Adverse Childhood Experiences (ACEs)

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Purpose of paper

- Provides top-level summary of evidence from international and UK research
- Provides So What's & recommendation for SODA partners
- *Request for action: SODA PMG to provide rating of potential SODA projects (23a. and 23b. below) using our Project Assessment Criteria.*

What are Adverse Childhood Experiences and what is their impact?[1]

1. Studies from across the world are increasingly exposing relationships between childhood trauma and the emergence of health damaging behaviours and poor health and social outcomes in adulthood. The research in this area has been referred to as Adverse Childhood Experiences (ACEs).
2. ACEs include harms that affect children directly or indirectly, and studies use a similar core set which include:
    - Childhood physical abuse
    - Childhood sexual abuse
    - Emotional, psychological, or verbal abuse
    - Neglect
    - Bullying
    - Separation from family (e.g., out-of-home care)
    - Serious childhood illness or injury
    - Household substance abuse
    - Household mental illness
    - Exposure to domestic violence
    - Parental separation or divorce
    - Household criminality
    - Family financial problems
    - Family conflict or discord
    - Death of parent or close relative or friend
        - A small number of studies have explored other harms, such as childhood hunger, child protection record, absence of male parental figure, low parental education, low standard of living, low socioeconomic status, parental unemployment.
3. It appears that ACEs are fairly common, with most surveys finding that around 50% of respondents having experienced one or more ACEs.
4. ACEs have been linked to a variety of outcomes, and it is generally agreed that as the number of ACEs increases, so does the risk for poor outcomes.
5. However, it seems that the strength of association between ACEs and specific outcomes varies:

- weak or modest for physical inactivity, overweight or obesity, and diabetes;
- moderate for smoking, heavy alcohol use, poor self-rated health, cancer, heart disease, and respiratory disease;
- strong for sexual risk taking, mental ill health, and problematic alcohol use; and
- strongest for problematic drug use and interpersonal and self-directed violence.

6. It has been concluded that *"outcomes showing the strongest relations with multiple ACEs (violence, mental illness, and problematic substance abuse) can represent ACEs for the next generation (exposure to parental domestic violence, mental illness, and substance use) and thus are indicative of the intergenerational effects that can lock families into cycles of adversity, deprivation, and ill health."*[1]

7. More recently studies have begun to identify associations between multiple ACEs and broad harms to life prospects, including education, employment, and poverty. Though further research is needed in this area.

What is the evidence around ACEs and their impact in the UK?

8. Since 2012 five cross-sectional, case-controlled, or cohort studies have been conducted across the UK (*see Appendix 1 for detail*):
   - A UK-wide survey with a nationally representative sample of 1,500 respondents in 2012[2];
   - A 2013 survey with 3,885 respondents from England (nationally representative)[3,4,5];
   - In 2015, Hertfordshire, Northamptonshire & Luton conducted a survey with 5,454 residents[6]; and
   - Two nationally representative surveys have been conducted in Wales – in 2015[7,8,9] (2,028 respondents) and in 2017[10] (2,500 respondents).

9. Most of these surveys tried to establish an understanding of prevalence and the associations between ACEs and health damaging behaviours, poor physical / mental health and social outcomes in the general population.

10. Prevalence of ACE in the adult populations researched across the UK were similar to those observed in studies from other countries.
    - Overall levels of exposure to ACEs amongst the respondents from these surveys ranged from 44% to 50% of respondents having experienced at least one ACE; while exposure to 4 or more ACEs ranged from 8.3% to 14%.
    - While the prevalence of experienced ACEs differed somewhat amongst the researched populations, the order of prevalence was consistent:
      - Parental separation or divorce (18% - 25%)
      - Emotional, psychological, or verbal abuse (17% - 23%)
      - Childhood physical abuse (14% - 17%)
      - Exposure to domestic violence (12% - 17%)
      - Household mental illness (11% - 18%)

- Household alcohol abuse (9% - 14%)
- Household drug abuse (4% - 6%)
- Childhood sexual abuse (3% - 10%)
- Household member incarcerated (3% - 5%)

11. Findings around the impact of ACEs from the surveys conducted in the UK are also consistent with international findings:
    - ACEs are linked most strongly with violence (perpetration, victimisation, incarceration), substance abuse, sexual risk-taking and mental ill health.
    - All health damaging behaviours, poor health and social outcomes in adulthood, including disease development and premature mortality, increased as the number of ACEs increased.

12. The most recent survey from the UK[10] looked at the types of resources that may help protect people who experience(d) ACEs from suffering their harmful effects. The survey asked adults about a range of resilience resources, such as personal skills, positive relationships, community support, leisure /social activities and cultural connections, as children and adults; their exposure to ACEs; and their physical and mental health. It concluded that "…*while resilience factors may provide some protection, they do not entirely counter the risks associated with exposure to multiple ACEs. For all mental illness measures examined here a combination of high resilience and low ACEs provided the lowest risks of lifetime and current mental illness. Thus, primary prevention to avoid ACEs in future generations is critical in improving the mental health of the population."*

Some examples of ACE work across the UK include[11]

13. Blackburn, Whitton Park Academy - amendment of school policy to embed ACE approach; creation of a working group of teachers to share good practice, to implement consistent approach, to reinforce school behaviour and practice de-escalation techniques; conducted "school well-being survey" to identify areas of specific focus and supplement existing PCSHE curriculum, pastoral and behaviour management systems.

14. Hertfordshire - findings from ACE study informed Hertfordshire's Joint Strategic Needs Assessment on 'Children's Life Chances' and are being incorporated into new JSNA reports wherever applicable on an ongoing basis to ensure that the messages become embedded in the local narrative for commissioners and decision-makers.

15. Lancashire – Constabulary working on early action prevention & ACE

16. Luton – using findings within "Flying Start" early years strategy and considering ACE awareness in schools.

17. Northamptonshire – exploring how to embed ACE in existing services and H&W Board; working towards becoming an "ACE aware county".

18. Wales - exploratory work across sectors in many areas; established a Hub to tackle ACE (with government commitment & funding); developing a research

agenda; exploring ACE in the criminal justice system, focus on breaking the generational cycle of crime though prevention and early intervention (2 year project funded by the Police Innovation Fund). (http://www.wales.nhs.uk/sitesplus/888/page/88524)

- West Midlands – established 'Violence Prevention Alliance', which is
  - facilitating the implementation of schools based primary prevention programme across the region
  - setting up a peer leadership programme which focuses on building resilience, relationships and shaping a respectful culture (Mentors in Violence Prevention).
  - proposing to employ 'ACE Coordinators' to work with partners across the system, equipping them add value to their services through using ACE (coordinators will provide training and advise on practice)
  - supporting health settings to undertake work to prevent violence and harm, and identify harm earlier through proactive identification, e.g.
    - training GP practice staff to identify domestic violence and refer to a DV worker linked to the practice
    - working with acute partners to test having voluntary sector workers in A&E to pick up and work with patients where there are underlying factors of violence & vulnerability behind their attendance
    - working with dental colleagues to identify and respond to patients affected by DV

    (http://violencepreventionalliance.org/)

So What's & recommendation

19. The available evidence from both international and national surveys is consistent. Applying the numbers from the nationally representative survey of English residents conducted in 2013[3,4,5] to the latest ONS population estimates from 2017[12], there are 198,409 18-69 year-olds in Suffolk, who experienced at least one ACE, with
    - 97,067 having experienced one ACE;
    - 65,851 two to three ACEs; and
    - 35,491 four or more ACEs.

20. Applying the same prevalence to the current population of children and young people population (0-18 years), would mean there are 70,947 CYPs in Suffolk experiencing at least one ACE. There would be:
    - 34,709 experiencing one ACE;
    - 23,547 two to three ACEs; and
    - 12,691 four or more ACEs.
        - *Note: we often apply national figures to the ONS population numbers for Suffolk to establish local prevalence (e.g. we did this extensively as part of the Suffolk +20 work); but as always there are some caveats around this methodology. In this case we need to remember that the surveys do not establish at what age ACEs appear during childhood and whether they occur consecutively or all at the same time.*

21. National / international research is more likely to give compelling evidence about the relationship between ACEs and outcomes, rather than investing in local data work on a small and complex sample (which would be time-consuming and expensive).

22. ACEs appear to be linked to important outcomes in health and social care, criminal justice, policing, education, etc. This makes for a compelling case for increased collaborative / multi-agency focus on prevention of ACEs and the reduction of their effects.

23. However, the Suffolk System is already focussing on collaboration and prevention in the same space, e.g. Suffolk Violence and Abuse Partnership, Troubled Families, MASH, most existing early years, parenting and family programmes. Therefore, the question arises – "what would we do differently if we had more data / insight?"

24. Impact of any actions / interventions in this space cannot easily be evaluated – as results will not be apparent until children have reached adulthood.

25. SODA has explored what relevant data might be held by SODA partners / the wider Suffolk system and has found that data is not easily available, e.g. in CYP this is held in case notes rather than specific, discrete data fields.

26. However, there are two existing SODA projects that will provide some insight into ACEs in due course
    - Domestic Violence Data project: will enable analysis around victims / perpetrators of DV with children in HH.

- Data on a place project: will enable analysis around individuals (adults and CYP) that are in contact / accessing services with SODA partners, where ACE factors are present in the HH.

References

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10. Karen Hughes, et al. (2018). Sources of resilience and their moderating relationships with harms from adverse childhood experiences. Cardiff: Public Health Wales NHS Trust. (http://www.wales.nhs.uk/sitesplus/888/page/94697)
11. Dr Barbara Paterson (2017), PHE Adverse Childhood Experiences (ACE) - Safer Communities Through Stronger Partnerships presentation.
12. ONS, Population Estimates 2017 (https://www.nomisweb.co.uk/query/construct/summary.asp?mode=construct&version=0&dataset=2002)

Appendix 1 – Detailed overview on UK ACE surveys

Where & when?	Who and how many?	What was objective?	What are key findings?
UK (2012)[2]	1,500 residents and 67 substance users aged 18–70 years in a relatively deprived and ethnically diverse UK population.	▪ Examine associations between ACEs and poor health and social outcomes over the life course. ▪ Understand the strength of ACEs as predictors of poor behaviour, health, criminal justice and educational outcomes.	▪ 47.1% of individuals reported at least one ACE ▪ 12.3% experienced 4 or more ACEs ▪ The impacts of ACEs on criminality, violence, early unplanned pregnancy and retention in poverty means those with ACEs are more likely to propagate a cycle that exposes their own children to ACEs. ▪ Population surveys likely underestimate the impact of ACEs on long-term health due to premature mortality removing those with more ACEs from the population.
England (2013) [3,4,5]	3,885 18-69 year olds, nationally representative.	▪ Understand impacts of ACEs on behaviour and both physical and mental health outcomes. ▪ Understand impacts of ACEs on non-communicable diseases and premature mortality in England. ▪ To understand how ACEs impact on mental well-being in the general population.	▪ 46.4% of respondents experienced at least one ACE. ▪ 8.3% experienced 4 or more ACEs. ▪ ACE counts were positively associated with deprivation: in England's most deprived quintile, 51.2% of individuals reported at least one ACE, with 12.7% reporting 4 or more. ▪ Proportion of respondents suffering each ACE: ◆ 17% verbal abuse ◆ 14% physical abuse ◆ 6% sexual abuse

			◆ 23% parental separation ◆ 12% household domestic violence ◆ 12% household mental illness ◆ 9% household alcohol abuse ◆ 4% household drug abuse ◆ 4% household member incarcerated ▪ Prevalence of all health-harming behaviours, except low levels of physical exercise increased with ACE count: ◆ having had or caused unintended teenage pregnancy and all violence and criminal justice outcomes (violence perpetration, violence victimization, incarceration) was more than 5x higher in those with 4+ ACEs (versus those with none). ▪ 13.6% of poor diet and up to 58.7% of heroin or crack cocaine use is related to ACEs. ACEs also accounted for approximately half of all individuals experiencing violence in the past year, either as a perpetrator or a victim. 37.6% of individuals who have experienced an unintended pregnancy before the age of 18 years could be accounted for by ACEs. (Note: causality could not be established in this study). ▪ Disease development and premature mortality was strongly associated with increased ACEs.

			▪ Individuals with 4 or more ACEs (versus no ACEs) had a 2.76 times higher rate of developing any disease before age 70 years. ▪ Radically different life-course trajectories are associated with exposure to increased ACEs. ▪ Low life satisfaction and low mental well-being increased with the number of ACEs ▪ Of the nine ACEs included in the survey, growing up in a household affected by mental illness and suffering sexual abuse had the most relationships with markers of mental well-being
Hertfordshire, Northamptonshire and Luton[6] (2015)	5,454 adults (aged 18-69 years) resident in Hertfordshire, Luton, and Northamptonshire. Proportionate number of Lower Layer Super Output Areas representative of the diversity of each Area (using Index of Multiple Deprivation, ethnicity, and urban/rural breakdown).	▪ To identify the ACE profile of the local area ○ establish a baseline for numbers of adults, in the local area, who experienced ACEs; and ▪ Understand ACEs and their impacts in the local population.	▪ 44% of respondents experienced at least one ACE. ▪ 9% experienced 4 or more ACEs. ▪ Proportion of respondents suffering each ACE: ◆ 23% verbal abuse ◆ 14% physical abuse ◆ 6% sexual abuse ◆ 18% parental separation ◆ 16% household domestic violence ◆ 11% household mental illness ◆ 11% household alcohol abuse ◆ 4% household drug abuse ◆ 3% household member incarcerated ▪ Compared with people with no ACEs, those with 4+ ACEs are more likely to

			◆ currently binge drink (2x more likely) ◆ have a poor diet (2x) ◆ smoke (3x) ◆ have had sex while <16 yrs old (4x) ◆ have smoked cannabis (4x) ◆ had or caused unintended teenage pregnancy (4x) ◆ been a victim of violence (8x) ◆ committed violence (10x) ▪ been incarcerated at any point in their lifetime (8x)
Wales[7,8,9] (2015)	2,028 adult residents (18-69 years old) in Wales; with national representation by age, sex and deprivation.	▪ To establish a baseline for numbers of adults who experienced ACEs. ▪ To identify how health-harming behaviours are linked with experiencing ACEs during childhood. ▪ To identify ACEs and their association with chronic disease and health service use.	▪ 47% of respondents experienced at least one ACE ▪ 14% experienced 4 or more ACEs. ▪ Proportion of Welsh adults suffering each ACE: ◆ 23% verbal abuse ◆ 17% physical abuse ◆ 10% sexual abuse ◆ 20% parental separation ◆ 16% household domestic violence ◆ 14% household mental illness ◆ 14% household alcohol abuse ◆ 5% household drug abuse ◆ 5% household member incarcerated ▪ Compared with people with no ACEs, those with 4+ ACEs are more likely to be / have

			◆ a chronic disease (2x more likely) – 3x respiratory and heart diseases, 4x type 2 diabetes ◆ frequently visited GP (2x) ◆ attended A&E (3x) ◆ stayed overnight in hospital (3x) ◆ a high-risk drinker (4x) ◆ had or caused unintended teenage pregnancy (6x) ◆ smoker (6x) ◆ had sex under the age of 16 yrs (6x) ◆ smoked cannabis (11x) ◆ been a victim of violence (14x) ◆ committed violence (15x) ◆ used crack cocaine or heroin (16x) ▪ been incarcerated at any point in their lifetime (20x)
Wales[10] (2017)	2,005 representative sample of 18-69 residents in Wales. Boost sample of 500 adults resident in communities with higher levels of spoken Welsh language.	▪ To identify the types of resilience resources that may help protect people who experience ACEs from suffering their harmful effects.	▪ 50% of respondents experienced at least one ACE. ▪ 14% experienced 4 or more ACEs. ▪ Compared with people with no ACEs, those with 4+ ACEs are more likely to ◆ currently be receiving treatment for mental illness (3.7x more likely) ◆ have ever received treatment for mental illness (6.1x) ◆ have ever felt suicidal or self-harmed (9.5x)

			▪ Those with more ACEs had fewer resilience resources as children and adults. ▪ Having some resilience resources more than halved risks of current mental illness in those with 4+ ACEs.