

## The long term impact of adversity

### Evidence Summary

*The Evidence Summaries have not been conducted or written as rapid reviews, systematic reviews or comprehensive literature reviews. Instead they were designed and written as brief notes intended to give the Independent Review of Children's Social Care a quick overview of some of the evidence on a particular topic or question. They are only being published for transparency and given their limited scope, are not intended as a resource for wider purposes.*

#### Introduction

This paper summarises the evidence on the impact of adversity in childhood, including the evidence around 'ACEs (Adverse Childhood Experiences)'; as well as looking at the evidence around the long term impact of care experience. It has been produced by WWCS for the Care Review Team.

Merriam-Webster defines adversity as “a state or instance of serious or continued difficulty or misfortune”.<sup>1</sup> A commonly used framework when discussing adversity in childhood is the ACEs framework. The Early Intervention Foundation (EIF) describe ACEs as follows “Adverse childhood experiences (ACEs) are traditionally understood as a set of 10 traumatic events or circumstances occurring before the age of 18 that have been shown through research to increase the risk of adult mental health problems and debilitating diseases.”<sup>2</sup> The 10 ACEs are, physical abuse; sexual abuse; psychological abuse; physical neglect; psychological neglect; witnessing domestic abuse; having a close family member who misused drugs or alcohol; having a close family member with mental health problems; having a close family member who served time in prison; parental separation or divorce on account of relationship breakdown.

For this context, we will consider first the adverse factors or experiences in childhood that are associated with care experience or CSC involvement. These include maltreatment, poverty, violence (including domestic abuse), poor parental mental health and substance misuse, and the impact on key life outcomes such as education, physical and mental health. Secondly a brief discussion on the ACEs framework. Following this, we will present the evidence on the association between the aforementioned long term life outcomes and care experience. The evidence we present in this note is robust overall, although some of the research presented is now quite dated, and largely focussed on the English context.

Thinking about childhood adversity, one should consider the prevalence of the issue. The below graph is the DfE statistics on the number of children in need by factors identified at assessment. The factors are arguably representative of a broad range of adverse experiences. It is important to

---

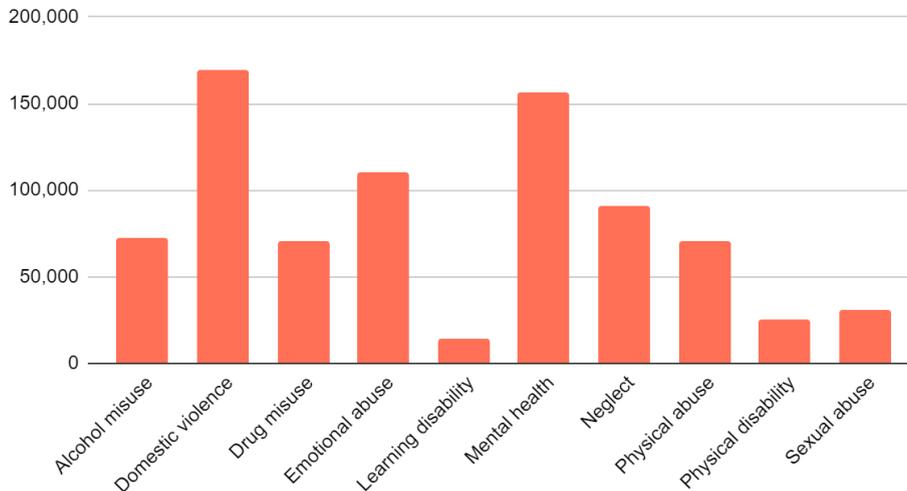
<sup>1</sup> Merriam-Webster. (n.d.). Adversity. In Merriam-Webster.com dictionary. Retrieved April 28, 2021, from <https://www.merriam-webster.com/dictionary/adversity>

<sup>2</sup> Asmussen, K., Fischer, F., Drayton, E. and McBride, T. (2020). *Adverse childhood experiences: What we know, what we don't know, and what should happen next*. Early Intervention Foundation.



note the prevalence of factors identified at assessment that are associated with childhood adversity, for example, domestic abuse (by a parent) was the most common recorded factor, followed by parental mental health. The table below illustrates the prevalence of some factors which are associated with childhood adversity.

### Factors identified at assessment



3

With reference to the above factors, alcohol/drug misuse, mental health, and physical and learning disabilities are related to parents.

## Impact of adversity in childhood

### Physical Health

Experiencing adversity in childhood can have a negative impact on long term physical health outcomes in adults. For example, the risk of obesity in adulthood increased between 20% and 50% with experiences of childhood adversity, in particular, physical abuse and poor parental mental health.<sup>4</sup> Obesity also affects other health outcomes such as diabetes. Evidence also suggests a link between experiencing childhood adversity and heart disease in adulthood. For example, risk of incident cardiovascular disease was threefold among women exposed concurrently to three types of childhood adversities (financial difficulties, interpersonal conflicts and longstanding illness of a family member).<sup>5</sup>

There is also increasing interest in how childhood adversity can affect inflammation in adulthood. Chronic inflammatory diseases are the most significant cause of death in the world. The World Health Organization (WHO) ranks chronic diseases as the greatest threat to human health.<sup>6</sup>

<sup>3</sup> Department for Education. (2020). *Characteristics of children in need, Reporting Year 2020*. [online] Available at: <https://explore-education-statistics.service.gov.uk/find-statistics/characteristics-of-children-in-need/2020> [Accessed 4 May 2021].

<sup>4</sup> Thomas, C., Hyppönen, E. and Power, C., (2008). Obesity and type 2 diabetes risk in midadult life: the role of childhood adversity. *Pediatrics*, 121(5), pp.e1240-e1249.

<sup>5</sup> Korkeila J, Vahtera J, Korkeila K, et al. (2010). Childhood adversities as predictors of incident coronary heart disease and cerebrovascular disease. *Heart*. 96:298-303.

<sup>6</sup> Pahwa, R., Amandeep Goyal, Pankaj Bansal and Ishwarlal Jialal (2020). *Chronic Inflammation*. [online] Nih.gov. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK493173/> [Accessed 4 May 2021].



Inflammation is a major factor in cardiometabolic disease among others. Liu et al. (2017) in their meta-analysis of Socioeconomic status (SES) in childhood and C reactive protein (a substance produced by the liver in response to inflammation) in adulthood found that participants from the least advantaged families had 25% higher CRP levels than those from the most advantaged families.<sup>7</sup> Milaniak and Jaffee (2019) had similar findings of a small but inverse relationship between childhood SES and markers of chronic inflammation.<sup>8</sup>

## Mental Health

Available evidence suggests that there are strong correlations between adversity in childhood and poor mental health in adulthood. Children who experienced adversity(s) in childhood are more likely to suffer from depression and anxiety. For example, in one study around a quarter to a third of maltreated children meet criteria for major depression by their late 20s.<sup>9</sup> Cosco et al. (2018) in a longitudinal analysis found that greater adversity in early life was associated with an average GHQ-28 (General Health Questionnaire, which measures depression and anxiety) score increase of 0.017. The findings from Cosco et al. suggest that greater childhood adversity was associated with greater later-life mental distress.<sup>10</sup> Additionally, Varese et al. (2012) found that patients with psychosis were 2.72 times more likely to have been exposed to childhood adversity than those who did not experience childhood adversity.<sup>11</sup> Their review found that all types of adversity, including abuse, neglect, parental death and bullying were related to an increased risk of psychosis. They suggest that by removing risk factors the number of people with psychosis would be reduced by 33%. It would seem therefore that childhood adversity could be a key factor in mental health outcomes in later life.

## Criminal Justice

Further to the impact of childhood adversity on physical and mental health there is also evidence to suggest that it has an impact on 'social' factors such as offending and socioeconomic status later in life. For example, the odds of being convicted in adolescence are 4.35 times higher for those who could be categorised as 'neglected' when compared to individuals who did not have any exposure to neglect.<sup>12</sup> The same study argues "childhood neglect dramatically increased the odds

---

<sup>7</sup> Liu, R.S., Aiello, A.E., Mensah, F.K., Gasser, C.E., Rueb, K., Cordell, B., Juonala, M., Wake, M. and Burgner, D.P. (2017). Socioeconomic status in childhood and C reactive protein in adulthood: a systematic review and meta-analysis. *Journal of Epidemiology and Community Health*, 71(8), pp.817–826.

<sup>8</sup> Milaniak, I. and Jaffee, S.R. (2019). Childhood socioeconomic status and inflammation: A systematic review and meta-analysis. *Brain, Behavior, and Immunity*, 78, pp.161–176.

<sup>9</sup> Gilbert, R., Widom, C.S., Browne, K., Fergusson, D., Webb, E. and Janson, S. (2009). Burden and consequences of child maltreatment in high-income countries. *The Lancet*, 373(9657), pp.68–81.

<sup>10</sup> Cosco, T.D., Hardy, R., Howe, L.D. and Richards, M. (2018). Early-life adversity, later-life mental health, and resilience resources: a longitudinal population-based birth cohort analysis. *International Psychogeriatrics*, 31(9), pp.1249–1258.

<sup>11</sup> Varese, F., Smeets, F., Drukker, M., Lieverse, R., Lataster, T., Viechtbauer, W., Read, J., van Os, J. and Bentall, R.P. (2012). Childhood Adversities Increase the Risk of Psychosis: A Meta-analysis of Patient-Control, Prospective- and Cross-sectional Cohort Studies. *Schizophrenia Bulletin*, 38(4), pp.661–671.

<sup>12</sup> Kazemian, L., Spatz Widom, C. and Farrington, D.P. (2011). A Prospective Examination Of The Relationship Between Childhood Neglect And Juvenile Delinquency In The Cambridge Study In Delinquent Development. *International Journal of Child, Youth and Family Studies*, 2(1/2), p.65.



of being convicted of an offence as an adolescent”. Further they suggest that earlier childhood risk factors associated with neglect may provide a link to understanding how childhood neglect, in addition to physical and sexual abuse, leads to increased risk for delinquency.

### Socioeconomic

Using data from the 1958 birth cohort, Pinto Pereira et al. (2016) found that childhood maltreatment is associated with poor mid-adulthood socioeconomic outcomes and that this risk is increased when children experience what they call “multiple types of maltreatment”.<sup>13</sup> This suggests that understanding how different experiences influence each other, and outcomes is necessary to understand the long term impact of childhood adversity overall. Furthermore, children who experience abuse are more likely to be abused as an adult. Figures suggest more than half (51%) of adults who were abused as children experienced domestic abuse in later life.<sup>14</sup>

Specifically looking at the ACEs framework, like with childhood adversity more generally, there is significant research into the negative long-term impact. Research suggests that there is nearly double the rate of premature mortality up to the age of 70 years in those with 4 ACEs (versus none).<sup>15</sup>

For example, a systematic review on the effect of multiple ACEs on health found having multiple ACEs is a major risk factor for many health conditions.<sup>16</sup> There were moderate associations for smoking, heavy alcohol use, poor self-rated health, cancer, heart disease, and respiratory disease. With strong associations for sexual risk taking, mental ill health, and problematic alcohol use; and strongest for problematic drug use and interpersonal and self-directed violence. The review also found that where outcomes showed the strongest relation with multiple ACEs can represent Adverse Childhood Experiences for the next generation, for example, experience of violence, mental illness, and problematic substance abuse in childhood can link to exposure to parental domestic violence, mental illness, and substance use in their children. The authors posit that this is suggestive of the intergenerational effects that can lock families into cycles of adversity, deprivation, and ill health.

The associations between multiple ACEs and “health-harming behaviours” is echoed in the comprehensive report on ACEs by the EIF. They found, “retrospective studies consistently confirm a dose–response relationship between ACEs and an increased risk of negative physical and mental health outcomes in adulthood”.<sup>17</sup> They suggest that multiple ACEs (4+) have stronger

---

<sup>13</sup> Pinto Pereira, S.M., Li, L. and Power, C. (2016). Child Maltreatment and Adult Living Standards at 50 Years. *Pediatrics*, 139(1), p.e20161595.

<sup>14</sup> Ons.gov.uk. (2017). *People who were abused as children are more likely to be abused as an adult*. [online] Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/articles/peoplewhowereabusedaschildrenaremorelikelytobeabusedasanadult/2017-09-27> [Accessed 6 May 2021].

<sup>15</sup> Bellis, M.A., Hughes, K., Leckenby, N., Hardcastle, K.A., Perkins, C. and Lowey, H. (2014). Measuring mortality and the burden of adult disease associated with adverse childhood experiences in England: a national survey. *Journal of Public Health*, 37(3), pp.445–454.

<sup>16</sup> Hughes, K., Bellis, M.A., Hardcastle, K.A., Sethi, D., Butchart, A., Mikton, C., Jones, L. and Dunne, M.P. (2017). The effect of multiple adverse childhood experiences on health: a systematic review and meta-analysis. *The Lancet Public Health*, [online] 2(8), pp.e356–e366. Available at: [https://moodle.rutgers.edu/pluginfile.php/410652/mod\\_resource/content/1/AdverseChildhoodExperiences\\_Hughes%20etal%20.pdf](https://moodle.rutgers.edu/pluginfile.php/410652/mod_resource/content/1/AdverseChildhoodExperiences_Hughes%20etal%20.pdf).

<sup>17</sup> Asmussen, K., Fischer, F., Drayton, E. and McBride, T. (2020). *Adverse childhood experiences: What we know, what we don't know, and what should happen next*. Early Intervention Foundation.



relationships to health-harming behaviours, mental health problems and antisocial behaviour than the relationship between 4+ ACEs and physical health outcomes.

### Limitations of ACEs

Focus on the 'original 10' ACEs to the exclusion of other factors could mean that services are not able to meet the needs of CYP or are missing people who need help altogether. In addition to this, adverse childhood experiences do not happen in isolation, particularly taking into account the surrounding context like socioeconomic status and other structural or social factors. It is important to consider *all* of the experiences and factors that could negatively impact someone from childhood to adulthood and the way these experiences can intersect with each other, with the potential to amplify negative effects.

## Long Term Outcomes of People Care with Experience

Given the evidence presented above with regards to the negative long term impact of childhood adversity, it is perhaps not surprising that there is a general consensus among academics and practitioners that CYP with care experience have poorer long term outcomes, including physical and mental health outcomes, education outcomes as well as involvement in criminality. The Evidence Sprint already conducted by the Care Review team has many of the same findings.

Much of the data on long term outcomes related to care experience has been collected from longitudinal data sets, for example, the 1970 British Cohort Study or the Office for National Statistics Longitudinal Study among others.

The available evidence suggests that adults who are care experienced suffer significant disadvantage in life outcomes in comparison to those who have not experienced out of home care. As Viner and Taylor (2005) state "Public care in childhood is associated with adverse adult socioeconomic, educational, legal, and health outcomes in excess of that associated with childhood or adult disadvantage."<sup>18</sup> Dregan and Gulliford (2012) emphasise the differences in experience while in out-of-home care can impact on the long term effect, for example, older age at admission, multiple care placements and residential care may be associated with worse outcomes.<sup>19</sup>

### Education

Harrison (2020) uses 3 different data sets to describe patterns of participation in higher education for care-experienced students in England. These are, Data set 1: DfE Annual Reports (LA data); Data set 2: which young people within the cohort who turned 16 in 2007/08 subsequently participated in HE (Higher Education: Researching Around Care Leavers' Entry and Success project); Data Set 3: describes those care-experienced students in HE in 2016/17 in comparison to

---

<sup>18</sup> Viner, R. M., & Taylor, B. (2005). Adult Health and Social Outcomes of Children Who Have Been in Public Care: Population-Based Study. *Pediatrics*, 115(4), 894–899. <https://doi.org/10.1542/peds.2004-1311>

<sup>19</sup> Dregan, A., & Gulliford, M. C. (2012). Foster care, residential care and public care placement patterns are associated with adult life trajectories: population-based cohort study. *Social Psychiatry and Psychiatric Epidemiology*, 47(9), 1517–1526.



the wider cohort of their peers (snapshot acquired from HESA comprising all England-domiciled undergraduates enrolled in 2016/17). The author concludes that “Care leavers have a significantly lower-than-average propensity to participate in HE even accounting for differences in attainment and challenges associated with childhood trauma – this is likely true for other care-experienced people too”.<sup>20</sup>

## Mental Health

Much like with adverse childhood experiences more generally, care experience appears to have a negative long term impact on mental health. Using longitudinal data from the 1970 British Cohort Study, analyses revealed a significant association between public care status and adult maladjustment on depression [odds ratio (OR) 1.74], life dissatisfaction (OR 1.45), low self-efficacy (OR 1.95), smoking (OR 1.70) and criminal convictions (OR 2.13). The strongest associations between out of home care and adult emotional or behavioural outcomes were found with depression, self-efficacy and criminal convictions.<sup>21</sup>

## Physical Health

Murray et al. (2020) found significant long term health impacts for adults who had been in care. For example using the data from Office for National Statistics Longitudinal Study (LS) members during census years 1971– 200, they found that adults who had been in care at any census (maximum of two) had an adjusted all-cause mortality hazard ratio 1.62 (95% CI 1.43, 1.86) times higher than adults who had never been in care. The excess mortality was mainly attributable to deaths categorised as self-harm, accidents and mental & behavioural causes, i.e. in the majority death caused by unnatural causes.<sup>22</sup> The authors starkly summarise that children in care have not benefited from the general decline in mortality risk over time, coming to the conclusion that Adults who grew up in any type of care setting were 70% more likely to die prematurely than those who had not.<sup>23</sup> . Further to this, decades after children and young people are placed in care, they are still more likely to report worse health than children who grew up in a parental household.<sup>24</sup> There is also some evidence to suggest that young people with care experience are more likely to become pregnant at an early age, 35% of young women were pregnant or became mothers within a year of leaving care and 15% of young men were fathers or expecting a child.<sup>25</sup> Further to this,

---

<sup>20</sup> Harrison, N. (2020) Patterns of participation in higher education for care-experienced students in England: why has there not been more progress? *Studies in Higher Education* 45(9): 1986-2000.

<sup>21</sup> Dregan, A., Brown, J., & Armstrong, D. (2011). Do adult emotional and behavioural outcomes vary as a function of diverse childhood experiences of the public care system? *Psychological Medicine*, 41(10), 2213–2220.  
<https://doi.org/10.1017/S0033291711000274>

<sup>22</sup> Murray, E. T., Lacey, R., Maughan, B., & Sacker, A. (2020a). Association of childhood out-of-home care status with all-cause mortality up to 42-years later: Office of National Statistics Longitudinal Study. *BMC Public Health*, 20(1), 735.  
<https://doi.org/10.1186/s12889-020-08867-3>

<sup>23</sup> Murray, E.T., Lacey, R., Maughan, B. and Sacker, A. (2020a). Association of childhood out-of-home care status with all-cause mortality up to 42-years later: Office of National Statistics Longitudinal Study. *BMC Public Health*, 20(1).

<sup>24</sup> Murray, E. T., Lacey, R., Maughan, B., & Sacker, A. (2020b). Non-parental care in childhood and health up to 30 years later: ONS Longitudinal Study 1971–2011. *European Journal of Public Health*. <https://doi.org/10.1093/eurpub/ckaa113>

<sup>25</sup> Dixon, J., Wade, J., Byford, S., Weatherly, H. & Lee, J. (2006). *Young People Leaving Care: A Study of Costs and Outcomes: Final Report to the Department for Education & Skills*. Social Work Research and Development Unit, University of York, York.



research reported in the BMJ suggests that mothers who have care experience are more likely to smoke during pregnancy, have symptoms of depression, and have low-birth weight babies.<sup>26</sup>

### Socioeconomic

In addition to the long term physical and mental effects of care experience there is also evidence to suggest wider impacts on socioeconomic status. For example, a survey of care leavers conducted by Centre Point found that 26% of care leavers have 'sofa-surfed', while 14% had slept rough.<sup>27</sup> Having said this, the data available on youth homelessness, and homelessness in general, does have some potential limitations, including the difficulties of collecting data on homeless populations as they are often transitory and have little contact with services, data may only be available for those who are in contact with services.

The table below presents a distribution of outcomes by care type from the ONS longitudinal study. The data shows that people who have experienced out-of-home care experience significantly poorer life outcomes than those who did not. This data also reflects a difference in outcome by type of placement, with those who were cared for by relatives rather than in 'stranger' foster care or in residential care experiencing better outcomes. The authors summarise with, enduring inequalities for OHC-experienced adults in social and economic functioning add to the evidence on health inequalities.

---

<sup>26</sup> Botchway, S.K., Quigley, M.A. and Gray, R. (2014). Pregnancy-associated outcomes in women who spent some of their childhood looked after by local authorities: findings from the UK Millennium Cohort Study. *BMJ Open*, [online] 4(12), p.e005468. Available at: <https://bmjopen.bmj.com/content/4/12/e005468> [Accessed 6 May 2021].

<sup>27</sup> Gill, A. and Daw, E. (2017). *From Care to Where; Care Leavers Access to Accommodation*. Centrepoint.



	Parental care	Residential care	Non-relative care	Relative care	p
< 18-year qualifications (%)	73.93	92.07	86.09	80.56	<0.0005
Employment status (%)					<0.0005
Employed	69.94	45.30	51.15	59.95	
Unemployed	9.28	20.67	15.75	14.90	
In education	5.21	4.38	6.90	4.54	
OLF	15.36	29.65	26.21	20.62	
Long-term nonemployed (%)	2.75	12.59	5.72	3.46	<0.0005
Social class (%)					<0.0005
Managerial/professional	23.84	11.51	11.06	16.33	
Intermediate/technical	28.63	18.83	21.20	25.55	
Routine occupations	30.94	38.28	42.28	35.68	
Not known	16.60	31.38	25.46	22.45	
Housing tenure (%)					<0.0005
Owner occupier	60.02	31.37	39.42	47.31	
Renting	36.17	57.73	54.88	47.95	
Other	3.80	10.89	5.70	4.75	
Overcrowding (%)	3.74	6.75	7.00	9.02	<0.0005
Lives alone (%)	4.18	11.48	5.63	5.09	<0.0005
Marital status (%)					<0.0005
Currently married	24.98	34.24	24.60	31.70	
Previously married	2.07	5.85	3.56	3.09	
Single	72.95	59.92	71.84	65.21	
Number of children (women only)	0.51	0.21	0.43	0.26	<0.0005
Age at first child (parous women only)	22.44	21.16	21.01	21.67	<0.0005

28

## Criminal Justice

People who are care experienced appear to be over-represented in the criminal justice system. For example, as noted in the Evidence Sprint by the Care Review Team, Care leavers are estimated to represent between 24% and 27% of the adult prison population. This is despite less than 1% of under 18s entering local authority care each year.<sup>29</sup> The figure for all of Looked After Children for the year ending 31st March 2020, the percentage of youth cautions or youth conditional cautions during the year was 3%<sup>30</sup>.

<sup>28</sup> Sacker, A., Lacey, R., Maughan, B., & Murray, E. T. (2021). *Out-of-home care in childhood and socio-economic functioning in adulthood: ONS Longitudinal Study 1971-2011*. <https://doi.org/10.31235/osf.io/f6b5x>

<sup>29</sup> Her Majesty's Prison and Probation Service (2019). *Care leavers in prison and probation*. [online] GOV.UK. Available at: <https://www.gov.uk/guidance/care-leavers-in-prison-and-probation> [Accessed 6 May 2021].

<sup>30</sup> Service.gov.uk. (2020). *Children looked after in England including adoptions, Reporting Year 2020*. [online] Available at: <https://explore-education-statistics.service.gov.uk/find-statistics/children-looked-after-in-england-including-adoptions> [Accessed 19 Apr. 2021].



## **Conclusion**

The links between the long term impacts of childhood adversity and those of care experience are difficult to unpick. After all, those CYP who come into care are more than likely to have experienced at least one type of adversity or another, and there is some cause to argue that coming into care is a traumatic experience in and of itself. It is clear from the available evidence on long term impacts that it is an important issue, almost regardless of care experience, childhood adversity represents a serious negative impact on outcomes in adulthood. Much of this existing research calls for further research into specific types of adversity or more specific population groups or outcomes.