

Dream Big, Act Big for Kids



Dream Big, Act Big for Kids is a space for inspiration, imagination, and innovation. It's a place dedicated to supporting your ideas for helping all Queensland children have a great start in life.

Dream Big, Act Big for Kids is a quarterly publication for all staff working with children, highlighting evidence to strengthen children's long-term health and wellbeing. The *Dream Big, Act Big for Kids* series explores health equity, the social determinants of health, and how we can improve these to best support the conditions in which children live, love, learn, grow and play.



Adverse Childhood Experiences (ACEs) and toxic stress

Adverse Childhood Experiences, a term coined by Dr Vincent Felitti and Dr Robert Anda in their landmark study, are traumatic childhood experiences that can have devastating immediate and long-term consequences for a child's health and development. As professionals with the shared goal of improving the health and wellbeing of all children and young people in Queensland, it is important to consider how we can help prevent and mitigate the harmful impacts of ACEs on children and their families.

“Adverse childhood experiences are the single greatest unaddressed public health threat facing our nation today”

Dr Robert Black,
former President of the American
Academy of Pediatrics



How childhood trauma affects health across a lifetime

This *TED Talk* by Dr Nadine Burke provides a concise and moving introduction to ACEs and how important they are for health care providers to consider when treating children and their families: https://www.ted.com/talks/nadine_burke_harris_how_childhood_trauma_affects_health_across_a_lifetime



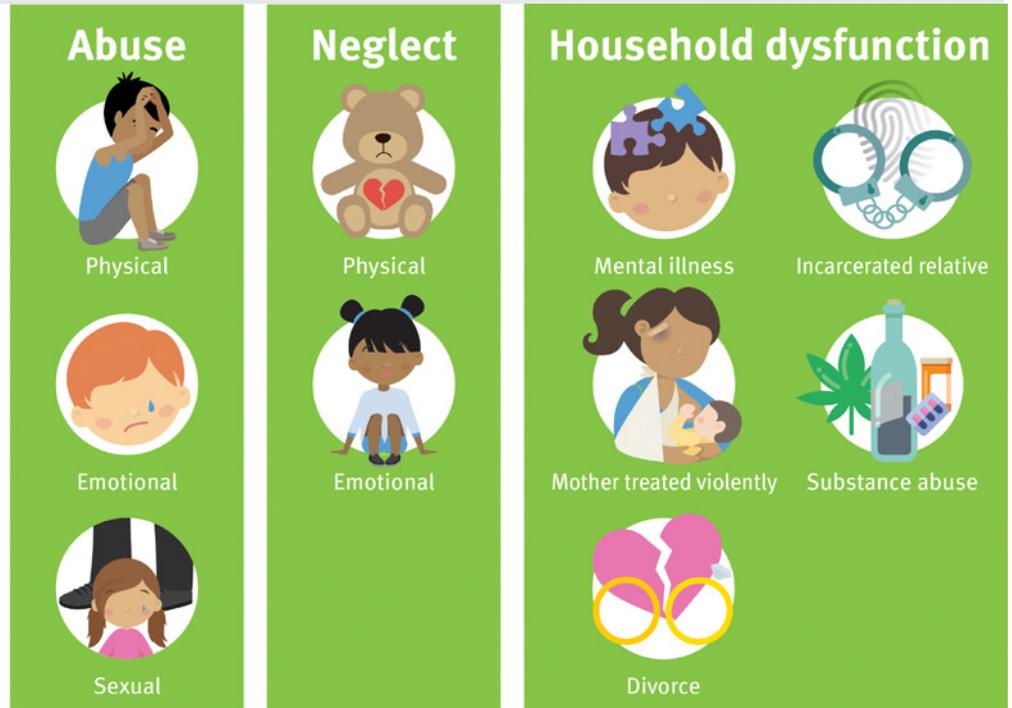
Contact us

Centre for Children's Health and Wellbeing
e CCHW@health.qld.gov.au

What are ACEs?

Adverse Childhood Experiences (ACEs) in childhood include:¹

- emotional, physical or sexual abuse
- emotional or physical neglect
- domestic violence
- parental separation or divorce
- living with a household member who has a problem with substance abuse
- living with a household member experiencing mental illness or suicidality
- living with a household member who has spent time in prison.



The illustration above shows the 10 ACEs grouped by abuse, neglect, and household dysfunction (adapted from the Robert Wood Johnson Foundation).² Experiencing many ACEs can lead to a build-up of toxic stress. Evidence shows that the more ACEs and toxic stress a child experiences, the greater the chance they will suffer poor health outcomes later in life, such as cancer, cardiovascular disease, depression and anxiety, and substance misuse.^{4,3} While ACEs and toxic stress are common among people from all social, economic, and cultural backgrounds, those with the least access to basic social resources are at a higher risk of exposure to ACEs.⁴

The Adverse Childhood Experiences Study

In 1995, the Center for Disease Control and Kaiser Permanente undertook a groundbreaking study that examined the association between the exposure to adverse experiences during childhood and health outcomes later in life among more than 17,000 adults. The *Adverse Childhood Experiences Study*,¹ led by Dr. Vincent Felitti and Dr. Robert Anda, showed a dramatic graded relationship between a person's exposure to childhood adversity and some of the leading causes of mortality among the population. Over the last two decades, a large body of research has reinforced these findings, showing that a high exposure to adverse childhood experiences can increase the chances of adult morbidity and early death by a ratio as high as 30:1.

The likelihood of health risks with four or more ACEs³

Anxiety
3.7 times more likely

Cancer
2.3 times more likely

Cardiovascular disease
2.1 times more likely

Diabetes
1.5 times more likely

Obesity
1.3 times more likely

Respiratory disease
3 times more likely

Substance abuse
5.6 times more likely

Suicide attempts
30 times more likely

Teenage pregnancy
4.2 times more likely

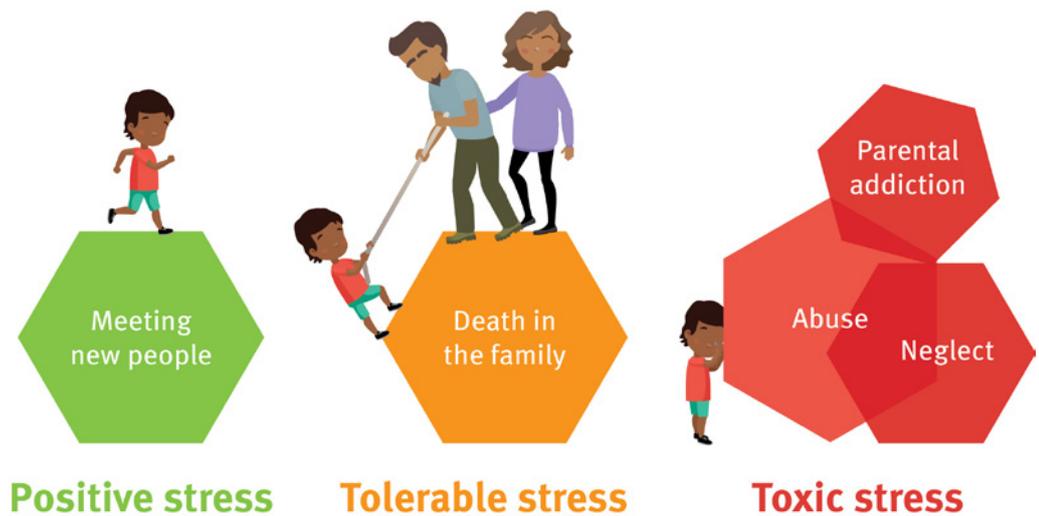
Victim of violence
7.5 times more likely



What is toxic stress and how does it impact the developing brain and health?

There are three main types of stress people experience throughout life – positive stress, tolerable stress and toxic stress (diagram at right adapted from the Alberta Family Wellness Initiative⁶).

Positive stress is perhaps best understood as a personal challenge that you can deal with, while **tolerable stress** is a more difficult situation, like the loss of a loved one or a severe injury. **Toxic stress**, on the other hand, is the result of chronic activation of the stress-response system without supportive relationships.⁵



Imagine... You are bushwalking and see a brown snake. Your heart pounds, blood pressure increases, and brain switches into fight-or-flight mode. You freeze and the snake slithers away. Your hormone feedback loop resets your adrenaline and cortisol, and you eventually feel calm again.

Now imagine... You come home and that brown snake lives in your house. It can move anywhere, at any time. Your body is stuck in fight-or-flight mode. Your hormone feedback loop cannot function normally as you remain scared or anxious constantly. This is the reality of sustained toxic stress for children in environments of adversity, without the love and nurturing of a responsive caregiver.



When a child experiences toxic stress, the part of the brain responsible for the life-preserving ‘fight or flight response’ is over-developed. This can lead to the under-development of the pre-frontal cortex part of the brain, which is responsible for essential life-skills such as goal setting, focus, flexibility, and self-regulation.⁷ Challenges in mastering these skills can often present as characteristics similar to those found in autism spectrum disorder and attention deficit hyperactivity disorder. In addition to impeding important aspects of brain development, prolonged toxic stress can cause chronic inflammation and suppressed immunity in the body,⁸ and changes to DNA that can be passed down generation to generation.⁹ These changes to the brain and body caused by sustained activation of the stress-response system are what create long-lasting wear and tear on the body, and increase the risk of poor health and wellbeing outcomes later in life.^{3,5}

The science of adversity and the case for systemic empathy

This *TED talk* by Dr Stan Sonu provides a compelling summary of the importance of understanding ACEs in our day-to-day practice and how this understanding can lead to greater empathy in our services:

<https://www.youtube.com/watch?v=Qllh5m6rS2s&feature=share&app=desktop>

“It’s far more important to know what sort of person has a disease, than to know what sort of disease a person has”

Hippocrates of Cos (c. 460 BC – c. 375 BC)

Implications for practice

In Australia, it is estimated that five million adults are affected by the trauma caused by adverse childhood experiences.¹⁰ While this represents approximately 20% of the population, results from a study in the USA show that as many as 60% of the population have experienced at least one adverse experience during their childhood.¹¹ This means that a significant proportion of the children and families we treat and support in our day-to-day practice will have had exposure to adverse childhood experiences. For this reason, Dr Robert Black, president of the American Academy of Pediatrics, states that “adverse childhood experiences are the single greatest unaddressed public health threat facing our nation today.”

As busy health practitioners, in often demanding environments, how can we take our knowledge of the importance of ACEs and use this to better support our patients? Dr Stan Sonu, Pediatric Fellow in the Cook County Preventive Medicine and Public Health Program in the USA, contends that just by starting with a better understanding of the experiences that our patients have been exposed to helps us to re-orient from a ‘disease focus’, to a more empathetic ‘person’ focus.¹² Rather than just asking ‘*what is wrong with you?*’, we can ask ‘*what has happened to you?*’. By understanding our patients’ stories, we gain a better understanding of the context from which our patients have come to us. This alone can help us to infuse greater empathy, and therefore quality, into our care.

As well as enabling us to have a more compassionate understanding of the whole person as our patient, Harvard University outlines three key evidence-based principles (<https://developingchild.harvard.edu/resources/three-early-childhood-development-principles-improve-child-family-outcomes>) for better supporting children and families at risk or exposed to adverse experiences:¹³

1. The first principle is **helping families to reduce the sources of stress** that can lead to adverse experiences. This can include important social determinants of health such as adequate housing, high-quality education, parental employment and income, access to nutritious food, and connections to family and community support.
2. The second principle is **helping children and families to develop essential life skills** that are critical to successfully navigating the complexities of life’s challenges. These resiliency skills are not ones we are born with, but can be developed and strengthened at any time throughout life. These skills include the ability to regulate our emotions, control impulses, set goals, and adapt to change. The importance of building these skills is resounded in the recent *This Place I Call Home* (www.qfcc.qld.gov.au/kids/listening/growing-queensland) report, where Queensland children and youth expressed the desire for greater guidance from families and

communities in learning how to manage workloads and stress.¹⁴

3. The third principle is **supporting responsive relationships between children and their caregivers**. Loving and responsive relationships help to promote healthy development of the child’s brain and corresponding essential life skills, while also providing protection against the effects of toxic stress. The importance of close and nurturing relationships are also strongly reflected by children and youth growing up in Queensland, who say they crave human connection, and deeply value quality time where they are listened to and understood by their families.¹⁴

To provide life-changing care for all children and families in Queensland, it is important to consider how adverse childhood experiences may be affecting their health and livelihood, and what we can do as practitioners to help prevent or mitigate these impacts. The estimated annual cost in Australia for unresolved trauma from adverse childhood experiences is \$24 billion.¹⁰ The encouraging news is that damage caused by adverse childhood experiences is not irreversible. By deepening our understanding and coming together across professions and sectors, we have an opportunity to transform workplace cultures and develop better ways of practice and service delivery to ensure the brightest future possible for Queensland children and families.

Is ACEs screening right for my service?

While screening children and adults for ACEs is highly recommended among some health care settings, such as in general practice and prenatal care, it is not always the best way to respond to and support families who have experienced adversity and toxic stress. It is important to consider a range of factors before deciding whether screening is appropriate for your team or practice. For further information, the *ACE-Questionnaire user guide for health professionals* (https://pediatricsociale.fondationdrjulien.org/wp-content/uploads/2017/05/CYW_ACEQ_UserGuide.pdf) from the Center for Youth Wellness provides leading evidence about the implementation of ACEs screening.

Reflective practice questions

1. How might your understanding and awareness of ACEs and toxic stress influence your everyday practice with children and youth?
2. What further support does your team or service need to strengthen their understanding of the impact of toxic stress on the developing child?
3. What support does your team or service need to help better support and treat patients with a high exposure to ACEs?

For further information on how to use *Dream Big, Act Big for Kids* (ACEs and toxic stress) in your practice, please use the *Dream Big, Act Big for Kids* guide to practice from our website.

www.childrens.health.qld.gov.au/dream-big

We would love your feedback!

As our reader, your thoughts and feedback are very important to us. We would love to know what you think of this *Dream Big, Act Big for Kids* issue and how we can do better for next time. This short survey will only take two minutes to complete – we appreciate it:

www.surveymonkey.com/r/8TP7NXM

Further reading

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2. Burke Harris, N. (2018). *The deepest well: Healing the long-term effects of childhood adversity*. Boston: Houghton Mifflin Harcourt.
3. American Academy of Pediatrics: ACEs and toxic stress

Support resources

If you need support or would like to talk to someone further about adverse childhood experiences in your own life, we encourage you to speak to your GP or health care professional, or alternatively you can contact the following support services: Employee Assistance Program (Queensland Hospital and Health Services staff) 24hr support 1800 604 640; Lifeline 24hr Crisis Support 13 11 14 or Beyond Blue information and support 1300 224 636.

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6. Alberta Family Wellness Initiative. Toxic Stress: A force that disrupts brain architecture [Internet]. Alberta Canada: Alberta Family Wellness Initiative; 2018. Available from: <http://www.albertafamilywellness.org/assets/Resources/Learning-Cards/AFWI-Toxic-Stress-Web.pdf>
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8. Berens AE, Jensen S, Nelson CA. Biological embedding of childhood adversity: From physiological mechanisms to clinical implications. *BMC Med* [Internet]. 2017 Jul [cited 2018 Dec 04]; 15(135). Available from: <https://bmcmedicine.biomedcentral.com/articles/10.1186/s12916-017-0895-4>
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