

The impact of inequity on children – understanding what we are seeing

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Aspiring

Self determining

Leaving a legacy



“Ahakoa he iti , he iti pounamu”
Although she is small she is precious

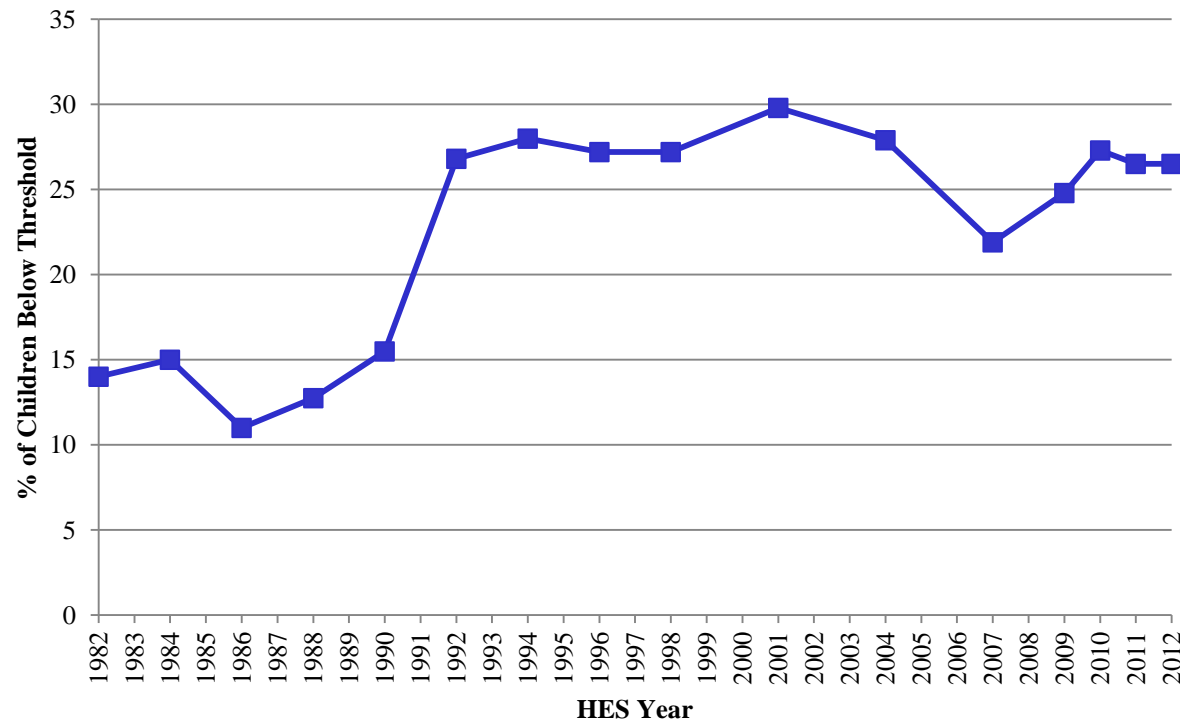
Comments from children

Never had a birthday cake at 10

“Once were Warriors” is our life

We just want to “not be hungry” and “go to school camp” with all the other kids

**NZ has Intergenerational poverty +++ - High levels
of Poverty since 1991 = Inequity +++
Damaging and results in parenting issues**



Neuroscience Children

Attachment

Facilitated by
oxytocin



Early experience builds a brain

- Genes are the blueprint but experience is the carpenter
- Together they build a brain from the base up. Building a brain is like building a house – depending on the quality of experience a child grows a weak or a strong foundation
- This foundation is critical for the later development of executive skills and the ability to self control and manage a life



90%

**of a child's brain
development
happens
before age 5**



■ 90% Brain
development
before age 5

■ 10% Brain
development
after age 5

Source: Harvard Center for the Developing Child

Birth

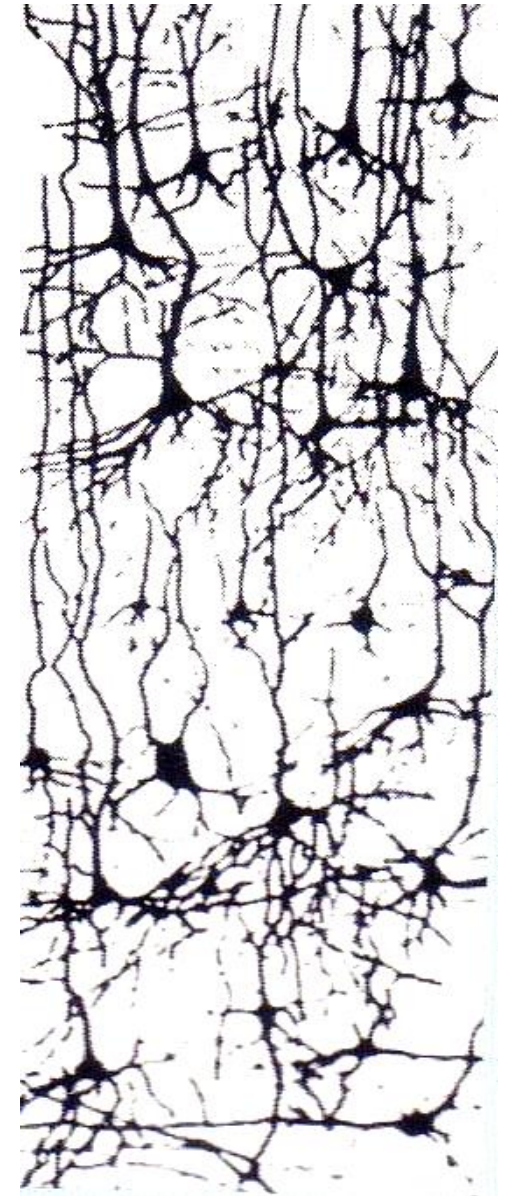


At 3 years – Proliferation

+++++



14 years - Pruning



The Biology of Adversity: Three Levels of Stress

Positive

Brief increases in heart rate,
mild elevations in stress hormone levels.

Tolerable

Serious, temporary stress responses,
buffered by supportive relationships.

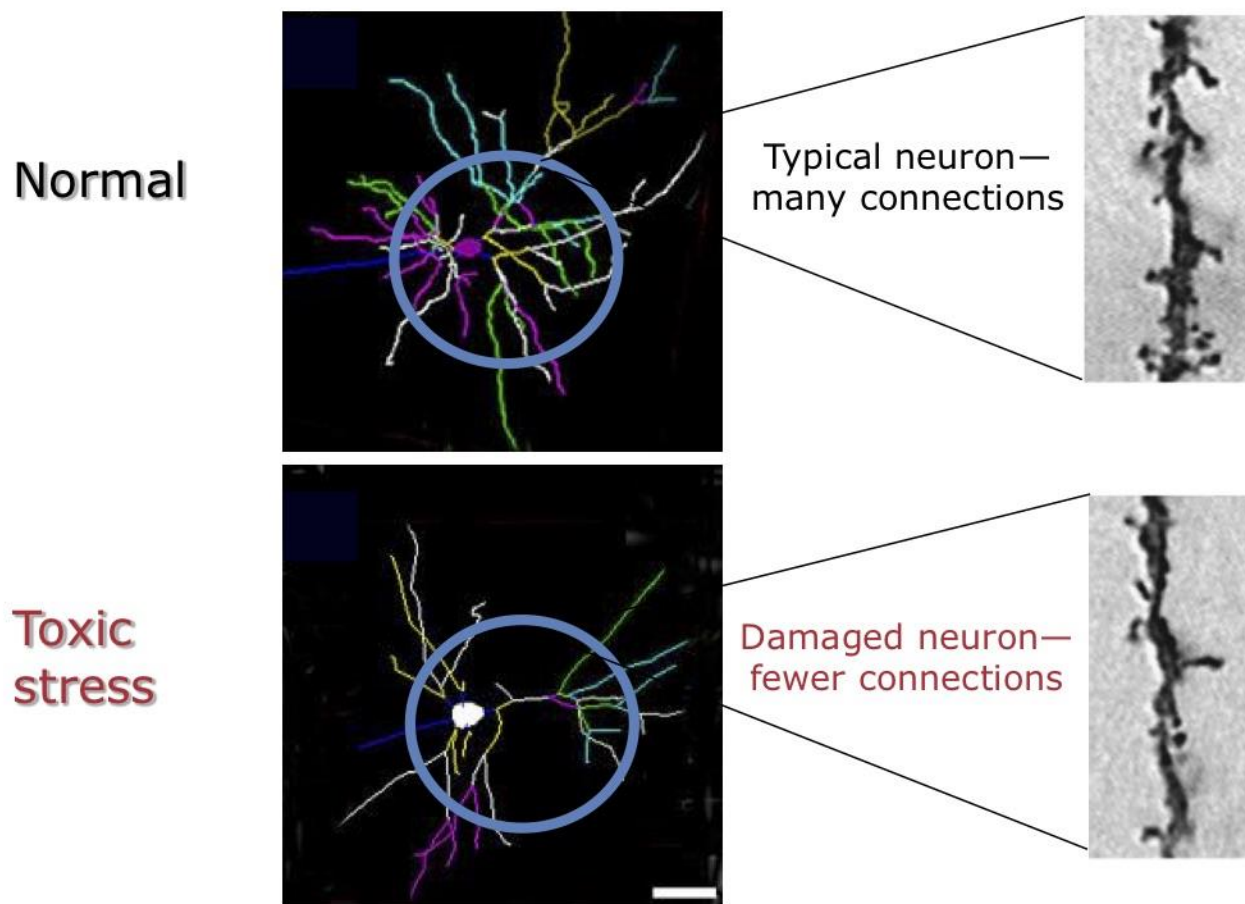
Toxic

Prolonged activation of stress response systems
in the absence of protective relationships.

Toxic Stress derails healthy development

- Activation of the stress response produces physiological reactions that prepare the body to deal with threat.
- When these responses remain activated at high levels for significant periods of time, without supportive relationships to help calm them, toxic stress results.
- This can impair the development of neural connections, especially in the areas of the brain dedicated to higher-order skills, empathy, ability to control emotions and later cognitive skills - creating lifelong problems in learning, behaviour, and physical and mental health

Toxic Stress Changes Brain Architecture



Prefrontal Cortex and
Hippocampus

Sources: Radley et al. (2004)
Bock et al. (2005)

Serve & Return interaction shapes brain circuitry

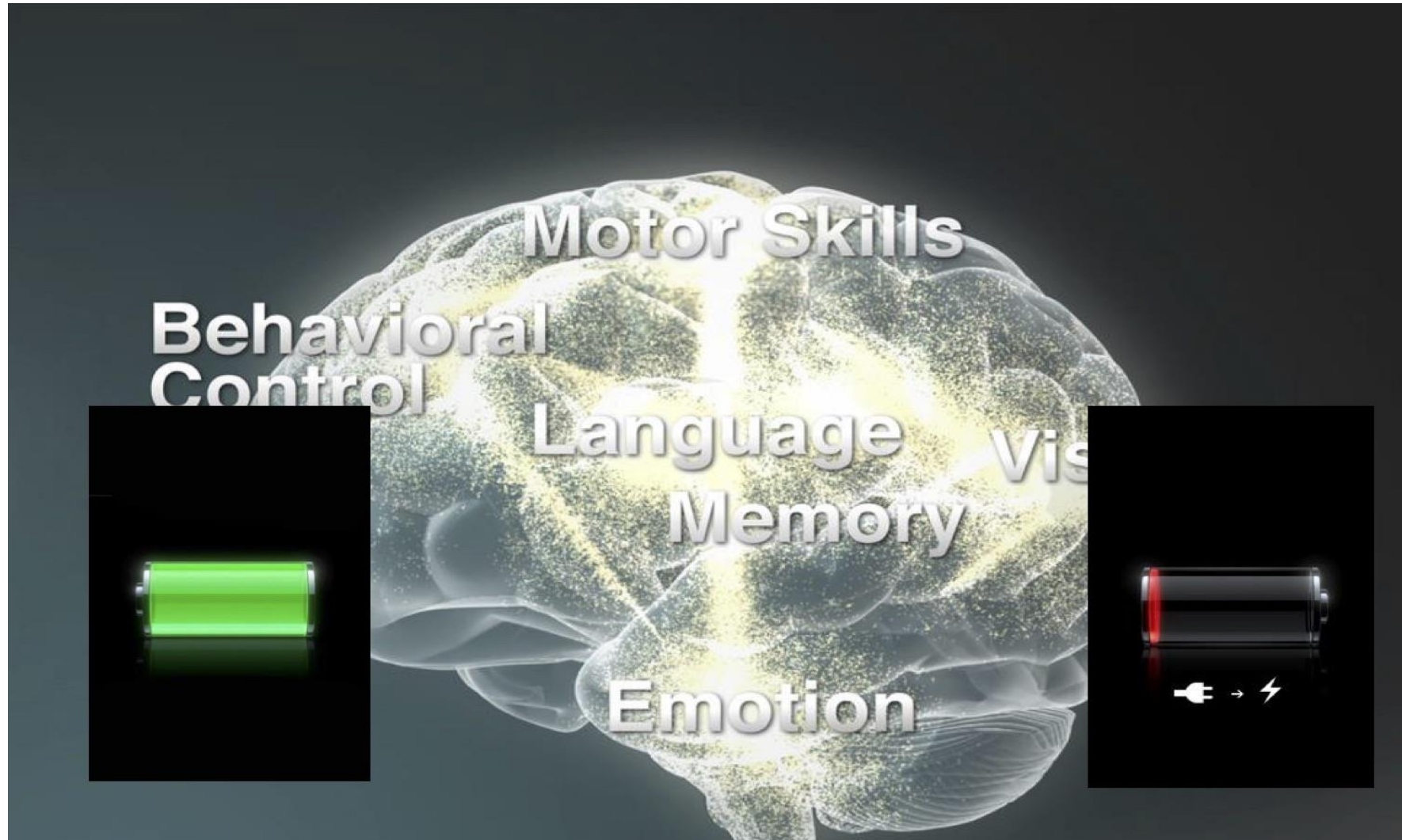
- Children *serve*
- Caregivers *return* their serves
- This back and forth is key to wiring the brain
- Works best within a trusting relationship
- Occurs inside and outside the home (school, community, extended family)



Concepts inherent in “Serve and return”

- The absence of Serve and Return is a Toxic Stressor
- I’m certain that the majority of children and young people we see with significant behavioural and mental health issues are suffering from PTSD and need “Serve and Return”
- Serve and Return is a powerful therapeutic tool following Early Adversity (Never too late to start)

Damaged children need the “Lights to come on” with
“Serve and Return”



Summary

- Development occurs when a child and somebody else interact –somebody who is crazy about the child and gives them time.
- Through observing, playing, and working with others a child will develop their ability and their identity.



Brainwave[™]
build a lifetime in the first three years

Pregnancy - poor placental function eg smoking

- Growth retardation / small for dates
- Prematurity – complications ++
- Birth Asphyxia
- Hypoglycaemia
- Separation of baby from mother – attachment , breast feeding issues
- Smaller airways = Sicker when get bronchiolitis

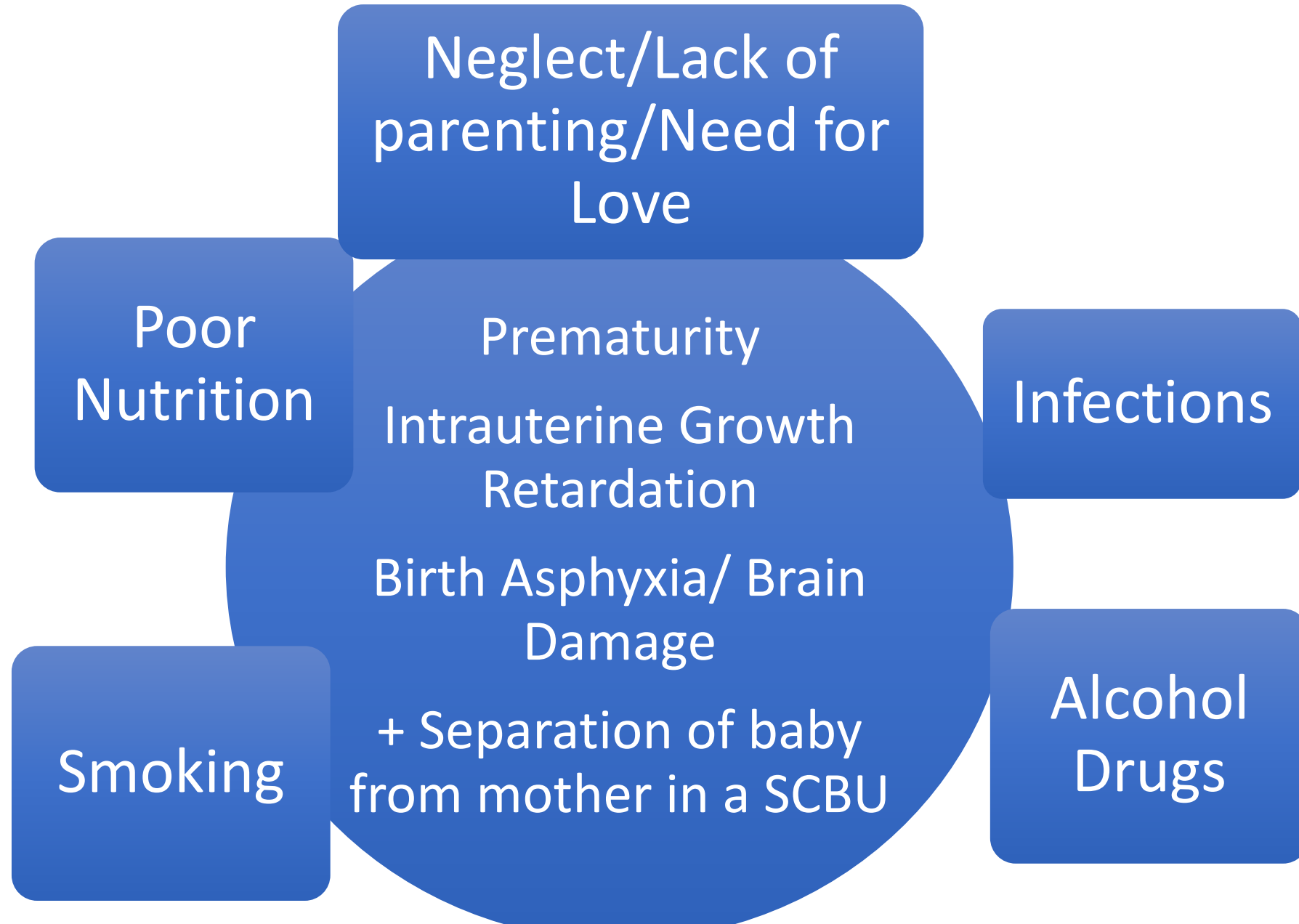
Morbidities associated with intrauterine growth restriction (IUGR) can be split into metabolic and nonmetabolic effects

Joss-Moore Curr Opin Pediatr. 2009; 21:230

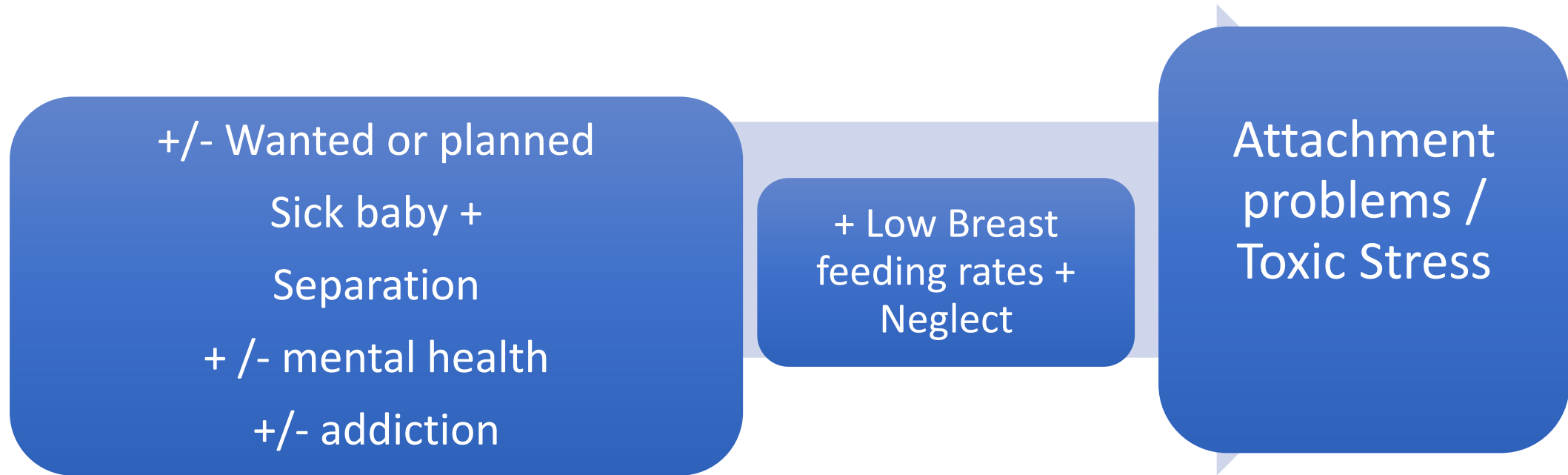
Adult phenotypes of intrauterine growth restriction

Metabolic	Nonmetabolic
Dyslipidemia	Attention deficit disorder
Hypertension	Chronic lung disease
Insulin resistance	Immunodeficiency
Poor postnatal growth	Neurodevelopmental delay
Renal insufficiency	Schizophrenia

Origins of Vulnerability



Attachment problems / Toxic Stress– Major loss of empathy, emotional and cognitive IQ and ability to form positive relationships



Epigenome - Environmental influences affect whether and if genes are expressed or not

The Epigenome is like the software in a computer's operating system

Experiences before and soon after birth can result in genes being chemically modified, turned on and off and sometimes not expressed at all.

Early Experiences Can Alter Gene Expression and Affect Long-Term Development

WORKING PAPER 10

10

Epigenome - Environmental influences affect whether and if genes are expressed or not. 2

- Injuries during pregnancy or early childhood - malnutrition, chemical toxins , drugs, and toxic stress are built as epigenetic markers into the architectural software of the developing brain.
- Classic – gene for Conduct Disorder is expressed after exposure to emotional abuse and violence , but can otherwise remain unexpressed.

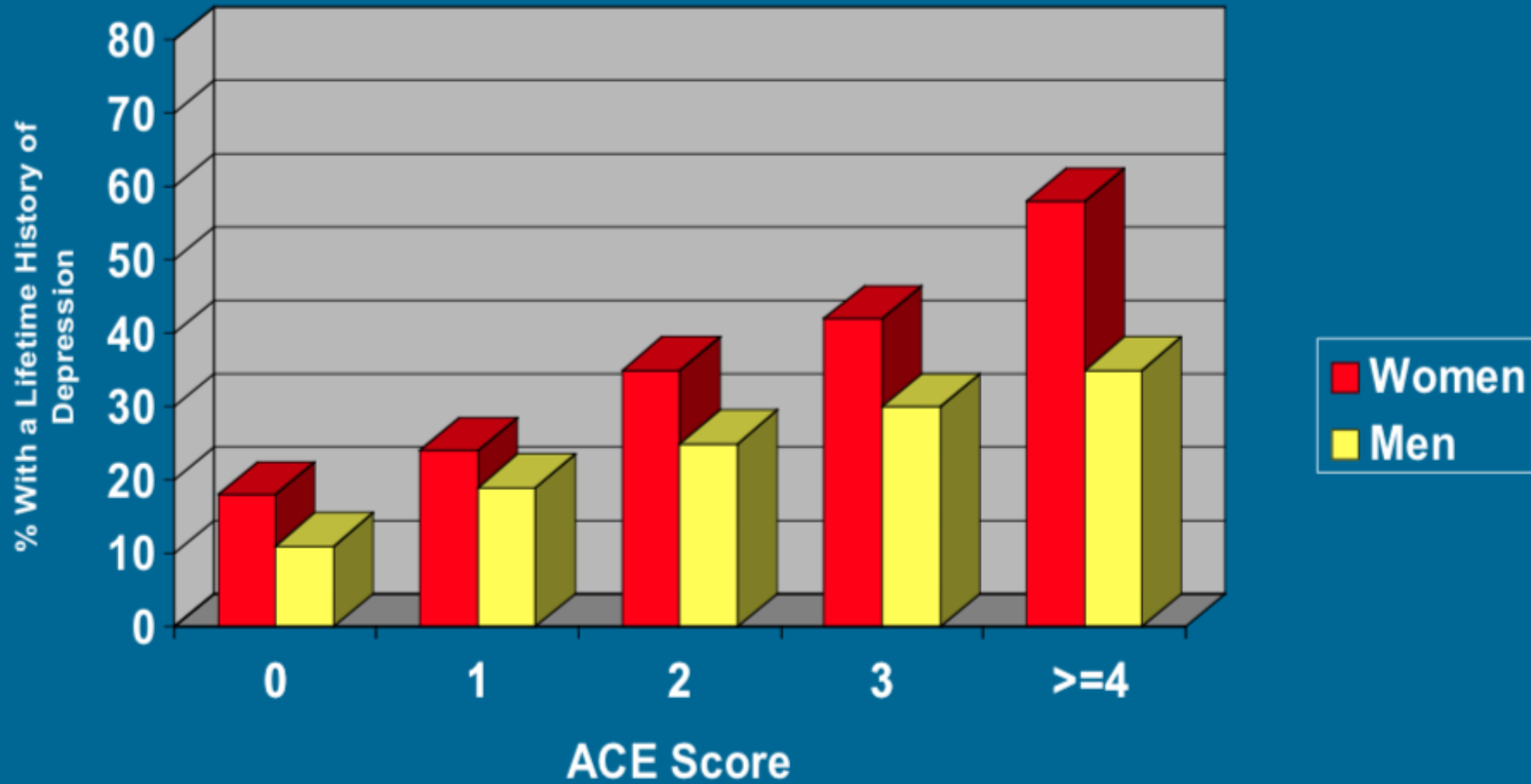
Adverse Childhood Experiences (ACE's)1995

Questionnaire – CDC and Kaiser Permanente-
17,000 people. Middle Class Population

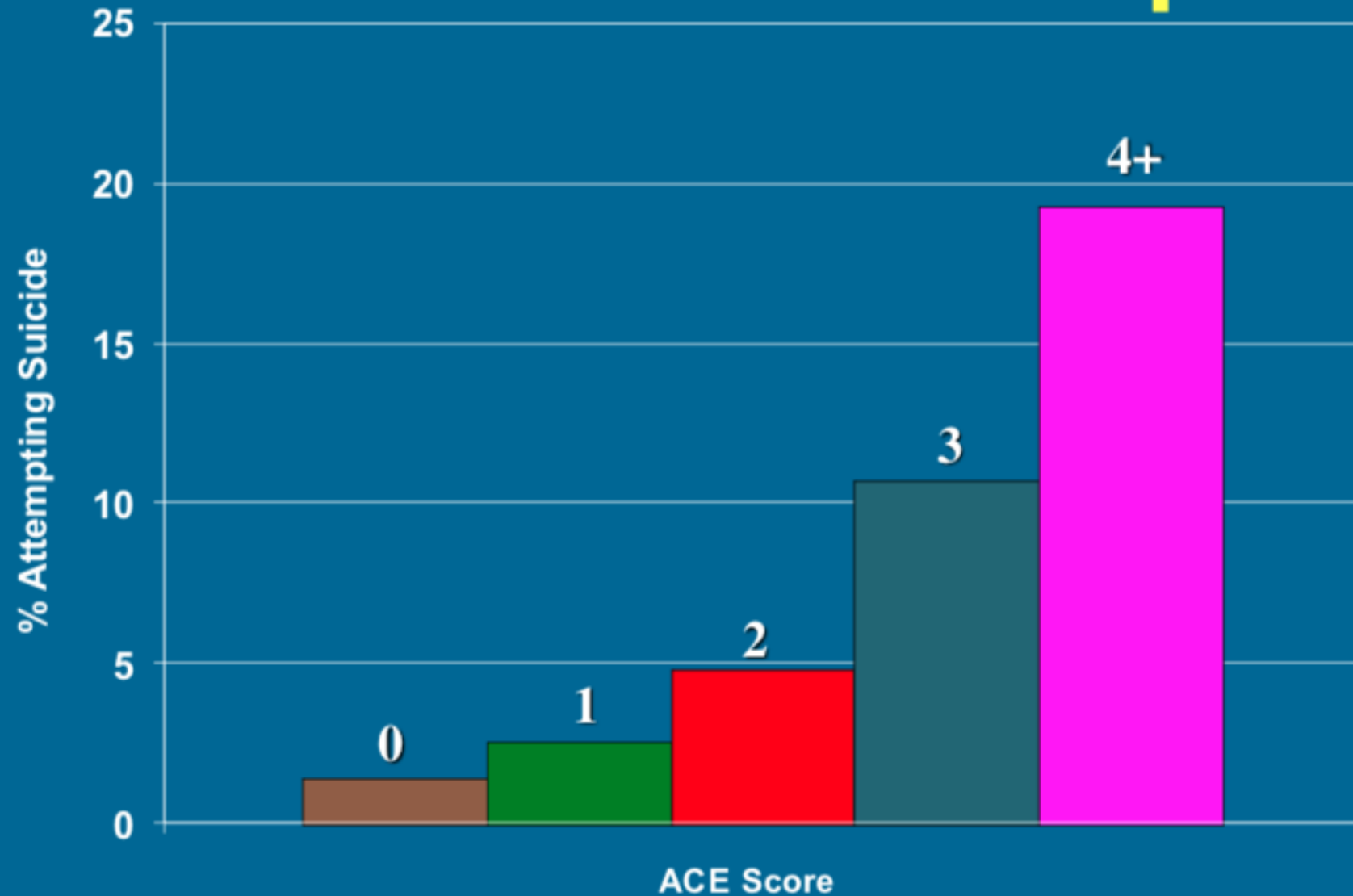
- Physical/Sexual/Emotional abuse
- Physical or emotional neglect
- Exposure to domestic violence
- Household substance abuse
- Household mental illness
- Parental separation or divorce
- Imprisoned household member

- More recently Poverty and Racism have been added

Childhood Experiences Underlie Chronic Depression



Childhood Experiences Underlie Suicide Attempts



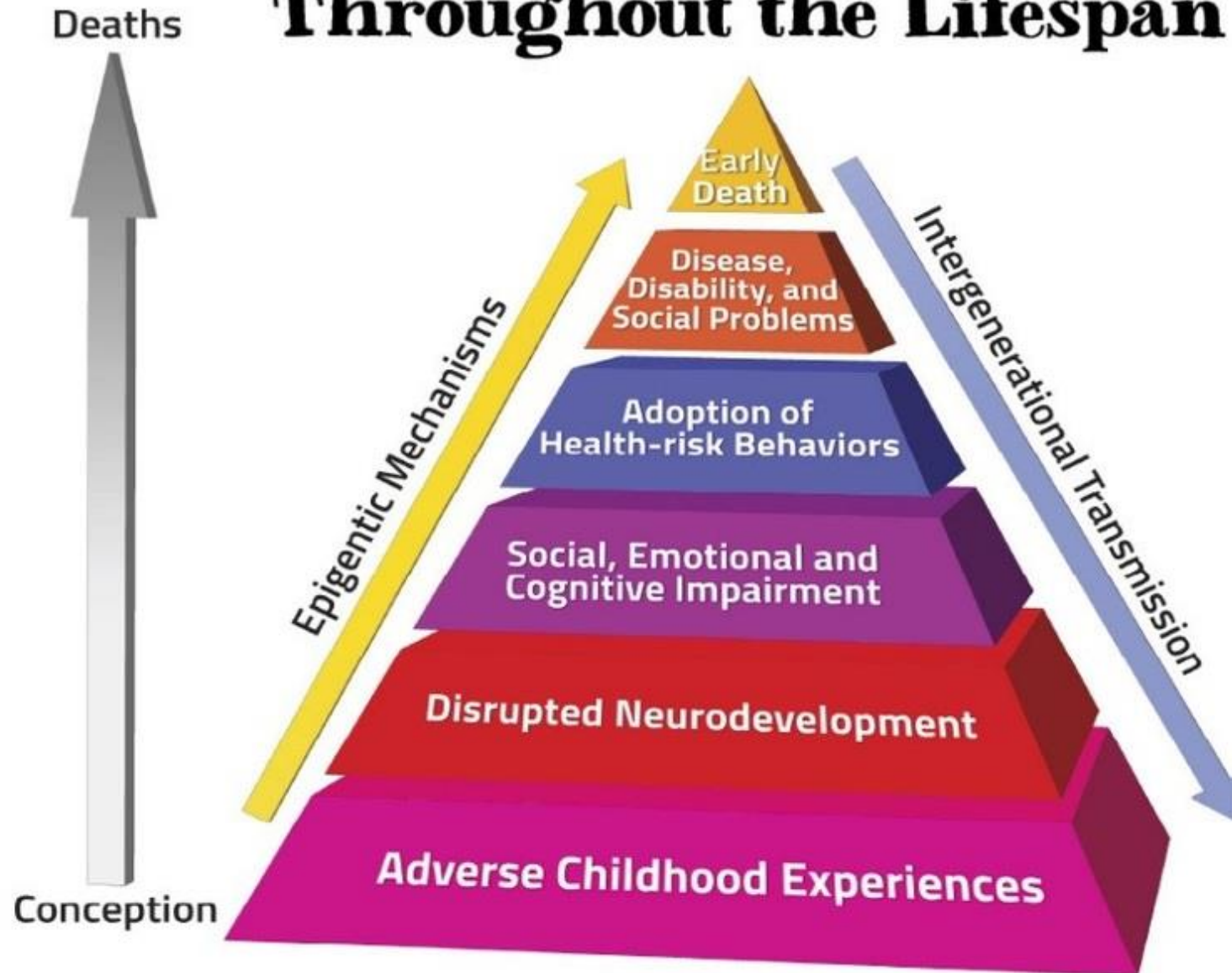
Results – likely to be similar or ? higher in NZ

- 28% of study participants reported physical abuse
- 21% reported sexual abuse.
- Commonly - divorce or parental separation, or having a parent with a mental health and/or substance use disorder.

Adverse childhood experiences frequently occur together

- 40% of the original sample reported two or more ACEs and
- A little under 25% experienced 3 or more
- **12.5% experienced four or more ACE's** - leads to 12 fold increase in suicide risk, 5 fold increase in depression risk , 30% reporting being raped
- **6 or more ACE's lowers life expectancy by 20 years**
- 7 or more ACE's leads to 3 fold lung cancer risk, 4 fold risk of heart disease
- Related to fetal, childhood , adolescent stress responses including Epigenetic change
- ACEs are a key predictor of life long chronic illness, addictions, suicide and early death

Mechanisms by which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan



How do ACEs affect health?

Through stress. Frequent or prolonged exposure to ACEs can create toxic stress which can damage the developing brain of a child and affect overall health.

Reduces ability to respond, learn, or process effectively which can result in problems in school

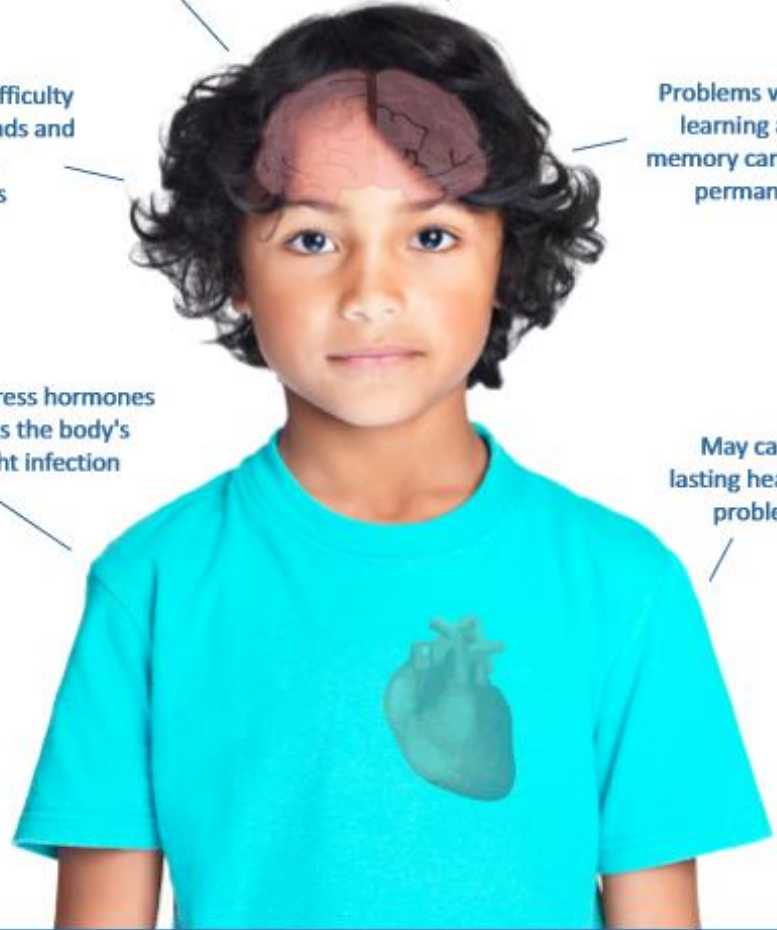
Lower tolerance for stress can result in behaviors such as aggression, checking out, and defiance

May have difficulty making friends and maintaining relationships

Problems with learning and memory can be permanent

Increases stress hormones which affects the body's ability to fight infection

May cause lasting health problems



A **Survival Mode Response** is one that increases heart rate, blood pressure, breathing and muscle tension. When a child is in survival mode, self-protection is their priority. In other words:

"I can't hear you, I can't respond to you, I am just trying to be safe."

Toxic Stress damages

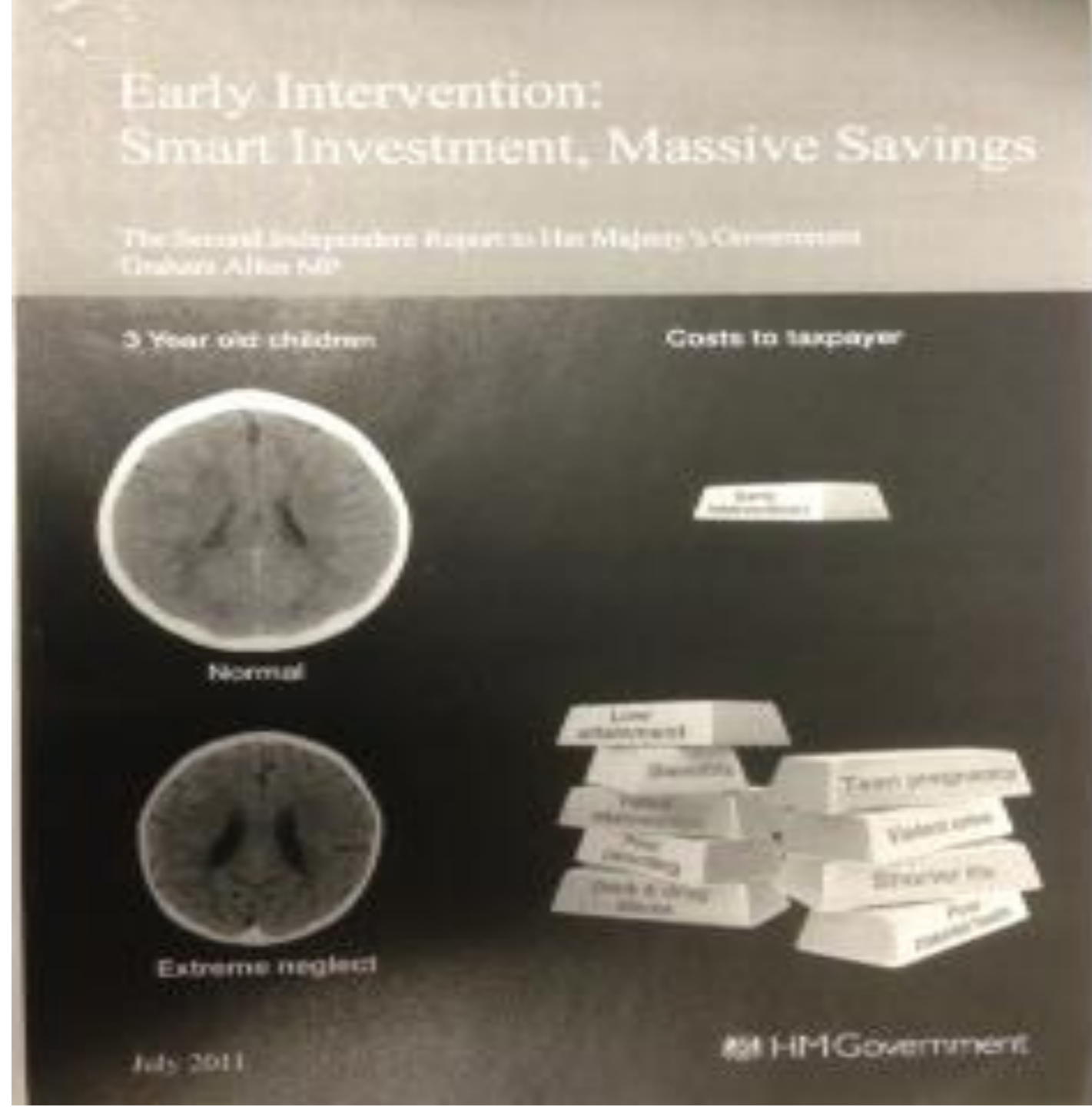
- Wired for stress – aggression, defiance. Survival mode responses
- Limited empathy – can't make friends
- Permanent problems with memory and learning , school
- Multiple health issues - lifelong

All of this is explained by a lack of a positive “First 1000 days” and explains why :-

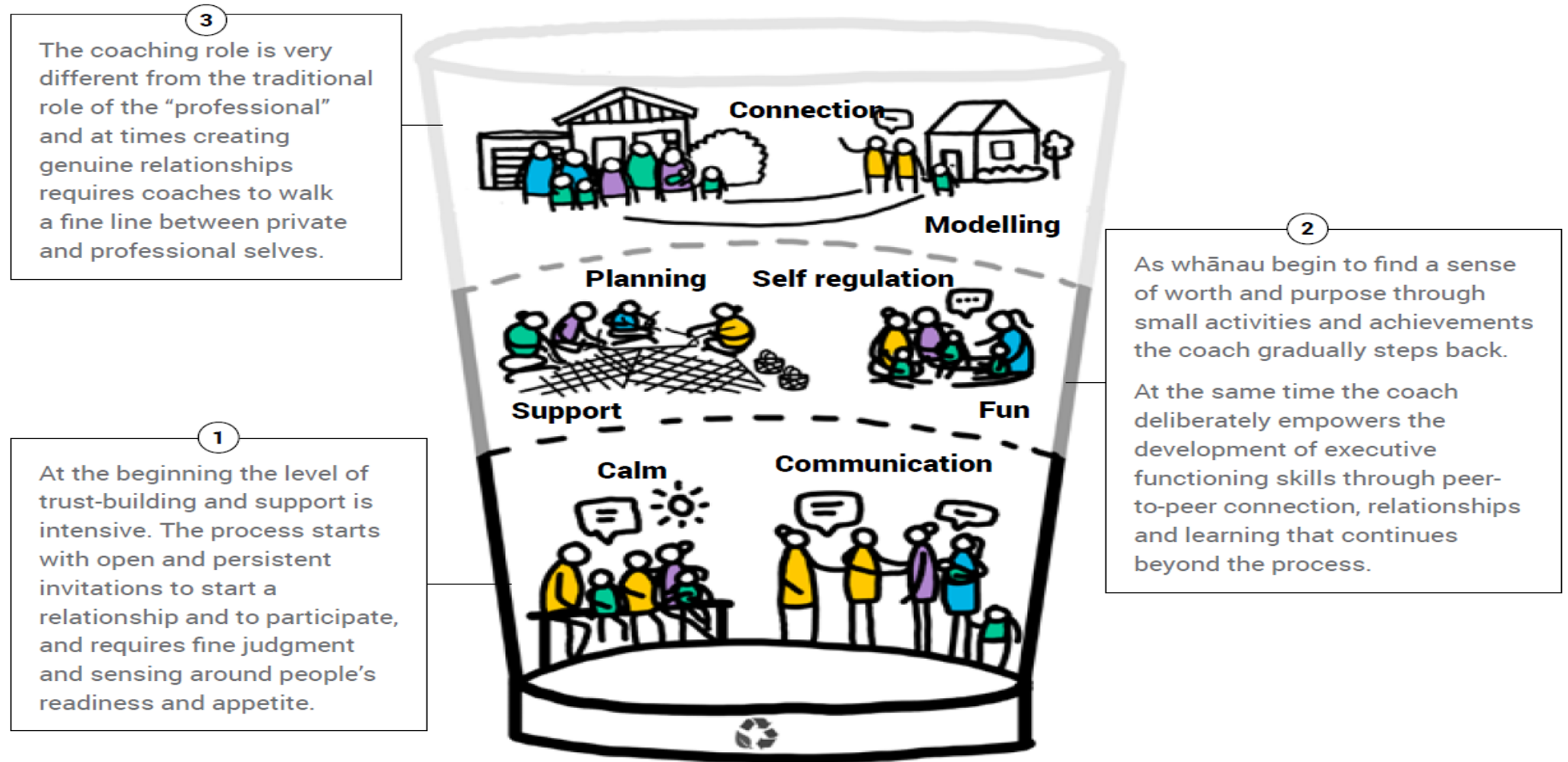
- We are now dealing with the impact of intergenerational poverty
 - Our prison population is high
 - Youth suicide rates are high
 - Aggression and child abuse are a significant problem
 - Too many children and adults have preventable medical, behavioural and mental health issues
 - We are seeing increasing numbers of patients with chronic metabolic related diseases
-
- Inequity continues to increase
 - The Health System will be overwhelmed if we don't break the cycles now

Early childhood investment

- SPEND \$1
- SAVE \$17



We know what to do - Rx. Key worker to engage with pregnant mum and family. In NZ likely to be based around Whanau Ora, Family Start



Ongoing focus

- Reduce toxic stress
- Build responsive relationships
- Improve life skills – which includes facilitating a relationship with the medical world , providing a positive experience
- Supporting parenting and parents

Key Features

- Valuing the individual in all aspects of care
- Neutral, objective and supportive language
- Individually flexible plans and approaches
- Avoid shaming or humiliation at all times

(Fallot & Harris, 2002; Cook et al., 2002; Ford, 2003; Cusack et al. 2003; Jennings, 1998; Prescott, 2000)

Interactions in ED are an opportunity to facilitate engagement and reverse trends

- Engagement with the health System is difficult
- Multiple barriers in primary care
- You may be the only health professional that individuals meet
- Opportunity to facilitate engagement and care in our system – links with an effective social working , Paearahi (Whanau Ora) system
- Show compassion- actively deal with your own completely understandable emotions/ Modelling to RMOs

Resources to look at at home

Brazil's audacious plan to fight poverty using neuroscience and parents' love

- <https://qz.com/1298387/brazils-wildly-ambitious-incredibly-precarious-program-to-visit-every-poor-mother-and-change-their-childrens-destiny/>

TED Talk First 1000 days Johan M

- <https://youtu.be/K1sIVo3BNtM>

First 1000 Days – Chloe Wright Foundation

- <https://www.youtube.com/channel/UCerCpgZH TABKbelZcwD8Xg/videos>

Resources to look at at home

- **1. Subject: Experiences Build Brain Architecture**
- <https://youtu.be/VNNsN9IJkws>
-
- **2. Subject: Serve & Return Interaction Shapes Brain Circuitry**
- https://youtu.be/m_5u8-QSh6A
-
- **3. Subject: Toxic Stress Derails Healthy Development**
- <https://youtu.be/rVwFkcOZHJw>
-
- **4. Subject: The Science of Neglect**
-
- <https://youtu.be/bF3j5UVCSCA>
-
- **5. Subject: FIND: Using Science to Coach Caregivers**
- <https://youtu.be/4C9klZgnM04>

“Ma te huruhuru , ka rere te manu”

"Give a bird feathers and the bird will fly"

Discussion

Complex problem that will take a Generation to sort. Need to also deal with

- Poverty
- Colonization
- Racism – Institutional, Personal, Internalized
- Financial systems increasing gap between rich and poor are critical
- Loss of an egalitarian society / Need for a kinder NZ

Parenting First Aid

Rx

- Love and Serve and Return – Spending enough time listening , watching , ready to facilitate the next stage in learning and development , respond to “what child is telling parent”

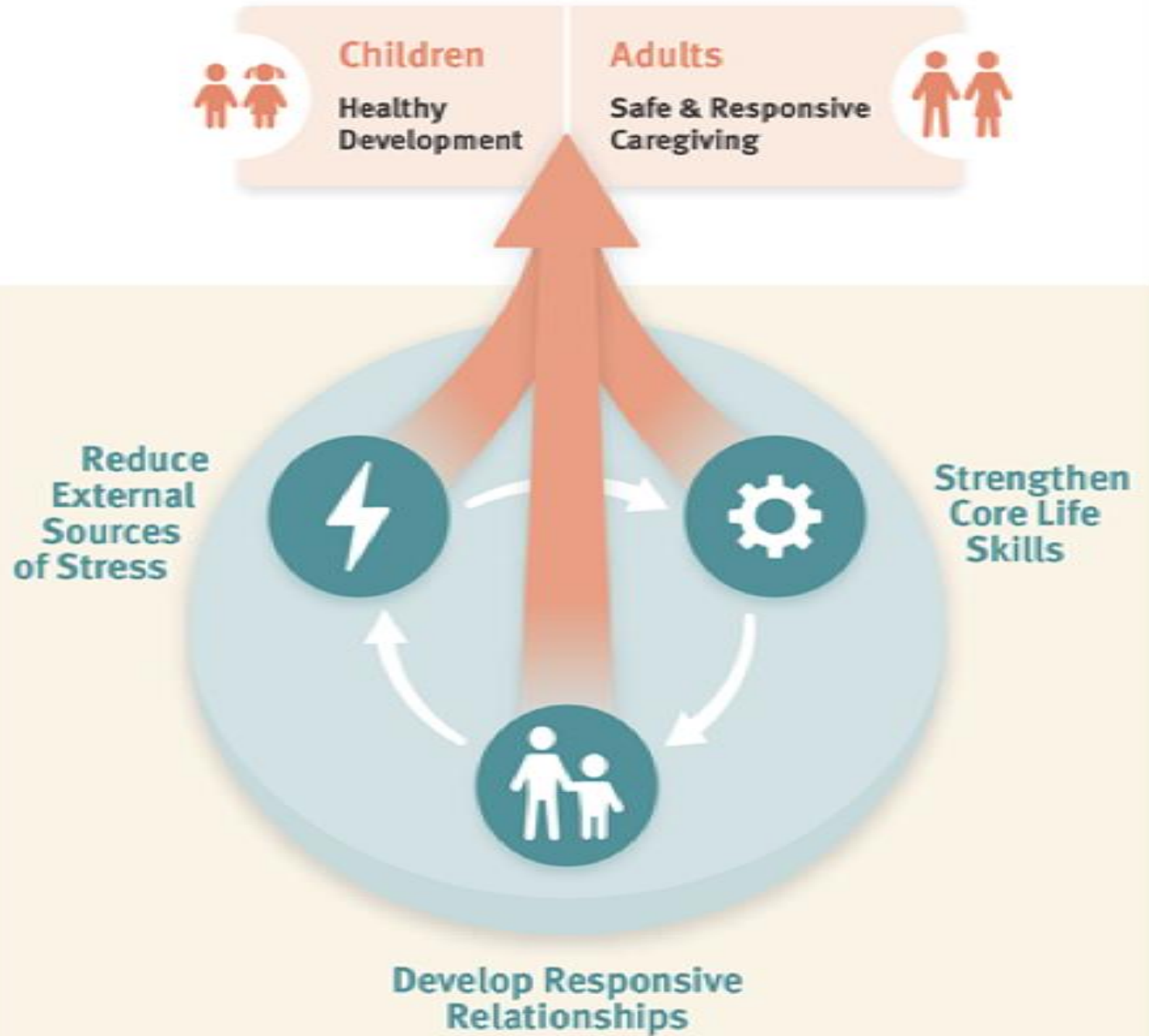
Boundaries

- Safety
- Respect – people and property – Treating these well

Looking to support positive behaviours – child feels good about themselves. Build on successes.



Our roles



Social Justice

Parents have the right to know
the most powerful determinant
of their children's future health, safety and productivity

Reflections

- NZ has one of the highest rates of youth suicide in the developed world
- NZ has a very high rate of incarceration
- ACEs are a key predictor of life long chronic illness, addictions, suicide or early natural death
- We need to radically transform our Mental Health & Addictions Services
- Evidence based early interventions in childhood have the potential to change lives of current and future generations of families
- We know what to do

- Build Strong Communities:
 - Inform and Educate
 - Enhance Skills
 - Provide Support
 - Enhance Access and Reduce Barriers
 - Community Activities
 - Modify/Change Policy

- Identify protective factors:
 - Encourage nurturing and positive relationships
 - Provide knowledge of parenting and child development
 - Assist in developing parental resilience
 - Social connections
 - Concrete support in times of need

All of this explains why :-

- Neglecting to provide early-life basic physical needs and emotional support can lead to higher scores of aggression in childhood
- Recurrent experiences of emotional abuse or witnessing violence throughout childhood predicts physical aggressive behaviour in adulthood
- We see children with a range of preventable medical and increasingly behavioural conditions

How to Support Someone Who Has Experienced Trauma

