Trauma-informed care

Literature scan
Section one

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Te Pou o te Whakaaro Nui

Te Pou o te Whakaaro Nui

Part of the Wise Group

About this document

This publication is extrapolated from the *Trauma-Informed Care: Literature Scan* (Te Pou o te Whakaaro Nui, 2018) ADD LINK

In 2018, Te Pou o te Whakaaro Nui conducted a literature scan to better understand evidence-based approaches to trauma-informed service delivery and workforce responsiveness, and factors supporting implementation. This scan was intended to inform a national approach to trauma-informed care and help identify future intersectoral work. In New Zealand, it is important to consider the unique context of Māori as tāngata whenua and include historical and intergenerational trauma.

The terms *trauma-informed approach* and *trauma-informed care* are used interchangeably in the literature and used in multiple ways. The terms are also used interchangeably in this review to describe a trauma-informed approach and trauma-informed care as a framework, delivery approach, or model of service delivery.

The literature scan described why using a trauma-informed approach is important, what it involves, and how organisations can implement it. The report has three sections.

- Section one: includes definitions of trauma, the prevalence of traumatic events, and the potential impact on people and the health workforce.
- Section two: describes the benefits, key principles and elements of a trauma-informed approach.
- Section three: considers evidence on factors supporting the successful implementation of a trauma-informed approach.

This publication is section one of the literature scan. The reference list can also be accessed in the full publication.

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Section 1: Why use a trauma-informed approach?

This section provides an overview of why it is important to use a trauma-informed care approach and includes:

- different definitions and types of trauma experienced by people, including adverse events in childhood; and acute, complex, secondary and intergenerational trauma
- the prevalence of trauma experienced by people, including Māori people, people accessing mental health services, and workers
- the impact of trauma on people and the workforce.

Consideration is given to international and national literature where relevant.

Trauma

Trauma can be defined as the lasting adverse effects on a person's functioning and mental, physical, social, emotional or spiritual wellbeing, caused by events, circumstances or intergenerational historical experiences.

SAMHSA's (2012) definition of trauma has been widely used in the literature.

> Trauma results from an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening, and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual wellbeing. (SAMHSA, 2012, p. 2)

The SAMHSA definition needs further consideration within an New Zealand context as traumatic experiences may include both an individual and collective response, particularly for Māori people (Pihama et al., 2014). For indigenous people, intergenerational historical trauma is important (Wirihana & Smith, 2014).

A more inclusive definition of trauma is therefore:

> The lasting adverse effect on a person's or collective's functioning and mental, physical, social, emotional or spiritual wellbeing, caused by events, circumstances or intergenerational historical traumatic experiences.

Types of trauma

Adverse childhood events (ACEs) is the term used to describe all types of childhood abuse, neglect and other experiences that occur to people under the age of 18 years. Other types of trauma experienced by people or populations can be categorised as either acute, complex, secondary or intergenerational.

Adverse childhood events (ACEs)

The 1998 landmark ACEs study in the US is a large epidemiological study involving more than 17,000 people.[1] The study found an association between the breadth of exposure of abuse or household dysfunction during childhood, and poor physical, mental and social wellbeing across the life-span (Felitti et al., 1998). The identified ACEs included:

- emotional, physical and sexual abuse
- emotional and physical neglect
- household dysfunction identified as mother treated violently
- household substance abuse
- household mental illness
- parental separation or divorce
- incarcerated household member.

Acute trauma

Acute trauma is a single event or circumstance that is experienced by an individual as physically and emotionally harmful or threatening.

Complex trauma

Complex trauma is the term used to describe the response from some people who have experienced repeated instances of the same type of trauma over a period of time, or multiple types of trauma.

> Complex trauma is typically interpersonal and generally involves situations in which the person who is traumatised cannot escape from the traumatic experiences because he or she is constrained physically, socially, or psychologically. (SAMHSA, 2014, p. 6)

Complex trauma can also be described as a dual experience involving the initial exposure to a traumatic event, as well as the impact of this experience on both immediate and longer-term health and wellbeing outcomes (National Center for Post-Traumatic Stress Disorder, 2002).[2]

Secondary trauma

Secondary trauma-related stress reactions and symptoms resulting from exposure to another individual's traumatic experiences, can occur among any person, including workers who provide support to people who have experienced trauma. People who, themselves have experienced childhood trauma are more susceptible to this type of trauma (Brockhouse, Msetfi, Cohen, & Joseph, 2011).

Secondary trauma experienced by the workforce can make people more susceptible to burnout, vicarious trauma, secondary traumatic stress, and compassion stress (SAMHSA, 2014). Related definitions are summarised in Table 1.

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[1] The study continues today as an ongoing collaboration between the Centre for Disease Control and Kaiser's Department of Preventative Medicine in San Diego.

[2] People who have experienced complex trauma may need an adapted or more extensive programme of varied approaches from a skilled practitioner over a period of time (Van der Kolk, 2014).

Table 1. *Definitions of Workforce Trauma*

Workforce trauma	Definition
Burnout	The cumulative psychological strain of working with many different stressors. It often manifests as a gradual wearing down over time, and of having physical and emotional exhaustion.
Vicarious trauma	The cumulative effect of working with people who have experienced trauma and includes cognitive changes resulting from empathic engagement and a change in worldview.
Secondary traumatic stress	Workers' sub-clinical or clinical signs and symptoms of post-traumatic stress disorder (PTSD) that mirror those experienced by clients, friends, or whānau. While not formally recognised as a clinical disorder, many clinicians note that those who witness traumatic stress in others may develop symptoms similar to, or associated with, PTSD.
Compassion stress	Characterises the stress of helping or wanting to help people who have experienced trauma. Compassion stress is seen by some as a natural outcome of knowing about trauma experienced by a client, friend, or family, rather than a pathological process.

Source: Trauma Informed Oregon (n.d).

Intergenerational historical trauma

Pihama et al. (2017) argue many researchers investigating trauma have not provided for indigenous experiences of collective trauma, such as historical and intergenerational trauma. Some historical trauma researchers (Whitbeck, Adams, Hoyt, & Chen, 2004; Yellow Horse Brave Heart, 2003) have attempted to show a cluster of symptoms particular to those who have experienced historical trauma and these symptoms together constitute a syndrome: historical trauma response. In order to understand the impact of historical trauma in New Zealand, Reid, and colleagues (2014) suggest using the multi-level model outlined by Sotero (2006), which includes three sequential stages.

- First, there is a mass trauma experience where the dominant group subjugates a population, resulting in segregation and displacement, physical and psychological violence, economic destruction, and cultural dispossession.
- Second, a trauma response is elicited in the first or primary generation that includes physical, social, and psychological responses.
- Third, the responses are transmitted to subsequent generations via various pathways across all levels of analysis from the micro to the macro.

For Māori people the historical trauma resulting from the impacts of colonisation, have been transmitted through generations and are associated with negative health disparities experienced by many whānau (family and extended family), hapū (sub-tribes), and iwi (tribes) (Pihama et al., 2014). The intergenerational impact of the historical loss of land, decline of Māori language and cultural practices, and subsequent colonisation of indigenous values contribute to the complexities of trauma experienced by some Māori people (Smith, 2005).

"The structural poverty[3] faced by many Māori families is one of the major means of transmitting the historical trauma of colonisation through the generations" (Reid et al., 2014, p. 528).

The prevalence of trauma

This discussion includes the prevalence of trauma among people in the general population, Māori people, people accessing mental health and addiction services, and in prison. Consideration is also given to specific types of trauma including whānau and intimate partner violence, and sexual assault.

General population

The types of events in childhood or adulthood leading to a potential trauma response are varied. Research across 20 countries (Stein et al., 2010) indicates common traumatic events include:

- the death of a loved one (31 per cent)
- witnessing violence to others (22 per cent)
- experiencing interpersonal violence (19 per cent).

Other traumatic events (e.g., automobile accidents and natural disasters) appear to be quite similar throughout developed countries (SAMHSA, 2014). The main difference between the US and New Zealand is exposure to natural disasters, which were relatively rare before the 2011 Canterbury earthquake (Flett, Kazantzis, Long, MacDonald, & Millar, 2002).

A New Zealand survey of 1,500 people investigated experiences of 12 different traumatic events.[4] Results indicate over half of adults have experienced a traumatic event, with women reporting more exposure to crime and accidents than men (Flett et al., 2002).

The Dunedin Health and Development Study has examined the developmental mental health histories of adults with post-traumatic stress disorder (PTSD) and provides another perspective on experiences of trauma (Koenen et al., 2008). As shown in Figure 1, the sudden unexpected death by a traumatic event of a close family member or friend, and personal assault or victimisation were the most commonly reported 'worst' experiences before the age of 26.

[3] Structural poverty is the marginalised position of large numbers of Māori people who face economic and social disadvantages.

[4] Including combat, child sexual assault, adult sexual assault, domestic assault, other physical assault, robbery or holdup, motor vehicle accidents, other accidents resulting in injury, disaster experiences, and being forced to leave home or take other precautions due to a natural disaster.

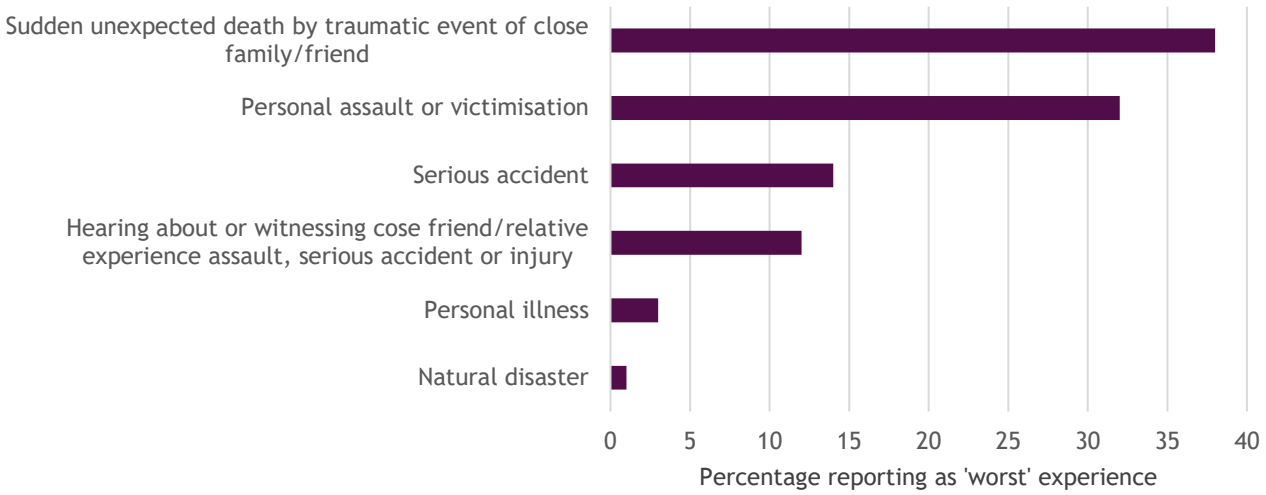

Figure 1. Worst experiences by the age of 26 years based on findings from the Dunedin Health and Development Study (Koenen et al., 2008).

For Māori people the sudden unexpected death of a close family member is similarly recognised as one of the most challenging experiences. Aupori-McLean (2013) notes in recent research on the personal journeys of whānau bereaved through suicide of loved ones, that for Māori people coping with the resultant trauma is one of the "ultimate encounters faced by survivors".[5]

Whānau and intimate partner violence, and sexual assault

New Zealand has high rates of whānau, intimate partner, and sexual violence.

Sexual assault

About 1 in 3 (35 per cent) ever-partnered women have experienced physical or sexual violence by an intimate partner in their lifetime, and over half (55 per cent) have experienced psychological or emotional abuse (Fanslow & Robinson, 2011). A nationwide face-to-face survey of 6,943 adults in New Zealand in 2014 found one-quarter (24 per cent) of women and 6 per cent of men have experienced sexual assault in their lifetime (Ministry of Justice, 2015).

Compared to other countries, New Zealand has poor rates of childhood sexual abuse (Global Health Metrics, 2017).[6] Out of 188 countries, only six countries rated as badly or worse than New Zealand. In 2016, there were 2,163 reported sexual victimisations against a child aged 16 years or younger (National Performance & Insights Centre, 2017). However, the *2014 New Zealand Crime and Safety Survey* estimates less than 10 per cent of sexual offences are reported (Ministry of Justice, 2015).

[5] Grieving family members experienced guilt, self-reproach and social isolation in response to the behaviour of others towards them, increased self-harm, an escalation in marital dysfunction, and changes in whānau interaction (either better or worse).

[6] The UN defined childhood sexual abuse as the prevalence of men and women aged 18 to 29 who experienced sexual violence by the age of 18 years. New Zealand's index score for childhood sexual abuse was two out of 100 The index scoring used in the study was on a range from 0 to 100, with 0 being the worst score.

Whānau and intimate partner violence

Official statistics, data and other surveys provide further insight. Table 2 presents examples related to whānau and intimate partner violence which have been collected and reported in a variety of ways (e.g., in relation to trauma type or population group).

Table 2. *Summary of Official Statistics Relating to Whānau and Intimate Partner Violence*

Description	Period	Number
Family violence investigations by Police (National Performance & Insights Centre, 2017)	2016	118,910
Police recorded 'male assaults female' victimisations (National Performance & Insights Centre, 2017)	2016	6,377
Crisis calls to women's refuges affiliated to the National Collective of Independent Women's Refuges	2015/16	73,000
Women accessing women's refuge advocacy services in the community (National Collective of Independent Women's Refuges, 2016)	2015/16	11,062
Women and children staying in women's safe houses (National Collective of Independent Women's Refuges, 2016)	2015/16	2,446
Care and protection notifications received by Child, Youth and Family (Child Youth and Family, 2016)	2015/16	142,249
Care and protection notifications requiring further action (Child Youth and Family, 2016)	2015/16	44,689
Care and protection notifications leading to findings of abuse or neglect (Child Youth and Family, 2016)	2015/16	16,394

Furthermore, up to 2 in 5 children have witnessed violence between adults in their home, and around half of these children have lived with this for long periods (Fergusson & Horwood, 1998; Martin, Langley, & Millichamp, 2006).

Māori people

Two-thirds (65 per cent) of Māori people have experienced one or more traumatic events during their lifetime (Hirini et al., 2005).

The historical and contemporary factors contributing to whānau violence are acknowledged as complex (Dobbs & Eruera, 2014; Pihama et al., 2014; Wirihana & Smith, 2014). Māori people are overrepresented in family violence statistics as both victims and perpetrators, and have higher rates of mental health problems and incarceration than the general population (Baxter, Kingi, Tapsell, & Durie, 2006). The Public Health Advisory Committee estimated upwards of 20,000 primarily Māori children, may be intergenerational victims of incarceration (Ministry of Health, 2010).

Statistics provided by Te Puni Kōkiri (2017) indicate Māori people are more likely to experience family violence behaviours compared to other population groups. On average, Māori people are:

- more than twice as likely to be victims of violent interpersonal offences by intimate partners (11 per cent compared with 5 per cent)
- more likely to be victims of any crime (33 per cent compared with 24 per cent)
- overrepresented among offenders who perpetrate serious crimes against family members (45 per cent of unique offenders[7] in 2016).

In addition:

- more Māori children are in care (61 per cent) and admitted to youth justice residences (71 per cent) (Te Puni Kōkiri, 2017)
- Māori students are about twice as likely (17 per cent) as pakeha students (9 per cent) to report witnessing adults hit children in their homes
- Māori people are 10 times more likely to have experienced multiple forms of racism and discrimination than other ethnic groups (Harris et al., 2006).

Mental health and addiction services

A large proportion of people who experience mental health and addiction issues are likely to have experienced trauma (SAMHSA, 2014). A 2013 trauma-informed care review in inpatient settings, concluded people needing trauma-specific services represent the greatest proportion of people accessing public mental health, forensic health, and drug and alcohol services (Muskett, 2013).

One US study (Frueh, Knapp, Cusack, Grubaugh, & Sauvageot, 2005) found 87 per cent of people accessing community mental health services had experienced trauma sometime in their life, including physical assault (47 per cent), childhood sexual abuse (30 per cent), and adult sexual assault (17 per cent). People with experiences of trauma also tended to feel more unsafe, helpless, fearful, and distressed, along with people with a probable presence of post-traumatic stress disorder (PTSD).

A more recent Australian study of 100 people attending four services for people with early psychosis found over three-quarters reported exposure to childhood trauma (Duhig et al., 2015). In line with the findings of Frueh et al. (2005), about one-third (28 per cent) had experienced sexual abuse, and half emotional abuse or neglect as shown in Figure 2.

[7] The unique offender population is the measure that counts individual offenders once in a given 12-month reference period regardless of how many times they may have been dealt with by police.

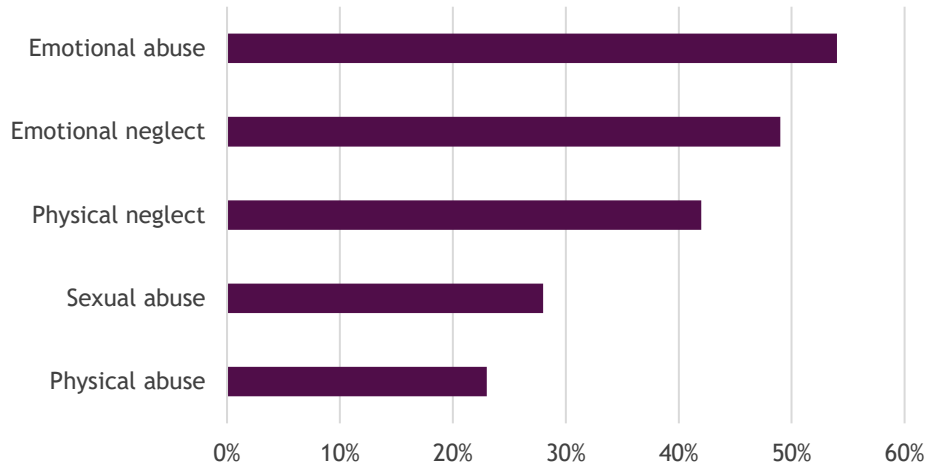

Figure 2. Exposure to childhood trauma among 100 people attending four early psychosis services in Australia. Source: Duhig et al. (2015).

Prison population

Experiences of trauma play a significant role in the lives of women who offend (McGlue, 2016). US studies show up to 90 per cent of people seeking treatment for serious and long-term mental health and addiction issues, and in contact with the criminal justice system, have experienced significant emotional, physical, and sexual abuse in childhood (Muskett, 2014).

Within the local prisoner population there are high rates of lifetime exposure to trauma (Bevan, 2017). For example, over half of prisoners have experienced sexual or family violence (75 per cent of women and 56 per cent of men); and many have PTSD (54 per cent of women and 40 per cent of men) (Indig, Gear, & Wilhelm, 2016). Indig and colleagues (2016) found 68 per cent of women in prison have been victims of family violence, and 62 per cent have experienced co-existing mental health and addiction problems sometime in their life. Moreover, the environment and culture within prison has the potential to be re-traumatising for people due to day-to-day occurrences (such as noises, shouting, confined spaces, lack of privacy and body searches which can be perceived as threatening) (Benedict, n.d.).

Mental health and addiction workforce

Health workers may experience bullying, harassment and violence from people accessing services (Baby & Carlyle, 2014; Spector et al., 2014).

Research suggests New Zealand's mental health nurses are frequently subjected to abuse and violence from people accessing services (Baby & Carlyle, 2014). Similarly, new graduate nurses working across the health sector frequently experience violence from either colleagues or people accessing services (McKenna et al., 2003ab).

Worldwide, one-third of nurses, in a range of employment settings, have experienced physical violence, bullying, or injury; one-quarter sexual harassment; and two-thirds non-physical violence (Spector et al., 2014).

Verbal abuse is most commonly experienced by the workforce. In New Zealand, McKenna and colleagues (2003ab) found the most common inappropriate behaviours towards new nurses by people accessing services involved verbal threats (35 per cent), verbal sexual harassment (30 per cent), and physical intimidation (29 per cent). Male and younger nurses were especially vulnerable to inappropriate behaviours, as well as nurses working in mental health services (McKenna et al., 2003b). Nearly half of the events described were not reported. Only 12 per cent of people who described a distressing incident received formal debriefing, and many had received no training to manage the behaviour.

Less is known about the addiction workforce. However, an Australasian survey is currently underway (National Centre for Education and Training on Addiction [NCETA], 2017) focusing on the wellbeing of the AOD (alcohol and other drugs) and addiction workforces and will be completed this year.

Bullying

Bullying can be a cause of secondary trauma in the workplace (Handran, 2013) and prevention is important to a healthy workplace. It deserves specific focus given its heavy toll on nurses and other health workers (Allen, Holland, & Reynolds, 2015), which can lead to higher levels of strain, reduced wellbeing, organisational commitment, and self-rated performance (NCETA, 2017). New nursing graduates who have experienced bullying from peers across various clinical settings, all indicate the impact of interpersonal conflict is serious (World Federation for Mental Health, 2017).

Bullying from peers in the workplace most commonly takes the form of psychological harassment, which creates hostility, as opposed to physical aggression. This harassment can involve verbal abuse, threats, intimidation, humiliation, excessive criticism, innuendo, exclusion, denial of access to opportunities, disinterest, discouragement and withholding of information (McKenna et al., 2003a). Recent studies indicate bullying is prevalent among workers in the medical profession. Up to half of those surveyed by the New Zealand Medical Association reported experiences of bullying (World Federation for Mental Health, 2017).

The extent of bullying within New Zealand is reinforced by a 2017 survey of senior doctors and dentists (Association of Salaried Medical Specialists, 2017). More than one-third (37 per cent) reported being bullied, and over two-thirds (68 per cent) witnessing colleagues being bullied. Much of the bullying was between medical colleagues. Other senior medical staff were frequently cited as perpetrators (53 per cent overall), followed by non-clinical managers (32 per cent), and people in clinical leadership positions (25 per cent).

Whilst the extent of workplace bullying in addiction services is unclear, one study examining the personal experiences of bullying among 1,700 workers across 36 organisations in the education, health, hospitality and travel sectors, found 18 per cent of respondents reported bullying (O'Driscoll et al., 2011).

The impact of trauma on health and wellbeing

The impact of traumatic events on people and the health workforce is described in this sub-section. It is now well understood that while not inevitable, the effects of trauma are diverse and multifaceted. Trauma can negatively impact on the brain, behaviour and relationships across the lifespan and generations (Isobel & Edwards, 2017). Immediate and delayed reactions to events are discussed, as well as the impact of specific types of events, including adverse events in childhood, the Canterbury earthquake, and work-related trauma. The final part of this discussion includes the impact of factors that help build resilience, such as individual, interpersonal and community or social factors.

The event, experience and effects

To understand the experience and impact of trauma, SAMHSA (2015, p. 8) describes trauma as the result of a process of three "E's":

1. the event that occurs to expose a person to either a single traumatic event or repeatedly over time
2. the experience of the event by an individual or a population helps determine whether it is a traumatic event. How the event is experienced may be linked to a number of risk or protective factors
3. the effects of the event, whether the effects occur immediately or have a delayed onset – in some situations, the individual may not immediately connect the event with subsequent effects.

Therefore, trauma potentially occurs following exposure to an event.

Common experiences and responses to trauma

Trauma can impact the emotional, physical, cognitive, behavioural and existential wellbeing of people. Some common reactions to trauma are described in Table 3. Immediate reactions for example may include helplessness, exhaustion, difficulties concentrating, startled reaction, and reduced confidence in one's ability. Reactions may also be delayed.

Table 3. *Some Common Reactions to Trauma*

Reaction	Immediate reactions	Delayed reactions
Emotional	• Numbness and detachment • Anxiety or severe fear • Guilt (including survivor guilt) • Exhilaration as a result of surviving • Anger • Sadness • Helplessness • Feeling unreal; depersonalisation (e.g., feeling as if you are watching yourself) • Disorientation • Feeling out of control • Denial • Constriction of feelings • Feeling overwhelmed.	• Irritability and/or hostility • Depression • Mood swings, instability • Anxiety (e.g., phobia, generalized anxiety) • Fear of trauma recurrence • Grief reactions • Shame • Feelings of fragility and/or vulnerability • Emotional detachment from anything that requires emotional reactions (e.g., significant and/or family relationships, conversations about self, discussion of traumatic events or reactions to them).
Physical	• Nausea and/or gastrointestinal distress • Sweating or shivering • Faintness • Muscle tremors or uncontrollable shaking • Elevated heartbeat, respiration, and blood pressure • Extreme fatigue or exhaustion • Greater startle responses • Depersonalisation.	• Sleep disturbances, nightmares • Somatisation (e.g., increased focus on and worry about body aches and pains) • Appetite and digestive changes • Lowered resistance to colds and infection • Persistent fatigue • Elevated cortisol levels • Hyperarousal • Long-term health effects including heart, liver, autoimmune, and chronic obstructive pulmonary disease.
Cognitive	• Difficulty concentrating • Rumination or racing thoughts (e.g., replaying the traumatic event over and over again)	• Intrusive memories or flashbacks • Reactivation of previous traumatic events • Self-blame • Preoccupation with event

	• Distortion of time and space (e.g., traumatic event may be perceived as if it was happening in slow motion, or a few seconds can be perceived as minutes) • Memory problems (e.g., not being able to recall important aspects of the trauma) • Strong identification with victims.	• Difficulty making decisions • Magical thinking: belief that certain behaviours, including avoidant behaviour, will protect against future trauma • Belief that feelings or memories are dangerous • Generalisation of triggers (e.g., a person who experiences a home invasion during the daytime may avoid being alone during the day) • Suicidal thinking.
Behavioural	• Startled reaction • Restlessness • Sleep and appetite disturbances • Difficulty expressing oneself • Argumentative behaviour • Increased use of alcohol, drugs, and tobacco • Withdrawal and apathy • Avoidant behaviours.	• Avoidance of event reminders • Social relationship disturbances • Decreased activity level • Engagement in high-risk behaviours • Increased use of alcohol and drugs • Withdrawal.
Existential	• Intense use of prayer • Restoration of faith in the goodness of others (e.g., receiving help from others) • Loss of self-efficacy • Despair about humanity, particularly if the event was intentional • Immediate disruption of life assumptions (e.g., fairness, safety, goodness, predictability of life).	• Questioning (e.g., "Why me?") • Increased cynicism, disillusionment • Increased self-confidence (e.g., "If I can survive this, I can survive anything") • Loss of purpose • Renewed faith • Hopelessness • Re-establishing priorities • Redefining meaning and importance of life • Reworking life's assumptions to accommodate the trauma (e.g., taking a self-defence class to re-establish a sense of safety).

Sources: Briere & Scott, 2015; Foa, Stein, & McFarlane, 2006; Pietrzak, Goldstein, Southwick, & Grant, 2011

Adverse childhood events (ACEs)

Experiences of adverse events in childhood[8] increase the risk of poor physical, mental and social wellbeing across the life-span (Anda et al., 2008; Felitti et al., 1998). The more ACEs experienced, the greater the likelihood of experiencing an array of health and addiction problems in adulthood, including alcohol dependency, chronic pulmonary disease, depression, illicit drug use, and liver disease (Centers for Disease Control and Prevention, 2014).

Consequences of ACEs reported from a 2013 English national study of 4,000 adults[9] included health-harming behaviours in early adulthood such as substance use, physical inactivity, eating disorders, and conduct disorder (Bellis, Hughes, Leckenby, & Jones, 2014). Other key findings are summarised in Table 4. For example, people who have experienced four or more ACEs are seven times more likely to have been involved in violent incidents in the past year. Recent research also suggests people exposed to six or more ACEs have a risk of suicide 35 times higher than others (Larkin, 2016).

Table 4. *Summary of the Occurrence of Health Harming Behaviours for People with Four or More ACEs*

Behaviour	Compared to others*
• Currently binge drink and have a poor diet	2 times (x) more likely
• Current smoker	3x
• Sex under the age of 16 years	5x
• Had or caused an unplanned teenage pregnancy	6x
• Involved in violence in the last year	7x
• Used heroin or been incarcerated	11x

*Note** Compared to people with less than four ACEs. Source: Bellis et al., (2014).

An analysis of the World Mental Health Survey Initiative of 51,945 adults across 21 countries, found adversities experienced in childhood are usually inter-related and occur in clusters (Kessler et al., 2010). Kessler and colleagues found childhood adversities associated with maladaptive family functioning (such as parental mental health issues, child abuse and neglect), were the strongest predictors of issues with mental health in adulthood.

The relationship between ACEs and trauma is captured in Figure 3. However, it is important to note this UK model does not include indigenous historical and intergenerational trauma.

[8] The identified ACEs included emotional, physical and sexual abuse; emotional and physical neglect; household dysfunction identified as mother treated violently; household substance abuse; household mental illness; parental separation or divorce; and incarcerated household member.

[9] Which compared people with no ACEs to those with four or more.

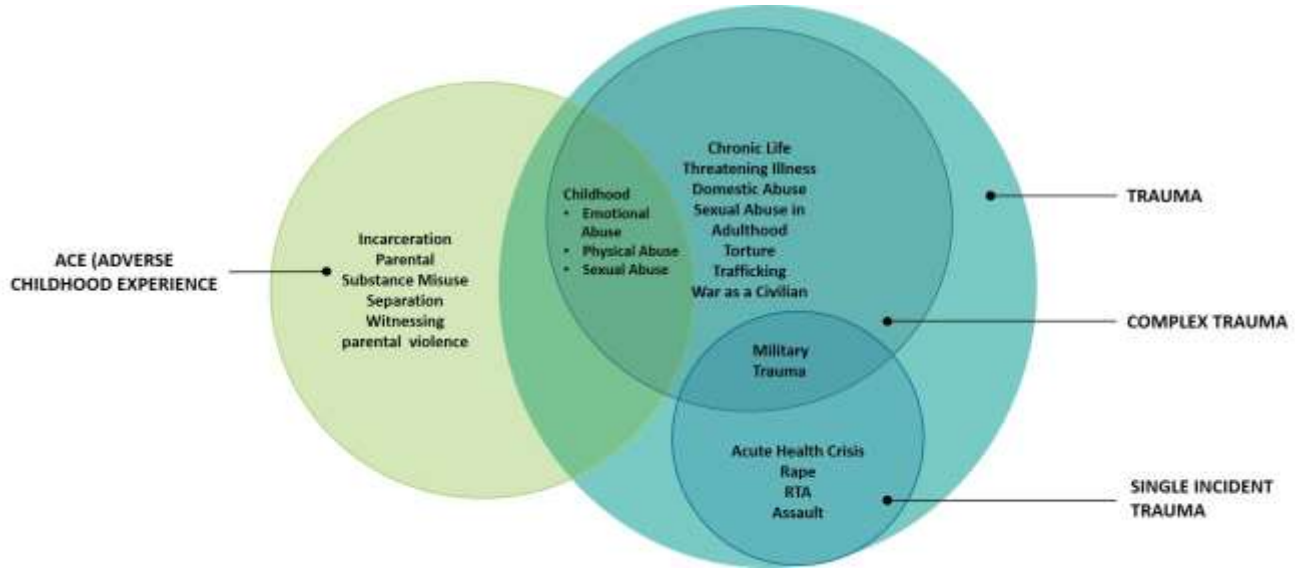

Figure 3. Relationship between ACEs and trauma (NHS Education for Scotland, 2017, p. 20).

New Zealand findings on adverse childhood events

New Zealand studies have found similar effects of adverse events in childhood. The Christchurch Health and Development Study (Fergusson & Horwood, 2001) concluded sexual abuse in childhood increases the risk of depression, anxiety disorders, substance use disorders, and suicidal behaviours. This longitudinal study also found five per cent of children with the greatest disadvantage and family dysfunction had risks of multiple problem behaviours over 100 times those of children in the advantaged 50 per cent of the cohort.

Exposure to childhood trauma is common among people who experience early psychosis and is associated with increased symptomology (Duhig et al., 2015). Another study found an association between childhood trauma, particularly emotional trauma, and an increased likelihood of experiencing bipolar disorder (Watson, Gallagher, & Dougall, 2014).

The effect of early childhood disadvantage[10] on adult behaviour was reported in the Dunedin Multidisciplinary Health and Development study (Dunedin Multidisciplinary Health & Development Research Unit, 2016). Twenty per cent of the study cohort as adults, accounted for over 80 per cent of service use in health care, criminal-justice, and social welfare systems.

In a report to the New Zealand Mental Health Commission, Debra Wells (2004) emphasised how people abused as children are more likely to enter mental health services at a younger age (Read, 1998) and have longer and more frequent hospitalisations; spend more time in seclusion; receive psychotropic medication more often; relapse more frequently (Read, 1998); attempt suicide (Lothian & Read, 2002); and engage in deliberate self-harm (Read, Hammersley, & Rudegeair, 2007).

[10] Members of this group grew up in socioeconomically deprived environments, experienced child maltreatment and exhibited low childhood self-control.

Neuroscience of adverse childhood events (ACEs)

Neuroscience research is helping to understand the pathway or mechanism by which childhood trauma impacts on health and wellbeing. The earlier the onset of trauma and the longer its duration, the greater the adverse effect, as the structure and functioning of the developing mind and brain are shaped by experiences (Cozolino, 2002).

Lupien and associates explain that excessive stress activation during early childhood shifts mental and physiological resources from long-term development to immediate survival (Lupien, McEwen, Gunnar, & Heim, 2009). Effects include increased vigilance at the cost of focused attention; impulsivity stimulated at the cost of behavioural regulation; and limits on long-term biological investment in the brain and other organ systems to the detriment of later health and capacity. Over time, long-term stress can alter biological functions associated with immunity, growth, cardiovascular function, metabolism, and sleep (Lupien et al., 2009).

The neurobiological consequences of trauma include impaired brain development, reduced cognitive (learning ability) and socio-emotional (social and emotional) skills, and lower language development (Leitch, 2017). Different types of abuse and neglect appear to target the sensory systems and pathways involved with processing the abuse and are associated with risks for different forms of neurobiological alterations (Teicher & Samson, 2016). For example, young adults exposed to emotionally abusive language in childhood, showed changes in brain regions involved in processing language and speech (Tomoda et al., 2011). Young adults who experienced ongoing, harsh physical punishment in childhood showed alterations to the cortical pathways involved with pain (Tomoda et al., 2009). Teicher and Samson (2016) therefore concluded it may not just be the total number of adverse events that matter, but also the type of maltreatment, given the different types of neurobiological changes.

There are gender differences in how the brain responds to early trauma. Reduced corpus callosum size (the area that connects the two hemispheres of the brain) in victims of child abuse and neglect is one of the most significant anatomical changes in the brain (Teicher et al., 2004). Males are affected more than females, particularly males who have experienced neglect (De Bellis & Keshavan, 2003). The corpus callosum of females is more vulnerable to the effects of sexual abuse (Teicher et al., 2004). The hippocampus, the area of the brain involved with the formation and retrieval of memories, is highly susceptible to the effects of early abuse and neglect (Twardosz & Lutzker, 2010) with greater effects (reduced volume) found in the male brain (Teicher & Samson, 2016).

It is important to note while trauma can negatively affect the brain, the brain has a lifelong ability to change and adapt. This is known as neuroplasticity (Cirti & Malenka, 2008), and can contribute to the development of resiliency through learning to focus cognitive attention on strengths and positive experiences (Muskett, 2013; Leitch, 2017). Due to its role in facilitating recovery, neuroplasticity has been described as "the 'hope' of the nervous system" (Miller-Karas, 2015 p. 8).

Adults and older adults

Adults who have experienced sexual abuse, intimate partner violence, violence by non-partners, serious crime, active hostilities during war, workplace physical violence and bullying are at risk of developing mental health issues (Volpicelli, Balaraman, Wallace, & Bux, 1999; Baxter et al., 2006). These experiences may add to the effects of ACEs or be associated with them (VicHealth, 2004).

Older adults may have somewhat different responses to adverse events than those who are younger. Traumatic experiences (whether experienced in childhood or adulthood) may affect levels of both depression and anxiety in older adults, according to a large New Zealand study of 1,216 older adults (Dulin & Passmore, 2010). The study found avoidance of prior traumatic memories and situations played a large role in late-life anxiety and depression. Results indicate trauma experienced during young adulthood or middle age is a stronger predictor of anxiety and depression among older adults than trauma experienced in childhood or adolescence.

Historical and intergenerational trauma

Yellow Horse Brave Heart (2003) in the American Indian context was one of the first people to provide researchers with a framework to identify the collective impact on indigenous peoples, of historical or intergenerational trauma. This framework offered a process for researchers to understand the long-term, complex individual and collective trauma of Māori people (Wirihana & Smith, 2014). Yellow Horse Brave Heart (2007) describes the response and impact of historical trauma:

> Cumulative emotional and psychological wounding, over the life span and across generations, emanating from massive group trauma experiences. The reaction to this intergenerational trauma (which reads almost like a menu of self-hatred) is the historical trauma response, which may include self-destructive behaviour, substance abuse, suicidal thoughts and gestures, depression, anxiety, low self-esteem, anger, intrusive trauma imagery, identification with ancestral pain, fixation to trauma, somatic symptoms, and elevated mortality rates. Associated bereavement accompanies historical trauma grief, known as historical unresolved grief. This grief may be considered impaired, delayed, fixated, and/or disenfranchised. (p.177)

For Māori people and communities the impact of historical trauma transmitted through generations has been associated with high suicide rates; a heightened risk of exposure to violence, physical, sexual and psychological abuse; and poverty (Reid et al., 2014; Smith, 2005). The impact of trauma on Māori people includes experiences linked to racism and discrimination, negative stereotyping, and inequalities in health (Pihama et al., 2017). Health and social policies themselves may be sources of historical and intergenerational trauma, and can continue to impact on individual and community health for marginalised groups (Bowen & Murshid, 2016).

Natural disasters

Research following the 2011 Canterbury earthquakes suggests the capacity to function effectively in life (e.g., work, parental roles) and in relationships may be severely affected by natural disasters, such as an earthquake (Dorahy et al., 2016). Dorahy and associates concluded aftershocks make a significant contribution to mental health outcomes. Aftershock anxiety and controllability of response were stronger predictors of psychological symptoms than other factors, including the extent of neighbourhood damage, loss, and disruptions.

Blake and Lyons (2016) demonstrated the importance of mitigating vulnerability and risks for people accessing opioid substitution treatment (OST) after a disaster. After the Canterbury earthquake health workers and emergency planners identified the importance of OST preparedness planning to ensure service continuity, to reduce physical and psychological distress for people accessing services, their whānau, and wider community.

Work-related trauma

Secondary traumatic stress, vicarious stress, or occupational burnout experienced by mental health and addiction workers have been shown to adversely impact on their wellbeing and interpersonal relationships, along with service delivery, treatment outcomes, and satisfaction amongst people accessing services (Byron et al., 2015; Bateman, Henderson, & Kezelman, 2013; Evans & Coccoma, 2014).

To help identify responses to trauma exposure, Laura van Dernoot Lipsky (2009) identified 16 warning signs as outlined in Table 5.

Table 5. *16 Warning Signs of Trauma Exposure Responses (van Dernoot Lipsky, 2009)*

Warning signs	
1. Feeling helpless and hopeless 2. A sense that one can never do enough 3. Hyperviligence 4. Diminished creativity 5. Inability to embrace complexity 6. Minimising 7. Chronic exhaustion/physical ailments 8. Inability to listen/deliberate avoidance	9. Dissociative moments 10. Sense of persecution 11. Guilt 12. Fear 13. Anger and cynicism 14. Inability to empathise/numbing 15. Addictions 16. Grandiosity - an inflated sense of importance related to one's work.

New Zealand perspective on work-related trauma

As in any trauma response, the severity or degree of impact trauma has on the workforce can vary from worker to worker, based on factors such as past experiences of sexual violence and traumatic events; training and education; personality styles; and existing self-care strategies (Pack, 2013).

Puckey (2001) explored the nature of vicarious traumatisation, and its contemporary conceptualisation of helping-induced trauma, and concluded vicarious trauma among mental health nurses is a safety risk. Puckey advocated for taking measures to engage in a process of personal safety risk management for both nurses and people accessing services.

Vicarious trauma not only affects health workers personally but can impact on relationships with other professionals, and significant others (Baby & Carlyle, 2014; Pack, 2013). The negative impact of vicarious trauma can include overextending, overindulging, avoiding situations, absenteeism, substance use, self-criticism, and experiencing intrusive thoughts (Rakei, 2016).

A New Zealand study revealed mental health nurses felt unprepared for the possible negative impacts of trauma on themselves, such as vicarious traumatisation (Davies, 2009). Davies found caring-induced trauma often led to mental health nurses leaving the profession altogether, especially when they did not understand what was happening to them.

Pack (2013) asserts that organisational systems can increase the risk of vicarious trauma among counsellors. When workers' personal philosophies differ from the values and attitudes dominant within the organisation and its practices, there is conflict (Pack, 2013). Social workers have reported oppressive systems of management, intimidation and direct violence by co-workers as traumatising (van Heugten, 2007).

Resilience

Individual responses to adverse events vary. For example, some children exposed to adverse events, especially isolated events, do not necessarily require services if other resilience-enhancing factors are present in the child's immediate environment (Boyce & Harris, 2011).

A person's response to trauma events throughout the course of their lifetime is dependent on the balance between risk and protective factors (Carswell et al., 2017). Carswell and colleagues suggest the complex interaction between risk and protective factors leads to a person's resilience, which evolves over time. Resilience is described as the capacity to achieve developmental milestones, such as education and employment, in spite of childhood adversity (Carswell et al., 2017). The authors of this New Zealand study interviewed 49 people face-to-face, from a range of backgrounds[11] and identified resilience factors, including individual, interpersonal and community/societal factors, as summarised in Table 6.

Table 6. *Summary of Individual, Interpersonal and Community/Societal Resilience Factors*

Level	Factors
Individual	• Hope and desire for a better life expressed as hope for the future, for a better life, to be loved and appreciated, and their children's future. • Self-determination, for example regaining a sense of control over their lives and bodies. • Spiritual, religious and knowledge frameworks expressed as a quest to better understand what had happened and to identify positive coping strategies. • Building self-esteem and confidence. • Accessing supportive relationships and services such as counselling, community groups, and courses. • Ability to reflect and make choices, being self-aware, able to assess consequences and make good choices for themselves and their children. • Using good self-management and self-care strategies.

[11] Participants included 26 Māori people, 18 Pākehā and five Pacific people, of whom two-thirds of were female and were aged 36 years on average (range 16 to 56 years).

Interpersonal	• People who believe in and encourage them to achieve more. For example, being acknowledged for being good at something and valued; and not feeling judged. • Supportive relationships in childhood with significant people such as family members, carers and friends who provided love, stability and encouragement. • The development of trusting relationships during childhood tended to provide a foundation for good relationships later in life. • Breaking the intergenerational cycle of violence and addiction, and helping people understand violent relationships are not the norm.
Community and societal	• Early intervention for children and responsive service provision. Experiences of no action from authorities for help sought for childhood abuse, led many participants to distrust authorities and the non-disclosure of future abuse. • Healing and rehabilitation for children, adults and whānau, such as accessing family violence and counselling services. This was beneficial in helping to understand the abuse experienced and developing coping strategies. • Services that are accessible and skilled at engaging with whānau. • Education services supporting children living in adverse environments. • Building skills and capability – education services supporting young people and adults back into education. • Support to get into employment, including initial involvement in some type of training and skills development as part of the motivation to journey towards long-term, positive and sustainable change. The accessibility of night schools, short courses and introductory courses were invaluable for building confidence and as first steps back into education.

Source: Carswell et al. (2017).

Māori people and resiliency

Studies demonstrate the notion of whānau resilience has a unique interpretation for Māori people (Carswell et al., 2017; Waiti & Kingi, 2014). While Māori people share similar resilience strategies to those found in western literature, there are cultural differences aligned with a Māori worldview and whānau dynamics. Māori culture and identity in general are factors which significantly contribute to wellbeing (Carswell et al., 2017). Whānau contribute to the wellbeing of whānau members through (Waiti & Kingi, 2014):

- whanaungatanga (networks and relationships)
- pūkenga (abilities and skills)
- tikanga (meanings, values and beliefs)
- tuakiri-ā-iwi (secure cultural identity).

For Māori people, supporting a whānau ora approach and intensive strengthening of capability and capacity of whānau through the strengthening of cultural practices, will allow growth in all areas of resiliency (Carswell et al., 2017).

Worker wellbeing and resiliency

Worker wellbeing refers to the extent to which workers perceive their lives as going well. It incorporates the degree to which they enjoy good physical and mental health and are resilient (Handran, 2013). Handran indicates worker wellbeing and resiliency are crucial and enhanced by an organisation creating a strengths-based trauma-informed culture. A strengths-based approach can be based on the compassion and satisfaction workers gain from working with people who have experienced trauma. Organisational support enables staff to feel confident the trauma services they are providing improves resiliency (Laschinger, 2001), and may help diminish the negative effects of compassion stress (Conrad & Kellar-Guenther, 2006).

Summary

A range of events can lead to a trauma response. When an event is experienced as traumatic by an individual, community or population, it can potentially have negative effects on behaviour, mental and physical health. While not inevitable, adverse events can negatively impact on brain development, physiology, behaviour and relationships across the lifespan and generations (Isobel & Edwards, 2017). The landmark study by Felliti and colleagues published in 1998 was among the first to describe the association between adverse childhood events (ACEs) and a person's wellbeing and has generated a plethora of ongoing studies. An individuals' response to adverse events depends in part on the balance between risk and protective factors (Carswell, Kaiwai, Hinerangi, Lennan, & Paulin, 2017).

Commonly reported events among adults include death of a loved one and witnessing or experiencing violence. Māori people have a higher risk of experiencing traumatic events. Nearly two-thirds of Māori adults have experienced one or more traumatic events, compared to half of adults in the general population (Hirini, Flett, Long, & Millar, 2005).

A large proportion of people who experience mental health and addiction issues are likely to have experienced trauma (SAMHSA, 2014). One US study (Frueh et al. 2005) found 87 per cent of people accessing services had experienced physical or sexual assault in their lifetime. Another recent Australian study (Duhig, Patterson, & Connel, 2015) found over three-quarters of people accessing early psychosis services had experienced childhood trauma.

Any worker who supports people with experience of trauma may also experience trauma responses, such as burnout, vicarious trauma, or secondary traumatic stress. In addition, health workers may be subjected to abuse or violence from people accessing services (Spector, Zhou, & Che, 2014), as well as bullying or harassment from colleagues (McKenna, Poole, & Coverdale, 2003a; McKenna, Poole, Smith, Coverdale, & Gale, 2003b).

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