across IIMHL & IIDL countries** (2016)
Various

Available online at this link

While the above points are still relevant in 2016, great strides have has been made in research, policy and practice across some countries; while others are beginning to explore the area more formally. In 2016 the major differences are that there is a huge, growing body of research on the biology of ACEs, effects of brain development, toxic stress and child development; a more public health-type approach to interventions this area across sectors; and, more focus on organisational trauma informed approaches and workforce development (e.g. training and interventions for staff); more focus on public awareness (e.g. in Philadelphia), more evidence of the economic benefits of addressing ACEs and trauma; and, a focus on the desired outcome of interventions; for example, hope, resilience and wellbeing. [...]

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www.surreyandussexlibraryservices.nhs.uk  
LKS enabling the growth & use of knowledge in the NHS
ACEs and health inequalities Preventing ACEs should be seen within the wider context of tackling societal inequalities. While ACEs are found across the population, there is more risk of experiencing ACEs in areas of higher deprivation. ACEs have been found to have lifelong impacts on health and behaviour and they are relevant to all sectors and involve all of us in society. We all have a part to play in preventing adversity and raising awareness of ACEs. Resilient communities have an important role in action on ACEs.

**ACEs Routine Enquiry Seminar (2017)**
NHS Health Scotland

[Available online at this link](#)

[This webpage includes links to presentations and an event report.]

Event Description The Scottish Adverse Childhood Experiences (Aces) Hub (co-ordinated by NHS Health Scotland) held a seminar in June 2017 on routine enquiry to learn and share examples of practice in this area. The keynote presentation was from Dr Warren Larkin, Consultant Clinical Psychologist and Clinical Lead, Department of Health on the Adverse Childhood Experiences Programme & Visiting Professor, The University of Sunderland, who gave a presentation on the REACh approach (Routine Enquiry about Adversity in Childhood) which he developed to support organisations to become more trauma-informed and to support professionals to routinely ask about adversity in their everyday practice. Other speakers included Dr Claire Fyvie, NHS Lothian, Katie Cosgrove, NHS Health Scotland, Pattie Santelices, Edinburgh City Council and Dr Sharon Doherty, NHS Education for Scotland. […]

NHS Health Scotland

[Available online at this link](#)

[The webpage includes links to presentations.]

The event provided the opportunity for health and education colleagues to come together to learn and share practice on preventing and responding to adverse childhood experiences, linking this to key approaches in nurture and health and wellbeing within education. […]
Public Health England (PHE)

Christmas, H. et al.

Available online at this link

Executive summary Introduction The links between health, offending and policing are complex but inextricable. Collaborative working between the police and health has a long history but is still not commonplace. This landscape review aims to consider the breadth of the subject, and also to look at emerging themes and to influence future approaches.

Methods A survey was distributed to all police forces, offices of the police and crime commissioners and various national and regional organisations. A mixture of quantitative and qualitative analysis was undertaken, identifying themes and coding quantitatively for descriptive and visual statistics. A number of respondents were contacted for more detailed information about the work they had described in their responses. Findings Respondents were asked about areas of past, current and future collaborative work. Mental health, health in custody and drugs were identified most frequently for past and current work. Social isolation, homelessness and adverse childhood experiences (ACEs) scored highest for future work. Examples of collaborative work were given, and these fell into a number of themes: mental health problems, early intervention, substance misuse, violence prevention and sexual abuse. These corresponded well to the organisational priorities and main areas of demand that respondents described. Notably, the demand was centred on vulnerability rather than traditional types of crime and disorder, which corresponds to national estimates of demand. There was a mixed picture of engagement with health and wellbeing boards. Barriers to collaboration and to information sharing included risk aversion and IT systems. Enablers included shared goals, relationships and information sharing. Collaborative working This section of the report discusses the themes emerging from the landscape review in more detail and uses case studies. Key areas for future discussion and action include further developing the approach to ACEs, applying an early intervention lens to more areas of work, filling gaps in research and spreading good practice and innovation. Conclusions The landscape review provides a snapshot of the breadth and depth of collaborative working between police and health colleagues in England and Wales. The responses indicate an increasing police focus on vulnerability and a commitment to prevention across all partners, which now need to be systematised. Looking ahead, this work will influence the current debate on the future of local policing; and the benefits of collaborative working.

Public Health Wales

Sources of resilience and their moderating relationships with harms from adverse childhood experiences (2018)
Hughes, K. et al.

Available online at this link

Conclusions 1. ACEs are common and represent a significantly increased risk of mental ill health across the life course. Preventing ACEs and supporting those affected by them is vital in improving population mental health. Health and other public service staff should be educated on the impact of ACEs as an essential part of the development of ACE-informed
public services. 2. Childhood resilience moderates the increased risks to mental health from ACEs. Personal, relationship and community resilience resources such as social and emotional skills, childhood role models, peer support, connections with school, understanding how to access community support, and a sense that your community is fair to you are strongly linked to reduced risks of mental illness across the life course. High childhood resilience is related to substantial reductions in lifetime mental illness and potentially offers protections even in those with no ACEs. 3. Public sector support for social and emotional skills development, activities that create connectedness to schools, sign-posting children to available help, opportunities for creating friendship networks, and occasions to engage in cultural traditions should be considered investments in children’s lifelong mental health. While more information is required on the cause and effects of these resources on mental health, reductions in provision of these community facilities may have long-term repercussions for population mental health and especially affect those with high levels of childhood trauma.

Adverse Childhood Experiences and their impact on health-harming behaviours in the Welsh adult population (2015)
Bellis, M. et al.

Available online at this link

An increasing body of research identifies the long-term harms that can result from chronic stress on individuals during childhood. Such stress arises from the abuse and neglect of children but also from growing up in households where children are routinely exposed to issues such as domestic violence or individuals with alcohol and other substance use problems. [...] 

Adverse Childhood Experiences and their association with Mental Well-being in the Welsh adult population (2016)
Ashton, K. et al.

Available online at this link

Conclusion This report is primarily aimed at describing the association between ACEs and mental well-being in the adult population in Wales. The Welsh ACE survey identified that the prevalence of low mental well-being in adults is strongly related to the number of ACEs individuals reported experiencing as children. This relationship remained the same even after accounting for socio-demographic factors. Further, exposure to ACEs was not only a significant factor in predicting overall mental well being but also strongly related to each individual element in the mental well-being (SWEMWBS) scale. ACEs could be responsible for almost a third (27%) of adults reporting a low mental well-being score within this research. In other words, eradicating ACEs in Wales could potentially reduce the number of individuals who report low mental wellbeing by just over 100,000. Mental well-being has become a priority on both international and national fronts. Wales is well positioned to prevent ACEs from occurring, by ensuring families are well equipped to deal with the stresses of everyday life, especially during pregnancy and early parenthood. None of this can be achieved without working collaboratively across health, education, social services and criminal justice services. Strategies in Wales such as Together for Mental Health and policies such as the Well-being of Future Generations (Wales) Act 2015 provide the platform for such activity and collaborative initiatives such as United in Improving Health provide the
opportunity for the coordination of assets and resources to collectively work to prevent ACEs in the future.

**Adverse Childhood Experiences and their association with chronic disease and health service use in the Welsh adult population** (2016)
Ashton, K. et al.
[Available online at this link](#)

Conclusion The Welsh ACE survey demonstrates strong associations between ACEs and poor physical health and premature morbidity in adulthood as well as increased use of primary and hospital care. Increasing our understanding of the consequence of ACEs on an individual’s mental and physical health supports the case for investment in ACE prevention, early identification and health and social systems capable of reducing their consequences. This can contribute to the prevention of chronic diseases and ultimately reduce the financial burden on the health system. The current policy context in Wales, including the Well-being of Future Generations (Wales) Act 2015 [30], provides an ideal policy framework for tackling ACEs and protecting the health of future generations. Through the principles of the Well-being of Future Generations (Wales) Act 2015 [30] and multi-agency initiatives, such as United in Improving Health8, Wales is well placed to develop and deliver an effective and systemic programme of ACE prevention, early identification and informed support for those affected by ACEs. This should improve child health, promote health and well-being across the life course, reduce costs associated with poor health and ultimately improve the health and prosperity of Wales.

**Adverse Childhood Experiences (ACEs)** (2017)
Public Health Wales
[Available online at this link](#)

Adverse Childhood Experiences (ACEs) are traumatic events that affect children while growing up, such as suffering child maltreatment or living in a household affected by domestic violence, substance misuse or mental illness. This short animated film has been developed to raise awareness of ACEs, their potential to damage health across the life course and the roles that different agencies can play in preventing ACEs and supporting those affected by them. The film has been produced for Public Health Wales and Blackburn with Darwen Local Authority. For further information visit [www.aces.me.uk](http://www.aces.me.uk)

**Rock Pool: Hope Resilience Recovery**

**Adverse Childhood Experiences** (2018)
Rock Pool: Hope Resilience Recovery
[Available online at this link](#)

Adverse Childhood Experiences (ACEs) are stressful or traumatic experiences, including abuse, neglect and a range of household dysfunction such as witnessing domestic violence, or growing up with substance abuse, mental illness, parental discord, or crime in the home. Living with ACEs results in individuals developing coping and lifestyle strategies that are based on poor parental attachment and the effects of trauma.
**Substance Abuse and Mental Health Services Administration (SAMHSA)**

**Adverse Childhood Experiences** (2017)
Substance Abuse and Mental Health Services Administration (SAMHSA)

[Available online at this link](#)

Adverse childhood experiences (ACEs) are a significant risk factor for substance use disorders and can impact prevention efforts. Adverse childhood experiences (ACEs) are stressful or traumatic events, including abuse and neglect. They may also include household dysfunction such as witnessing domestic violence or growing up with family members who have substance use disorders. ACEs are strongly related to the development and prevalence of a wide range of health problems throughout a person’s lifespan, including those associated with substance misuse. ACEs include: Physical abuse Sexual abuse Emotional abuse Physical neglect Emotional neglect Intimate partner violence Mother treated violently Substance misuse within household Household mental illness Parental separation or divorce Incarcerated household

ACEs are a good example of the types of complex issues that the prevention workforce often faces. The negative effects of ACEs are felt throughout the nation and can affect people of all backgrounds. Successfully addressing their impact requires: Assessing prevention needs and gathering data Effective and sustainable prevention approaches guided by applying the Strategic Prevention Framework (SPF) Prevention efforts aligned with the widespread occurrence of ACEs Building relationships with appropriate community partners through strong collaboration [...]

**The Health Council of the Netherlands**

**Attachment and adverse childhood experiences** (2018)
Health Council Committee

[Available online at this link](#)

[This report is due to be published on 22nd May 2018.]

People who are traumatised as children experience more health problems later in life. Recently, there has been growing interest in the role of attachment relationships between parents and children as a protective factor against adverse childhood experiences and their consequences. At the request of the minister of Health, Welfare and Sport, a Health Council committee will address the question of whether stimulating safe attachment relationships can prevent adverse childhood experiences and result in better health.
The Mental Elf

What happened to you? Trauma informed approaches to mental health care (2016)
Carr, S.

Available online at this link

[...] Although limited and not generalisable, the findings of the narrative overview suggest that trauma informed approaches may have beneficial effects in the following: Reduction in seclusion and restraint; Reduced post-traumatic stress symptoms and general mental health problems; Increased coping skills; Improved physical health; Greater treatment retention and shorter inpatient stays. However, other outcomes did not change such as emergency room use, substance use, imprisonment and shelter use. The additional conceptual and scoping work in the paper included an examination of the use of trauma informed approaches in the UK, with the authors exploring the potential barriers and possibilities for bringing TIAs to the UK. [...]

The Scottish Government

PRACTISING REALIST REALISTIC MEDICINE: Chief Medical Officer’s Annual Report 2016-17 (2018)
Chief Medical Officer Scotland

Available online at this link

[Chapter 7 includes a discussion of ACEs and their impact on public health.]

Addressing childhood adversity to improve lifelong health There is increasing awareness that stressful events occurring in childhood, such as neglect, abuse, or having parents affected by domestic violence or alcohol and drug problems, are associated with lifelong impacts on health and wellbeing. For instance, a Welsh study found that suffering four or more such ‘adverse childhood experiences’ (ACEs) increases the chances of high-risk drinking in adulthood by four times, being a smoker by six times and being involved in violence by around 14 times. ACEs are also associated with poorer educational and employment outcomes. ACEs occur across the population but are more common among children living in areas of higher deprivation. Indeed, poverty itself should be considered a form of childhood adversity given its close association with poorer long-term health, wellbeing, and life opportunities. To prevent ACEs, we must improve the societal context in which families live through measures to reduce poverty, inequality, and social isolation; parenting support programmes; and multiagency working that meets the needs of families in a flexible and holistic way. To mitigate the effect of ACEs, we must build resilience among children, families, and wider communities through fulfilling, supportive relationships, and provide public services in a ‘psychologically informed’ way that recognises and responds to previous trauma. Addressing childhood adversity therefore requires collaborative action across the whole of society: uniting health, social care, education, policing and justice, housing, and many other areas. A cross-sectoral ACEs Hub has been established to lead this work in Scotland. One approach which offers a systematic approach to this kind of collaborative working is “Health in All Policies” (“Partnership working for healthy public policy”). [...]

www.surreyandsussexlibraryservices.nhs.uk
The YoungMinds Trust

ed. Bush, M.

Available online at this link

[This is a collection of articles addressing a number of issues arising from childhood adversity. The project was funded by HEE.]

We know that one in three adult mental health conditions relate directly to adverse childhood experiences, and that young people’s mental health and wellbeing can be significantly compromised by adverse environments, and the experience of trauma. Experience of adversity and trauma in childhood can significantly increase the risk of mental and physical ill health in adolescence and adulthood, and result in these young people dying earlier than their peers later in life. Yet too often services become fixated on what they see as challenging or risky behaviour. These services can quickly stigmatise or criminalise young people’s normal responses to adversity and trauma. Uninformed services, interventions and professionals unnecessarily escalate young people’s mental distress, put them off asking for, or engaging in, support, “It is the experiences we find hardest to talk about in our society that have a lasting impact on the mental health and wellbeing of children and young people. Be it bereavement, domestic violence, caring for a parent, or sexual abuse, we must ensure that all services are better able to identify childhood adversity and help to resolve the trauma related to it.”

diagnosed mental health conditions in adulthood are known to directly relate to adverse childhood experiences 1in3 Addressing Adversity youngminds.org.uk 6 7 and ultimately have a profound impact on their social, psychological and emotional development. It is, therefore, vital that we understand the impact that adversity and trauma can have on the mental health and wellbeing of young people, and how we can strengthen resilience and support recovery. In Addressing Adversity, we bring together contributions from leading academics, clinicians, commissioners and frontline professionals who all share a passion for ensuring that services and support for children and young people in England is both adversity and trauma-informed. The papers present evidence, insight, direction and case studies for commissioners, providers and practitioners. We hope that this collection will stimulate further growth in adversity and trauma-informed care, and spark innovation and good practice across England. [...]
Committee
This is the first session of the Committee’s inquiry into ‘evidence-based early-years intervention’. The first panel will review the evidence base linking adverse childhood experiences (ACEs) to negative impacts in later life and discuss priorities for future research. The second panel will focus on how this evidence base can be used to inform delivery of early interventions, and the opportunities, risks and challenges in doing so.

*University of Glasgow*

**ACE (Adverse Childhood Experiences) Centre** (2018)
ACE (Adverse Childhood Experiences) Centre

[Available online at this link](#)

Many of the issues that affect us across the lifespan, even into adulthood, have their origin in childhood. Children who suffer difficult early experiences, such as illness, neurodevelopmental problems, neglect or abuse can develop mental health problems that can burden them throughout their lives, holding them back in social development, family life, education, the work place, and even their physical health. Our research, clinical work and teaching aims to understand and address this. The team is closely allied to the Gillberg Neuropsychiatry Centre.

*University of Kansas Center for Public Partnerships and Research*

**What is Lemonade for Life?** (2018)
University of Kansas Center for Public Partnerships and Research

[Available online at this link](#)

Lemonade for Life trains professionals working with parents and caregivers on use of the ACEs Questionnaire. The goal of the Lemonade for Life program is to help prevent future exposure to ACEs while promoting resiliency and hope. The Lemonade for Life program helps individuals understand how early life experiences may have long-lasting effects on how they interact in relationships. The training conveys that individuals cannot rewrite the beginning of their story, but they can change how it ends. It is not victim blaming, but rather instills hope and responsibility for change with the individual and is a key stepping stone for self-sufficiency. Lemonade for Life rose out of the need made apparent by research indicating the extreme importance of the early childhood years in relation to school and life success (Perry, Kaufmann, & Knitzer, 2007; Shonkoff & Meisels, 2000). Landmark studies of early childhood have shown that the first years of life should be acknowledged as a point of intervention that can tip the scales and mitigate risk factors that lead to negative societal impacts. In particular, the Adverse Childhood Experiences (ACEs) study provided a foundational understanding of the link between what happens during a child’s early years and the health risk that the child faces as an adult. Specifically, when children experience or are exposed to adverse situations such as abuse, substance abuse, and mental illness, they are at a higher risk for a litany of health problems, including chronic disease, mental illness and substance abuse (Felitti et al., 1998). The ACEs study underlines the importance of early interventions and parent support to help families turn those past ‘lemons’ into something stronger, sweeter, and sturdier that can help sustain them as they go through life.
University of Memphis

Schauss, E.

Available online at this link

[The presenter worked in the UK in the early stages of research into ACEs.]
This talk by Dr. Eraina Schauss, Assistant Professor in the University of Memphis' Department of Counseling, Educational Psychology and Research, introduces Adverse Childhood Experiences and reviews current research related to toxic stress and neurodevelopment. The presentation instructs parents, caregivers, mental health and allied health professionals on the ways in which they can help foster resilience in children. An introduction to early brain development is provided then research examining the relationship between early social deprivation and its effect on attachments and neurodevelopment is presented. Treatments focused on fostering resilience through neuroplasticity are discussed. A new integrative treatment methodology "F.A.C.E. your ACE" developed by Dr. Schauss is introduced. Examples and an experiential learning component exploring attachment and sensory based exercises are provided to help build adaptive and integrated brain architecture in young children. For more on our programs, please visit http://www.memphis.edu/cepr/

Warren Larkin Associates

What We Do (2018)
Warren Larkin Associates

Warren Larkin Associates helps caring organisations and governments to transform population health and to achieve sustainable, evidence-based and prevention-focused results from an ACE-informed perspective.

World Health Organization (WHO)

Building resilience: a key pillar of Health 2020 and the Sustainable Development Goals
Examples from the WHO Small Countries Initiative (2017)
World Health Organization (WHO)

Available online at this link

Executive summary This publication was developed under the framework of the WHO Small Countries Initiative, which is coordinated by the WHO European Office for Investment for Health and Development, Venice, Italy, of the WHO Regional Office for Europe. It reviews the scientific basis for strengthening resilience, which is central to Health 2020, the WHO European policy framework for health and well-being. Structured in two parts, the publication explains the concept of resilience and its implications for health at three levels: individual, community and system/society. It presents knowledge gained from case-study analyses in three countries participating in the WHO Small Countries Initiative – Iceland, Malta and San Marino. In describing the on-the-ground action taken in these countries, efforts have been made to highlight the three levels of resilience and the different types of
resilience capacity all of which are important in addressing Health 2020 priority area 4. Interviews were organized with policy-makers and representatives of health institutions, social services and nongovernmental organizations in the three countries to collect information on their approaches to strengthening the resilience of: (i) victims of child abuse to help them recover from the trauma (Iceland); (ii) the health workforce through measures to counteract the brain drain (Malta); (iii) people with disabilities (and their families) through measures to integrate them into society (San Marino). The information collected shows how strengthening resilience at one level helps strengthen it at the other levels.

**Adverse Childhood Experiences International Questionnaire (ACE-IQ) (2018)**
World Health Organization (WHO)

*Available online at this link*

Adverse Childhood Experiences (ACE) refer to some of the most intensive and frequently occurring sources of stress that children may suffer early in life. Such experiences include multiple types of abuse; neglect; violence between parents or caregivers; other kinds of serious household dysfunction such as alcohol and substance abuse; and peer, community and collective violence. It has been shown that considerable and prolonged stress in childhood has life-long consequences for a person’s health and well-being. It can disrupt early brain development and compromise functioning of the nervous and immune systems. In addition because of the behaviours adopted by some people who have faced ACEs, such stress can lead to serious problems such as alcoholism, depression, eating disorders, unsafe sex, HIV/AIDS, heart disease, cancer, and other chronic diseases. The ACE International Questionnaire (ACE-IQ) is intended to measure ACEs in all countries, and the association between them and risk behaviours in later life. ACE-IQ is designed for administration to people aged 18 years and older. Questions cover family dysfunction; physical, sexual and emotional abuse and neglect by parents or caregivers; peer violence; witnessing community violence, and exposure to collective violence. ACE-IQ is currently being validated through trial implementation as part of broader health surveys. Findings from ACE-IQ surveys can be of great value in advocating for increased investments to reduce childhood adversities, and to inform the design of prevention programmes.

**D. Original Research**

1. **Continuing conversations about adverse childhood experiences (ACEs) screening: A public health perspective.**
Dube Child Abuse & Neglect 2018;S0145-2134(18):30111.

Currently, in the U.S. and worldwide, childhood trauma is a public health crisis. Childhood adversities, such as abuse, neglect, and related household stressors, are common, interrelated and contribute to multiple adverse social, behavioral and health outcomes throughout the lifespan. The present article provides further discussion regarding adverse childhood experiences (ACEs) screening in healthcare utilizing the etic and emic perspectives. Screening in the healthcare system leans toward the etic view: objective observations of symptoms, which may then lead to intervention delivery. Whereas the emic view provides the subjective perspective as experienced by participants of a system, culture, or common group. Finkelhor’s argument about cautions regarding widespread screening is
relevant in the current allopathic healthcare system, which utilizes an etic perspective and where evidence-based ACEs interventions within a biomedical-centric model are lacking. Therefore, in healthcare settings, universal ACEs screening may serve the clinicians with a surveillance tool to inform and guide medical practice and policy as they relate to delivering trauma-informed care. The Public Health Code of Ethics and Basis for Action reminds us about the values approach for collecting and using data ethically to protect population health. Practitioners and researchers across the globe are beginning to take community-engaged action, with an emic view of all community members involved.

2. **Prevention of mental disorders requires action on adverse childhood experiences.**

   The increased availability of treatment has not reduced the prevalence of mental disorders, suggesting a need for a greater emphasis on prevention. With chronic physical diseases, successful prevention efforts have focused on reducing the big risk factors. If this approach is applied to mental disorders, the big risk factors are adverse childhood experiences, which have major effects on most classes of mental disorder across the lifespan. While the evidence base is limited, there is support for a number of interventions to reduce adverse childhood experiences, including an important role for mental health professionals. Taking action on adverse childhood experiences may be our best chance of emulating the success of public health action to prevent chronic physical diseases and thereby reduce the large global burden of mental disorders.

3. **Responding to Adverse Childhood Experiences: It Takes a Village**

   In working to improve the health of North Carolinians, a broader emphasis has been placed on determinants of health, or non-medical drivers of health. Critical examples of health determinants are adverse childhood experiences, or ACEs, that affect early brain development and lifelong health and function. Multiple organizations and communities have come together to acknowledge the importance of prevention, address toxic stress and trauma in childhood, promote resiliency and trauma-informed care, and invest in the future of North Carolina through its children. This issue of the NCMJ highlights the prevalence and magnitude of ACEs in North Carolina and the effects on our children and the impact into adulthood, and how people and communities can come together to improve public health over the life course by addressing ACEs.

4. **What works in inclusion health: overview of effective interventions for marginalised and excluded populations.**
   Luchenski Serena The Lancet 2018;391(No. 10117):No page numbers.

   Inclusion health is a service, research, and policy agenda that aims to prevent and redress health and social inequities among the most vulnerable and excluded populations. We did an evidence synthesis of health and social interventions for inclusion health target populations, including people with experiences of homelessness, drug use, imprisonment,
and sex work. These populations often have multiple overlapping risk factors and extreme levels of morbidity and mortality. We identified numerous interventions to improve physical and mental health, and substance use; however, evidence is scarce for structural interventions, including housing, employment, and legal support that can prevent exclusion and promote recovery. Dedicated resources and better collaboration with the affected populations are needed to realise the benefits of existing interventions. Research must inform the benefits of early intervention and implementation of policies to address the upstream causes of exclusion, such as adverse childhood experiences and poverty.

5. **A simulation and video-based training program to address adverse childhood experiences**
   Wen The International Journal of Psychiatry in Medicine 2017;52(3):online only.

   Adverse childhood experiences (ACEs) are 10 categories of childhood abuse and maltreatment, which have a dose-response relationship with common adult health concerns seen in primary care including health risk behaviors, chronic disease, and mental illness. Many of the ACEs-associated biopsychosocial risk factors are modifiable. However, physicians may not address these issues for fear of opening "Pandora's Box", that is, a source of extensive problems for which they are not sufficiently prepared with training, resources, or time. Residents need training in how to conduct trauma-focused conversations within the limited scope of an office visit. To address this need, a 4-hour simulation and video-based training program was developed for primary care residents about how to conduct brief interventions connecting their patients' current health concerns with their experiences of ACEs. Resident participants have evaluated this program as preparatory for real-life encounters and as being designed to allow for educational mastery. This article describes a workshop presenting this training program which was given at the 37th Annual Behavioral Science Forum in Family Medicine. Five skills targeted in the program were presented and a demonstration was made of the components, that is, didactics, provider and patient videos, simulated patient encounters, trainee feedback, and facilitated discussion that encompasses targeted skills, clinical implementation, and self-care. Companion tools were shared, including the syllabus, evaluation rubric, and provider and patient resources. Participants practiced trainee feedback and discussed the challenges in implementation.

6. **Advancing the measurement of collective community capacity to address adverse childhood experiences and resilience**

   In 2012, the ACEs Public-Private Initiative (APPI), a Washington State consortium of public agencies, private foundations, and local networks, was formed to study interventions to prevent and mitigate adverse childhood experiences (ACEs) and facilitate statewide learning and dialogue on these topics. The evaluation team assessed the extent to which five community sites developed sufficient capacity to achieve their goals, and examined the relationship of the sites' capacity to selected site efforts and their impact on ACEs-related outcomes. To help accomplish that a survey was created to measure the APPI sites' collective community capacity to address ACEs and increase resilience in their communities. This article describes the development, design, implementation, and results of the APPI evaluation's ACEs and Resilience Collective Community Capacity (ARC3) survey.
7. **Adverse childhood experiences and life opportunities: Shifting the narrative**

Substantial research shows that early adversity, including child abuse and neglect, is associated with diminished health across the life course and across generations. Less well understood is the relationship between early adversity and adult socioeconomic status, including education, employment, and income. Collectively, these outcomes provide an indication of overall life opportunity. We analyzed data from 10 states and the District of Columbia that used the adverse childhood experiences (ACE) module in the 2010 Behavioral Risk Factor Surveillance System to examine the association between ACEs and adult education, employment, and income. Compared to participants with no ACEs, those with higher ACE scores were more likely to report high school non-completion, unemployment, and living in a household below the federal poverty level. This evidence suggests that preventing early adversity may impact health and life opportunities that reverberate across generations. Current efforts to prevent early adversity might be more successful if they broaden public and professional understanding (i.e., the narrative) of the links between early adversity and poverty. We discuss our findings within the context of structural policies and processes that may further contribute to the intergenerational continuity of child abuse and neglect and poverty.

8. **Childhood adversities and distress - The role of resilience in a representative sample.**
Beutel Manfred E. PloS one 2017;12(3):e0173826-.

While adverse childhood experiences have been shown to contribute to adverse health outcomes in adulthood, specifically distress and somatic symptoms, few studies have examined their joint effects with resilient coping style on adult adjustment. Hence, we aim to determine the association between resilient coping and distress in participants with and without reported childhood adversities. A representative German community sample (N = 2508) between 14-92 years (1334 women; 1174 men) was examined by the short form of the Childhood Trauma Questionnaire, the Brief Resilience Coping Scale, standardized scales of distress and somatoform symptoms. Childhood adversity was associated with reduced adjustment, social support and resilience. It was also strongly associated with increased distress and somatoform complaints. Resilient coping was not only associated with lower distress, it also buffered the effects of childhood adversity on distress. Our study corroborates the buffering effect of resilience in a representative German sample. High trait resilient subjects show less distress and somatoform symptoms despite reported childhood adversities in comparison to those with low resilient coping abilities.

9. **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 well-being.**

Background Adverse childhood experiences (ACEs) including child abuse and household problems (e.g. domestic violence) increase risks of poor health and mental well-being in
adulthood. Factors such as having access to a trusted adult as a child may impart resilience against developing such negative outcomes. How much childhood adversity is mitigated by such resilience is poorly quantified. Here we test if access to a trusted adult in childhood is associated with reduced impacts of ACEs on adoption of health-harming behaviours and lower mental well-being in adults. Methods Cross-sectional, face-to-face household surveys (aged 18–69 years, February-September 2015) examining ACEs suffered, always available adult (AAA) support from someone you trust in childhood and current diet, smoking, alcohol consumption and mental well-being were undertaken in four UK regions. Sampling used stratified random probability methods (n = 7,047). Analyses used chi squared, binary and multinomial logistic regression. Results Adult prevalence of poor diet, daily smoking and heavier alcohol consumption increased with ACE count and decreased with AAA support in childhood. Prevalence of having any two such behaviours increased from 1.8% (0 ACEs, AAA support, most affluent quintile of residence) to 21.5% (≥4 ACEs, lacking AAA support, most deprived quintile). However, the increase was reduced to 7.1% with AAA support (≥4 ACEs, most deprived quintile). Lower mental well-being was 3.27 (95% CIs, 2.16–4.96) times more likely with ≥4 ACEs and AAA support from someone you trust in childhood (vs. 0 ACE, with AAA support) increasing to 8.32 (95% CIs, 6.53–10.61) times more likely with 24 ACEs but without AAA support in childhood. Multiple health-harming behaviours combined with lower mental well-being rose dramatically with ACE count and lack of AAA support in childhood (adjusted odds ratio 32.01, 95% CIs 18.31–55.98, ≥4 ACEs, without AAA support vs. 0 ACEs, with AAA support). Conclusions Adverse childhood experiences negatively impact mental and physical health across the life-course. Such impacts may be substantively mitigated by always having support from an adult you trust in childhood. Developing resilience in children as well as reducing childhood adversity are critical if low mental well-being, health-harming behaviours and their combined contribution to non-communicable disease are to be reduced.

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10. Integrating Trauma-Informed Care Into Maternity Care Practice: Conceptual and Practical Issues.

Adverse childhood experiences have a strong negative impact on health and are a significant public health concern. Adverse childhood experiences, including various forms of child maltreatment, together with their mental health sequelae (eg, posttraumatic stress disorder, depression, dissociation) also contribute to adverse pregnancy outcomes (eg, preterm birth, low birth weight), poor postpartum mental health, and impaired or delayed bonding. Intergenerational patterns of maltreatment and mental health disorders have been reported that could be addressed in the childbearing year. Trauma-informed care is increasingly used in health care organizations and has the potential to assist in improving maternal and infant health. This article presents an overview of traumatic stress sequelae of childhood maltreatment and adversity, the impact of traumatic stress on childbearing, and technical assistance that is available from the National Center for Trauma-Informed Care (NCTIC) before articulating some steps to conceptualizing and implementing trauma-informed care into midwifery and other maternity care practices.
11. Integrative medicine: Breaking down silos of knowledge and practice an epigenetic approach.
McEwen Bruce S. Metabolism: clinical and experimental 2017;69:-.

The future of medicine is discussed in the context of epigenetic influences during the entire life course and the lived experiences of each person, avoiding as much as possible the "medicalization" of the individual and taking a more humanistic view. The reciprocal communication between brain and body via the neuroendocrine, autonomic, metabolic and immune systems and the plasticity of brain architecture provide the basis for devising better "top down" interventions that engage the whole person in working towards his or her welfare. The life course perspective emphasizes the importance of intervening early in life to prevent adverse early life experiences, including the effects of poverty, that can have lifelong consequences, referred to as "biological embedding". In the spirit of integrative, humanistic medicine, treatments that "open windows of plasticity" allow targeted behavioral interventions to redirect brain and body functions and behavior in healthier directions. Policies of government and the private sector, particularly at the local, community level, can create a supporting environment for such interventions. See "Common Ground for Health: Personalized, Precision and Social Medicine McEwen & Getz - https://www.youtube.com/watch?v=iRy_uUWyRw.

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12. Lemonade for Life - a pilot study on a hope-infused, trauma-informed approach to help families understand their past and focus on the future

The Adverse Childhood Experiences' (ACEs) research provided groundbreaking evidence that events that occur early in life can impede core life capabilities and lead to significant negative social, behavioural, and physical outcomes. While the research is widely known, the translation and application for use with families has been lacking. In response to this gap, Lemonade for Life was developed to help professionals who work directly with families understand how to use the ACEs research as a tool to build hope and resilience. A developmental evaluation was conducted to learn about how Lemonade for Life participants integrate ACEs in their work with families, as well as whether and how the Lemonade for Life training and materials influenced their work. Focus group and survey data were collected from 24 home visitors and parent educators and parent educators, who participated in a Lemonade for Life training. Findings indicate that Lemonade for Life may be a useful tool for translating ACEs research into practice with families. Participants perceived that following the integration of what they learned through Lemonade for Life into their work, the families they served were more engaged in services and better able to understand their past experiences and current life circumstances. Results suggest a continued need to assess and focus on the hope and mindset of professionals who work directly with families to optimise opportunities for change.
13. **Methods to Assess Adverse Childhood Experiences of Children and Families: Toward Approaches to Promote Child Well-being in Policy and Practice.**  

**BACKGROUND** Advances in human development sciences point to tremendous possibilities to promote healthy child development and well-being across life by proactively supporting safe, stable and nurturing family relationships (SSNRs), teaching resilience, and intervening early to promote healing the trauma and stress associated with disruptions in SSNRs. Assessing potential disruptions in SSNRs, such as adverse childhood experiences (ACEs), can contribute to assessing risk for trauma and chronic and toxic stress. Asking about ACEs can help with efforts to prevent and attenuate negative impacts on child development and both child and family well-being. Many methods to assess ACEs exist but have not been compared. The National Survey of Children’s Health (NSCH) now measures ACEs for children, but requires further assessment and validation. METHODS We identified and compared methods to assess ACEs among children and families, evaluated the acceptability and validity of the new NSCH-ACEs measure, and identified implications for assessing ACEs in research and practice. RESULTS Of 14 ACEs assessment methods identified, 5 have been used in clinical settings (vs public health assessment or research) and all but 1 require self or parent report (3 allow child report). Across methods, 6 to 20 constructs are assessed, 4 of which are common to all: parental incarceration, domestic violence, household mental illness/suicide, household alcohol or substance abuse. Common additional content includes assessing exposure to neighborhood violence, bullying, discrimination, or parental death. All methods use a numeric, cumulative risk scoring methodology. The NSCH-ACEs measure was acceptable to respondents as evidenced by few missing values and no reduction in response rate attributable to asking about children's ACEs. The 9 ACEs assessed in the NSCH co-occur, with most children with 1 ACE having additional ACEs. This measure showed efficiency and confirmatory factor analysis as well as latent class analysis supported a cumulative risk scoring method. Formative as well as reflective measurement models further support cumulative risk scoring and provide evidence of predictive validity of the NSCH-ACEs. Common effects of ACEs across household income groups confirm information distinct from economic status is provided and suggest use of population-wide versus high-risk approaches to assessing ACEs. CONCLUSIONS Although important variations exist, available ACEs measurement methods are similar and show consistent associations with poorer health outcomes in absence of protective factors and resilience. All methods reviewed appear to coincide with broader goals to facilitate health education, promote health and, where needed, to mitigate the trauma, chronic stress, and behavioral and emotional sequelae that can arise with exposure to ACEs. Assessing ACEs appears acceptable to individuals and families when conducted in population-based and clinical research contexts. Although research to date and neurobiological findings compel early identification and health education about ACEs in clinical settings, further research to guide use in pediatric practice is required, especially as it relates to distinguishing ACEs assessment from identifying current family psychosocial risks and child abuse. The reflective as well as formative psychometric analyses conducted in this study confirm use of cumulative risk scoring for the NSCH-ACEs measure. Even if children have not been exposed to ACEs, assessing ACEs has value as an educational tool for engaging and educating families and children about the importance of SSNRs and how to recognize and manage stress and learn resilience.
14. **Organizational and provider level factors in implementation of trauma-informed care after a city-wide training: an explanatory mixed methods assessment**

   Damian BMC Health Services Research 2017;17(750):online only.

   Background While there is increasing support for training youth-serving providers in trauma-informed care (TIC) as a means of addressing high prevalence of U.S. childhood trauma, we know little about the effects of TIC training on organizational culture and providers’ professional quality of life. This mixed-methods study evaluated changes in organizational- and provider-level factors following participation in a citywide TIC training. Methods Government workers and nonprofit professionals (N = 90) who participated in a nine-month citywide TIC training completed a survey before and after the training to assess organizational culture and professional quality of life. Survey data were analyzed using multiple regression analyses. A subset of participants (n = 16) was interviewed using a semi-structured format, and themes related to organizational and provider factors were identified using qualitative methods. Results Analysis of survey data indicated significant improvements in participants’ organizational culture and professional satisfaction at training completion. Participants’ perceptions of their own burnout and secondary traumatic stress also increased. Four themes emerged from analysis of the interview data, including “Implementation of more flexible, less-punitive policies towards clients,” “Adoption of trauma-informed workplace design,” “Heightened awareness of own traumatic stress and need for self-care,” and “Greater sense of camaraderie and empathy for colleagues.” Conclusion Use of a mixed-methods approach provided a nuanced understanding of the impact of TIC training and suggested potential benefits of the training on organizational and provider-level factors associated with implementation of trauma-informed policies and practices. Future trainings should explicitly address organizational factors such as safety climate and morale, managerial support, teamwork climate and collaboration, and individual factors including providers’ compassion satisfaction, burnout, and secondary traumatic stress, to better support TIC implementation.

   Available online at this link

15. **Parenting begets parenting: A neurobiological perspective on early adversity and the transmission of parenting styles across generations.**

   Lomanowska A. M Neuroscience 2017;342:120-139.

   The developing brains of young children are highly sensitive to input from their social environment. Nurturing social experience during this time promotes the acquisition of social and cognitive skills and emotional competencies. However, many young children are confronted with obstacles to healthy development, including poverty, inappropriate care, and violence, and their enhanced sensitivity to the social environment means that they are highly susceptible to these adverse childhood experiences. One source of social adversity in early life can stem from parenting that is harsh, inconsistent, non-sensitive or hostile. Parenting is considered to be the cornerstone of early socio-emotional development and an adverse parenting style is associated with adjustment problems and a higher risk of developing mood and behavioral disorders. Importantly, there is a growing literature showing that an important predictor of parenting behavior is how parents, especially mothers, were parented themselves. In this review, we examine how adversity in early-life affects mothering behavior in later-life and how these effects may be perpetuated inter-generationally. Relying on studies in humans and animal models, we consider evidence for
the intergenerational transmission of mothering styles. We then describe the psychological underpinnings of mothering, including responsiveness to young, executive function and affect, as well as the physiological mediators of mothering behavior, including hormones, brain regions and neurotransmitters, and we consider how development in these relevant domains may be affected by adversity experienced in early life. Finally, we explore how genes and early experience interact to predict mothering behavior, including the involvement of epigenetic mechanisms. Understanding how adverse parenting begets adverse parenting in the next generation is critical for designing interventions aimed at preventing this intergenerational cycle of early adversity.

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BACKGROUND Adverse childhood experiences (ACEs) are associated with adult high-risk behaviors and diseases. There is value in screening parents for ACEs given the repercussions parental ACEs may have on parenting behaviors and child development. The primary aim of this study was to assess the feasibility of parental ACE screening in the home setting. A secondary aim was to evaluate whether or not maternal ACEs correlated with maternal mental health measures. METHODS Two home visiting programs that support early childhood development and conduct parental mental health screening implemented ACE screening for parents of infants <1 year of age. Descriptive statistics were produced for population surveillance of ACEs as well as standard practice screens for depression, anxiety, substance use, and intimate partner violence. Logistic models were used to examine associations between ACE score and mental health measures. RESULTS A total of 110 parents completed the ACE screen. All possible ACE score outcomes were represented (0-10). A trend toward association of positive prenatal maternal depression screen with ACE score was identified (p = .05). CONCLUSION This novel prospective home-based screening program for parental ACEs was feasible and identified a trend toward increasing ACE score association with positive prenatal maternal depression screen.

17. Screening for adverse childhood experiences (ACEs): Cautions and suggestions.

This article argues that it is still premature to start widespread screening for adverse childhood experiences (ACE) in health care settings until we have answers to several important questions: 1) what are the effective interventions and responses we need to have in place to offer to those with positive ACE screening, 2) what are the potential negative outcomes and costs to screening that need to be buffered in any effective screening regime, and 3) what exactly should we be screening for? The article makes suggestions for needed research activities.
18. **Stressful life events during adolescence and risk for externalizing and internalizing psychopathology: a meta-analysis.**

The main objective of the present research was to analyze the relations between stressful life events and the externalizing and internalizing spectra of psychopathology using meta-analytical procedures. After removing the duplicates, a total of 373 papers were found in a literature search using several bibliographic databases, such as the PsycINFO, Medline, Scopus, and Web of Science. Twenty-seven studies were selected for the meta-analytical analysis after applying different inclusion and exclusion criteria in different phases. The statistical procedure was performed using a random/mixed-effects model based on the correlations found in the studies. Significant positive correlations were found in cross-sectional and longitudinal studies. A transactional effect was then found in the present study. Stressful life events could be a cause, but also a consequence, of psychopathological spectra. The level of controllability of the life events did not affect the results. Special attention should be given to the usage of stressful life events in gene-environment interaction and correlation studies, and also for clinical purposes.

19. **The Role of Mindfulness in Reducing the Adverse Effects of Childhood Stress and Trauma.**
Ortiz Robin Children (Basel, Switzerland) 2017;4(3):-

Research suggests that many children are exposed to adverse experiences in childhood. Such adverse childhood exposures may result in stress and trauma, which are associated with increased morbidity and mortality into adulthood. In general populations and trauma-exposed adults, mindfulness interventions have demonstrated reduced depression and anxiety, reduced trauma-related symptoms, enhanced coping and mood, and improved quality of life. Studies in children and youth also demonstrate that mindfulness interventions improve mental, behavioral, and physical outcomes. Taken together, this research suggests that high-quality, structured mindfulness instruction may mitigate the negative effects of stress and trauma related to adverse childhood exposures, improving short- and long-term outcomes, and potentially reducing poor health outcomes in adulthood. Future work is needed to optimize implementation of youth-based mindfulness programs and to study long-term outcomes into adulthood.

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20. **A review of primary care interventions to improve health outcomes in adult survivors of adverse childhood experiences.**

Research has consistently demonstrated a link between the experience of adverse childhood experiences (ACEs) and adult health conditions, including mental and physical health problems. While a focus on the prevention or mitigation of adversity in childhood is an important direction of many programs, many individuals do not access support services until adulthood, when health problems may be fairly engrained. It is not clear which interventions
have the strongest evidence base to support the many adults who present to services with a history of ACEs. The current review examines the evidence base for psychosocial interventions for adults with a history of ACEs. The review focuses on interventions that may be provided in primary care, as that is the setting where most patients will first present and are most likely to receive treatment. A systematic review of the literature was completed using PsycInfo and PubMed databases, with 99 studies identified that met inclusion and exclusion criteria. These studies evaluated a range of interventions with varying levels of supportive evidence. Overall, cognitive-behavioral therapies (CBT) have the most evidence for improving health problems - in particular, improving mental health and reducing health-risk behaviors - in adults with a history of ACEs. Expressive writing and mindfulness-based therapies also show promise, whereas other treatments have less supportive evidence. Limitations of the current literature base are discussed and research directions for the field are provided.

21. Adverse childhood experiences and trauma informed care: the future of health care

Adverse childhood experiences (ACEs) are related to short- and long-term negative physical and mental health consequences among children and adults. Studies of the last three decades on ACEs and traumatic stress have emphasized their impact and the importance of preventing and addressing trauma across all service systems utilizing universal systemic approaches. Current developments on the implementation of trauma informed care (TIC) in a variety of service systems call for the surveillance of trauma, resiliency, functional capacity, and health impact of ACEs. Despite such efforts in adult medical care, early identification of childhood trauma in children still remains a significant public health need. This article reviews childhood adversity and traumatic toxic stress, presents epidemiologic data on the prevalence of ACEs and their physical and mental health impacts, and discusses intervention modalities for prevention.

22. Development and Psychometric Evaluation of the Attitudes Related to Trauma-Informed Care (ARTIC) Scale
Baker School Mental Health 2016;8(1):pp. 61-76.

Due to its high prevalence and associated risk of poor academic and health outcomes, adverse childhood experiences and trauma are considered a public health epidemic. In response, there has been a surge of initiatives aimed at helping institutions and individuals serving people with histories of trauma to adopt a trauma-informed care (TIC) approach. However, significant roadblocks to TIC research and practice include an unclear operational definition of TIC and the shortage of psychometrically robust instruments to evaluate TIC. To close these gaps, we used a partnership-based approach to develop a direct, efficient, and cost-effective measure of TIC focused on evaluating the TIC-relevant attitudes of staff working in schools, human service systems, and other settings serving individuals with histories of trauma. We then conducted a psychometric evaluation of the resultant measure, the Attitudes Related to Trauma-Informed Care (ARTIC) Scale, with a sample of 760 staff employed in education, human services, and health care. Study findings established support for the psychometric properties of the measure. Specifically, confirmatory factor analysis indicated that the seven-factor structure fit the data well. Scores on the ARTIC
demonstrated strong internal consistency and test–retest reliability over 6 months for the 45-item and 35-item composites, the seven subscales, and the 10-item short form. Construct and criterion-related validity were supported by correlations with indicators of familiarity with TIC and staff- and system-level indicators of TIC implementation. The current study has implications for accelerating research on TIC and facilitating data-based decision making related to the adoption and implementation of TIC.

23. Household and community-level Adverse Childhood Experiences and adult health outcomes in a diverse urban population.

Adverse Childhood Experiences (ACEs), which include family dysfunction and community-level stressors, negatively impact the health and well being of children throughout the life course. While several studies have examined the impact of these childhood exposures amongst racially and socially diverse populations, the contribution of ACEs in the persistence of socioeconomic disparities in health is poorly understood. To determine the association between ACEs and health outcomes amongst a sample of adults living in Philadelphia and examine the moderating effect of Socioeconomic Status (SES) on this association, we conducted a cross-sectional survey of 1,784 Philadelphia adults, ages 18 and older, using random digit dialing methodology to assess Conventional ACEs (experiences related to family dysfunction), Expanded ACEs (community-level stressors), and health outcomes. Using weighted, multivariable logistic regression analyses along with SES stratified models, we examined the relationship between ACEs and health outcomes as well as the modifying effect of current SES. High Conventional ACE scores were significantly associated with health risk behaviors, physical and mental illness, while elevated Expanded ACE scores were associated only with substance abuse history and sexually transmitted infections. ACEs did have some differential impacts on health outcomes based on SES. Given the robust impact of Conventional ACEs on health, our results support prior research highlighting the primacy of family relationships on a child's life course trajectory and the importance of interventions designed to support families. Our findings related to the modifying effect of SES may provide additional insight into the complex relationship between poverty and childhood adversity.

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24. Relationships between adverse childhood experiences and adult mental well-being: results from an English national household survey
Hughes BMC Public Health 2016;16(222):online only.

Background Individuals’ childhood experiences can strongly influence their future health and well-being. Adverse childhood experiences (ACEs) such as abuse and dysfunctional home environments show strong cumulative relationships with physical and mental illness yet less is known about their effects on mental well-being in the general population. Methods A nationally representative household survey of English adults (n = 3,885) measuring current mental well-being (Short Edinburgh-Warwick Mental Well-being Scale SWEMWBS) and life satisfaction and retrospective exposure to nine ACEs. Results Almost half of participants (46.4 %) had suffered at least one ACE and 8.3 % had suffered four or more. Adjusted odds ratios (AORs) for low life satisfaction and low mental well-being increased with the number
of ACEs. AORs for low ratings of all individual SWEMWBS components also increased with ACE count, particularly never or rarely feeling close to others. Of individual ACEs, growing up in a household affected by mental illness and suffering sexual abuse had the most relationships with markers of mental well-being. Conclusions Childhood adversity has a strong cumulative relationship with adult mental well-being. Comprehensive mental health strategies should incorporate interventions to prevent ACEs and moderate their impacts from the very earliest stages of life.

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25. Understanding resilience: New approaches for preventing and treating PTSD.

All individuals experience stressful life events, and up to 84% of the general population will experience at least one potentially traumatic event. In some cases, acute or chronic stressors lead to the development of posttraumatic stress disorder (PTSD) or other psychopathology; however, the majority of people are resilient to such effects. Resilience is the ability to adapt successfully in the face of stress and adversity. A wealth of research has begun to identify the genetic, epigenetic, neural, and environmental underpinnings of resilience, and has indicated that resilience is mediated by adaptive changes encompassing several environmental factors, neural circuits, numerous neurotransmitters, and molecular pathways. The first part of this review focuses on recent findings regarding the genetic, epigenetic, developmental, psychosocial, and neurochemical factors as well as neural circuits and molecular pathways that underlie the development of resilience. Emerging and exciting areas of research and novel methodological approaches, including genome-wide gene expression studies, immune, endocannabinoid, oxytocin, and glutamatergic systems, are explored to help delineate innovative mechanisms that may contribute to resilience. The second part reviews several interventions and preventative approaches designed to enhance resilience in both developmental and adult populations. Specifically, the review will delineate approaches aimed to bolster resilience in individuals with PTSD. Furthermore, we discuss novel pharmacologic approaches, including the N-methyl-d-aspartate (NMDA) receptor ketamine and neuropeptide Y (NPY), as exciting new prospects for not only the treatment of PTSD but as new targets to enhance resilience. Our growing understanding of resilience and interventions will hopefully lead to the development of new strategies for not just treating PTSD but also screening and early identification of at-risk youth and adults. Taken together, efforts aimed at dissemination and implementation of novel interventions to enhance resilience will have to keep pace with the growth of new preventive and treatment strategies.

26. A synthesis of the literature on trauma-informed care

Patients with a history of traumatic life events can become distressed or re-traumatized as the result of healthcare experiences. These patients can benefit from trauma-informed care that is sensitive to their unique needs. However, despite the widespread prevalence of traumatic life experiences such as sexual assault and intimate partner violence, trauma-informed care has not been widely researched or implemented. The purpose of this
synthesis of the literature is to examine existing research on trauma-informed care for survivors of physical and sexual abuse. The following themes are discussed: trauma screening and patient disclosure, provider-patient relationships, minimizing distress and maximizing autonomy, multidisciplinary collaboration and referrals, and trauma-informed care in diverse settings. This synthesis also explores implications for trauma-informed care research, practice and policy. The themes identified here could be used as a framework for creating provider and survivor educational interventions and for implementing trauma-informed care across disciplines. The findings of this synthesis support further research on patient and provider experiences of trauma-informed care, and research to test the efficacy of trauma-informed care interventions across healthcare settings. Universal implementation of trauma-informed care can ensure that the unique needs of trauma survivors as patients are met, and mitigate barriers to care and health disparities experienced by this vulnerable population.

27. **Adverse childhood experience and asthma onset: a systematic review.**

Adverse childhood experiences such as abuse and neglect are associated with subsequent immune dysregulation. Some studies show an association between adverse childhood experiences and asthma onset, although significant disparity in results exists in the published literature. We aimed to review available studies employing a prospective design that investigates associations between adverse childhood experience and asthma. A search protocol was developed and studies were drawn from four electronic journal databases. Studies were selected in accordance with pre-set inclusion criteria and relevant data were extracted. 12 studies, assessing data from a total of 31,524 individuals, were identified that investigate the impact of a range of adverse childhood experiences on the likelihood of developing asthma. Evidence suggests that chronic stress exposure and maternal distress in pregnancy operate synergistically with known triggers such as traffic-related air pollution to increase asthma risk. Chronic stress in early life is associated with an increased risk of asthma onset. There is evidence that adverse childhood experience increases the impact of traffic-related air pollution and inconsistent evidence that adverse childhood experience has an independent effect on asthma onset.

[Available online at this link](#)

28. **How childhood trauma affects health across a lifetime**
Burke Harris TedTalks 2015::online only.

Childhood trauma isn’t something you just get over as you grow up. Pediatrician Nadine Burke Harris explains that the repeated stress of abuse, neglect and parents struggling with mental health or substance abuse issues has real, tangible effects on the development of the brain. This unfolds across a lifetime, to the point where those who’ve experienced high levels of trauma are at triple the risk for heart disease and lung cancer. An impassioned plea for pediatric medicine to confront the prevention and treatment of trauma, head-on.

[Available online at this link](#)
29. **Measuring mortality and the burden of adult disease associated with adverse childhood experiences in England: a national survey.**

**BACKGROUND**
ACE (adverse childhood experience) studies typically examine the links between childhood stressors and adult health harming behaviours. Using an enhanced ACE survey methodology, we examine impacts of ACEs on non-communicable diseases and incorporate a proxy measure of premature mortality in England. METHODS A nationally representative survey was undertaken (n = 3885, aged 18-69, April-July 2013). Socio-demographically controlled proportional hazards analyses examined the associations between the number of ACE categories (<18 years; e.g. child abuse and family dysfunction such as domestic violence) and cancer, diabetes, stroke, respiratory, liver/digestive and cardiovascular disease. Sibling (n = 6983) mortality was similarly analysed as a measure of premature mortality. RESULTS Of the total, 46.4% of respondents reported ≥1 and 8.3% ≥4 ACEs. Disease development was strongly associated with increased ACEs (e.g. hazard ratios, HR, 0 versus ≥4 ACEs; cancer, 2.38 (1.48-3.83); diabetes, 2.99 (1.90-4.72); stroke, 5.79 (2.43-13.80, all P < 0.001). Individuals with ≥4 ACEs (versus no ACEs) had a 2.76 times higher rate of developing any disease before age 70 years. Adjusted HR for mortality was strongly linked to ACEs (≥4 versus 0 ACEs; HR, 1.97 (1.39-2.79), P < 0.001). CONCLUSIONS Radically different life-course trajectories are associated with exposure to increased ACEs. Interventions to prevent ACEs are available but rarely implemented at scale. Treating the resulting health costs across the life course is unsustainable.

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30. **Psychosocial complexity in multimorbidity: the legacy of adverse childhood experiences.**

**BACKGROUND:** To effectively meet the health care needs of multimorbid patients, the most important psychosocial factors associated with multimorbidity must be discerned. Our aim was to examine the association between self-reported adverse childhood experiences (ACEs) and multimorbidity and the contribution of other social, behavioural and psychological factors to this relationship. METHODS: We analysed cross-sectional data from the Mitchelstown study, a population-based cohort recruited from a large primary care centre. ACE was measured by self-report using the Centre for Disease Control ACE questionnaire. Multimorbidity status was categorized as 0, 1 or ≥2 chronic diseases, which were ascertained by self-report of doctor diagnosis. Ordinal logistic regression was used to calculate odds ratios (ORs) and 95 per cent confidence intervals (95 per cent CIs) for multimorbidity, using ACE as the independent variable with adjustment for social (education, public health cover), behavioural (smoking, exercise, diet, body mass index) and psychological factors (anxiety/depression scores). RESULTS: Of 2047 participants, 45.3 per cent (n = 927, 95 per cent CI: 43.1-47.4) reported multimorbidity. ACE was reported by 28.4 per cent (n = 248, 95 per cent CI: 25.3-31.3 per cent) of multimorbidity participants, 21 per cent (n = 113, 95 per cent CI: 18.0-25.1 per cent) of single chronic disease participants and 16 per cent (n = 83, 95 per cent CI: 13.2-19.7 per cent) of those without chronic disease. The OR for multimorbidity with any history of ACE was 1.6 (95 per cent CI: 1.4-2.0, P < 0.001). Adjusting for social, behavioural and psychological factors only marginally ameliorated this
association, OR 1.4 (95 per cent CI: 1.1-1.7, P = 0.002). CONCLUSIONS: Multimorbidity is independently associated with a history of ACEs. These findings demonstrate the psychosocial complexity associated with multimorbidity and should be used to inform health care provision in this patient cohort. [Abstract]

Available online at this link

31. Resilience Intervention for Young Adults With Adverse Childhood Experiences.

BACKGROUND Adverse childhood experiences (ACEs) are correlated with risk behaviors of smoking, disordered eating, and alcohol and substance abuse. Such behaviors can lead to significant public health problems of chronic obstructive pulmonary disease, obesity, liver disease, and hypertension, yet some individuals do not appear to suffer negative consequences but rather bounce back. OBJECTIVE To pilot the feasibility and potential efficacy of the Empower Resilience Intervention to build capacity by increasing resilience and health behaviors and decreasing symptoms and negative health behaviors with young adults in an educational setting who have had ACEs. DESIGN A two-group pre-post repeated measures design to compare symptoms, health behaviors, and resilience and written participant responses. RESULTS There was a statistically significant cohort by time interaction for physical activity in the intervention group. There was no significant change in risk behaviors or resilience score by cohort. Young adults in the intervention group reported building strengths, reframing resilience, and creating support connections. CONCLUSIONS An increase in health behavior is theoretically consistent with this strengths-based intervention. Evaluating this intervention with a larger sample is important. Interrupting the ACE to illness trajectory is complex. This short-term empower resilience intervention, however, holds promise as an opportunity to reconsider the negative effects of the trauma of the past and build on strengths to develop a preferred future.

32. Trauma-Informed Medical Care: A CME Communication Training for Primary Care Providers

BACKGROUND AND OBJECTIVES: Trauma exposure predicts mental disorders, medical morbidity, and healthcare costs. Yet trauma-related impacts have not received sufficient attention in primary care provider (PCP) training programs. This study adapted a theory-based approach to working with trauma survivors, Risking Connection, into a 6-hour CME course, Trauma-Informed Medical Care (TI-Med), and evaluated its efficacy. METHODS: We randomized PCPs to training or wait-list (delay) conditions; waitlist groups were trained after reassessment. The primary outcome assessing newly acquired skills was a patient-centeredness score derived from Roter Interactional Analysis System ratings of 90 taped visits between PCPs and standardized patients (SPs). PCPs were Family Medicine residents (n=17) and community physicians (n=13; 83% Family Medicine specialty), from four sites in the Washington DC metropolitan area. RESULTS: Immediately trained PCPs trended toward a larger increase in patient-centeredness than did the delayed PCPs (p < .09), with a moderate effect size (.66). The combined trained PCP groups showed a significant increase in patient-
centeredness pre to post training, p < .01, Cohen’s D = .61. CONCLUSIONS: This is a promising approach to supporting relationship-based trauma-informed care among PCPs to help promote better patient health and higher compliance with medical treatment plans.

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33. Traumatic events in childhood and their association with psychiatric illness in the adult.
Verdolini Norma Psychiatria Danubina 2015;27:--.

INTRODUCTION Child maltreatment is a well-known condition that is currently considered to be associated with the development of severe psychiatric conditions. Consequently, the authors decided to review the current literature in order to give a complete scenario of the situation in the world and to give recommendations about prevention and treatment as well as research goals. METHOD An electronic search was conducted through the means of MEDLINE database in order to find the most up to date peer-reviewed papers, including only those papers published in 2015. RESULTS 15 papers were included and analyzed the current situation in different countries: US (n.3), Australia (n.2), Ireland (n.2), Israel (n.2), China (n.2), Indonesia (n.1), Pakistan (n.1) and Norway (n.1). DISCUSSION Even though sexual abuse has been studied extensively, both physical and emotional abuse and neglect appear to be more represented within the population of patients that had suffered from abuse. Psychiatric disorders (mainly personality disorders, depression and anxiety), interpersonal, social and legal outcomes are important consequences of child maltreatment. CONCLUSIONS Interventions and strategies are needed at different levels, from prevention to treatment and further research is important in order to better understand the phenomenon.

34. Adverse childhood experiences: Towards a clear conceptual meaning

Aim: To report an analysis of the concept of adverse childhood experiences. Background: Adverse childhood experiences have been associated with negative physical and psychological health outcomes, but this phenomenon lacks the clear, consistent meaning necessary for use in nursing research, theory development and practice. Design: Concept clarification. Data Sources: The literature search was not limited a priori by date and included publications with abstracts in English from PubMed, CINAHL, PsychINFO and Social Abstracts. The search retrieved 128 articles published from 1970–2013. The search term ‘adverse childhood experiences’ was used, with similar terms permitted. A snowball approach was used to expand the search to relevant literature. Methods: The articles were read and analysed following Norris's five steps for concept clarification to refine, elucidate and operationally define the concept and the context in which it occurred. Results: Adverse childhood experiences were defined operationally as childhood events, varying in severity and often chronic, occurring in a child’s family or social environment that cause harm or distress, thereby disrupting the child’s physical or psychological health and development. Conclusion: This concept clarification should raise awareness and understanding of the diverse nature and shared characteristics of adverse childhood experiences that are believed to influence the health of individuals as they age. This clarified concept will help expand research on health consequences of adverse childhood experiences and interventions to
improve health. We recommend promoting a model of primary care that pays attention to the social and familial influences on the health of individuals worldwide.

35. **Life after growing up in care: Informing policy and practice through research**

Existing research on the impact of growing up in care focuses upon either the care experience itself or the period of transition from care to independence. Our knowledge of outcomes largely ceases when former residents of the care system reach their early twenties. There are strong social justice reasons for extending research into the older adult lives of such young people. We know a great deal about the multiple disadvantages that such individuals face as children. But research is largely silent about their subsequent adult lives. While we must be cautious in drawing causal links to the childhood care experience as the time period since life in care extends, we know that early experiences can affect care-leavers across their life course—just as childhood experience affects all adults in a variety of ways. In this review, we highlight evidence drawn from research in Australia, the United Kingdom, Canada, Ireland, and the United States, with particular attention paid to the first two of those countries. We use a wide range of sources and identify areas for further consideration, including access to personal records, mental health, education, and parenting. By doing so, we seek to open up this area for further research with the hope that such research will lead to an increasing recognition of care-leavers' needs and thus to improvements in social policy and service provision.

36. **Social Work and Adverse Childhood Experiences Research: Implications for Practice and Health Policy**

Medical research on "adverse childhood experiences" (ACEs) reveals a compelling relationship between the extent of childhood adversity, adult health risk behaviors, and principal causes of death in the United States. This article provides a selective review of the ACE Study and related social science research to describe how effective social work practice that prevents ACEs and mobilizes resilience and recovery from childhood adversity could support the achievement of national health policy goals. This article applies a biopsychosocial perspective, with an emphasis on mind-body coping processes to demonstrate that social work responses to adverse childhood experiences may contribute to improvement in overall health. Consistent with this framework, the article sets forth prevention and intervention response strategies with individuals, families, communities, and the larger society. Economic research on human capital development is reviewed that suggests significant cost savings may result from effective implementation of these strategies.
37. **Adverse childhood experiences and premature all-cause mortality**

Events causing stress responses during sensitive periods of rapid neurological development in childhood may be early determinants of all-cause premature mortality. Using a British birth cohort study of individuals born in 1958, the relationship between adverse childhood experiences (ACE) and mortality≤50 year was examined for men (n=7,816) and women (n=7,405) separately. ACE were measured using prospectively collected reports from parents and the school: no adversities (70%); one adversity (22%), two or more adversities (8%). A Cox regression model was carried out controlling for early life variables and for characteristics at 23 years. In men the risk of death was 57% higher among those who had experienced 2+ ACE compared to those with none (HR 1.57, 95% CI 1.13, 2.18, p=0.007). In women, a graded relationship was observed between ACE and mortality, the risk increasing as ACE accumulated. Women with one ACE had a 66% increased risk of death (HR 1.66, 95% CI 1.19, 2.33, p=0.003) and those with ≥2 ACE had an 80% increased risk (HR 1.80, 95% CI 1.10, 2.95, p=0.020) versus those with no ACE. Given the small impact of adult life style factors on the association between ACE and premature mortality, biological embedding during sensitive periods in early development is a plausible explanatory mechanism.

[Available online at this link](#)

38. **Risking connection trauma training: A pathway toward trauma-informed care in child congregate care settings.**

Despite the high prevalence of traumatic experiences and attachment disruptions among clients in child congregate care treatment settings, until recently there has been little formal training on trauma for staff serving this population. Staff trauma training is one important intervention for agencies aiming to implement trauma-informed care (TIC), a term describing an international trend in mental health care whereby treatment approaches and cultures recognize the pervasive impact of trauma and aim to ameliorate, rather than exacerbate, the effects of trauma. The current study examines the impact of the curriculum-based Risking Connection (RC) trauma training on the knowledge, beliefs, and behaviors of 261 staff trainees in 12 trainee groups at five child congregate care agencies. RC is one of several models used nationally and internationally as a pathway toward TIC culture change in human service organizations including residential treatment. For a subset of agencies, measures were collected at four different time points. Results showed an increase in knowledge about the core concepts of the RC training consistently across groups, an increase in beliefs favorable to TIC over time, and an increase in self-reported staff behavior favorable to TIC in the milieu. In addition, these findings suggest that the train-the-trainer (TTT) model of dissemination central to RC is effective at increasing beliefs favorable to TIC. Differences in postraining changes between three agencies are qualitatively investigated and discussed as examples of the importance of organization-level factors in successful implementation of agency-wide interventions like RC. Implications for implementing RC and trauma-informed agency change are discussed.
39. **ACE'S by Vince Felitti, MD**
   Felitti Academy on Violence and Abuse 2010;::online only.

   [Felitti was one of the authors of the study that is cited as the basis for the ACEs model.]

   This is the full version of his presentation in 2006 and runs 1.5 hours. It discusses the findings that adverse childhood experiences have significant impact on long term health outcomes. You can see most of the information by watching the thirteen minute version instead.

   [Available online at this link](#)

40. **Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults**

   Background: The relationship of health risk behavior and disease in adulthood to the breadth of exposure to childhood emotional, physical, or sexual abuse, and household dysfunction during childhood has not previously been described. Methods: A questionnaire about adverse childhood experiences was mailed to 13,494 adults who had completed a standardized medical evaluation at a large HMO; 9,508 (70.5%) responded. Seven categories of adverse childhood experiences were studied: psychological, physical, or sexual abuse; violence against mother; or living with household members who were substance abusers, mentally ill or suicidal, or ever imprisoned. The number of categories of these adverse childhood experiences was then compared to measures of adult risk behavior, health status, and disease. Logistic regression was used to adjust for effects of demographic factors on the association between the cumulative number of categories of childhood exposures (range: 0–7) and risk factors for the leading causes of death in adult life. Results: More than half of respondents reported at least one, and one-fourth reported ≥2 categories of childhood exposures. We found a graded relationship between the number of categories of childhood exposure and each of the adult health risk behaviors and diseases that were studied (P < .001). Persons who had experienced four or more categories of childhood exposure, compared to those who had experienced none, had 4- to 12-fold increased health risks for alcoholism, drug abuse, depression, and suicide attempt; a 2- to 4-fold increase in smoking, poor self-rated health, ≥50 sexual intercourse partners, and sexually transmitted disease; and a 1.4- to 1.6-fold increase in physical inactivity and severe obesity. The number of categories of adverse childhood exposures showed a graded relationship to the presence of adult diseases including ischemic heart disease, cancer, chronic lung disease, skeletal fractures, and liver disease. The seven categories of adverse childhood experiences were strongly interrelated and persons with multiple categories of childhood exposure were likely to have multiple health risk factors later in life. Conclusions: We found a strong graded relationship between the breadth of exposure to abuse or household dysfunction during childhood and multiple risk factors for several of the leading causes of death in adults.

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