FACSIAR REPORT

Human Service Outcomes Framework: Application to Early Intervention

FACSIAR and FACS Commissioning

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FACS INSIGHTS, ANALYSIS AND RESEARCH

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Introduction

Early intervention is a critical activity across many NSW Government agencies. Each year the Department of Family and Community Services (FACS) invests over $134m in Targeted Earlier Intervention (TEI) programs and services, which aim to intervene early and prevent problems from escalating among vulnerable children and their families.

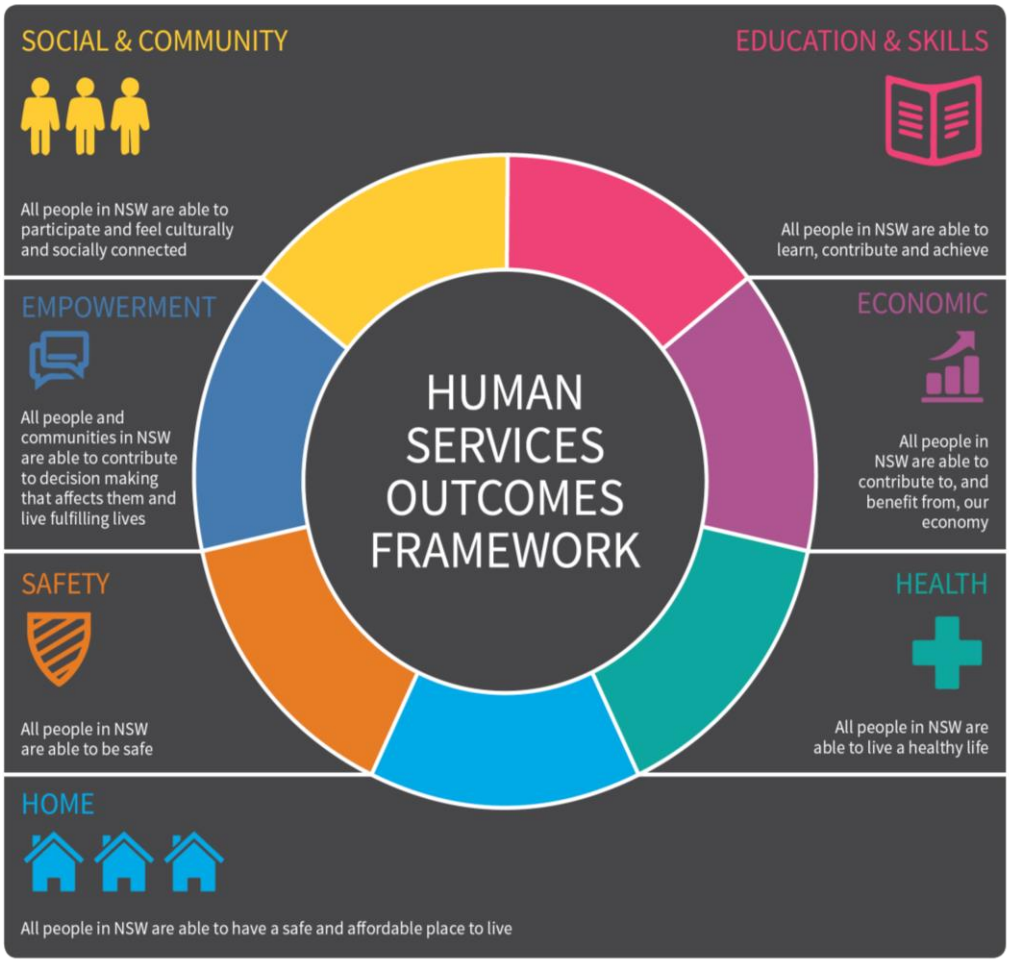
Despite this investment by FACS and other agencies to intervene early, the numbers of children and young people requiring more intensive support continue to grow. The recent *Independent Review into Out of Home Care* illustrated a steady increase in the number of children entering into out of home care in NSW. The Government's response (*Their Futures Matter*) identified that often, funded interventions are not evidence-based, and are not tailored to meet the multiple and diverse needs of clients. The report recommended the development of an outcomes framework as a key tool in focusing effort and investment into the areas that are most effective.

The NSW Human Services Outcomes Framework

The NSW Human Services Outcomes Framework (HSOF) has been developed by FACS to facilitate a clear focus on the wellbeing outcomes of clients participating in government and non-government programs and initiatives across NSW.

The HSOF focuses on wellbeing outcomes in the following seven domains: Home, Safety, Education and Skills, Economic, Health, Social and Community and Empowerment (see Figure 1). They were co-designed by agencies and Non-Government Organisations (NGOs), and informed by a review of national and international research on what determines wellbeing.

Figure 1: NSW Human Services Outcomes Framework



FACS is applying the HSOF to better focus its activities towards achieving client outcomes for specific client cohorts and programs. This means that investment focused on changing the trajectory of people's lives can have long-term impacts on client outcomes and FACS service delivery.

An overview of the NSW Human Services Outcomes Framework is available at: https://www.facs.nsw.gov.au/reforms/nsw-human-services-outcomes-framework/_recache.

The Application of the HSOF to Early Intervention

The Application of the HSOF to Early Intervention (this document) clearly specifies the short, medium and long term outcomes that should be seen for clients of these services. It also includes specific indicators to measure the outcomes, so we have a clear understanding of how well the system is performing for clients.

Defining the domains for early intervention

In order to develop this Outcomes Framework, it was necessary to define each of the seven outcome domains specifically for early intervention. This was to enable the classification of the evidence obtained, and to create the impact pathways. The definitions were developed through an iterative process, following an initial scan of the key outcomes that were commonly mentioned in the literature. The definitions are presented in the table below.

Table 1: Domain Definitions

Domain	How this is defined for the EIOF
Home	Parents and carers have the skills and confidence to provide stable, positive, stimulating, safe and secure environments for children.
Social and Community	People are more connected to those around them.
Education and Skills	Children are given the best opportunities to achieve in life.
Empowerment	Families and communities are empowered.
Economic	Families are financially stable and have opportunities to contribute to and benefit from our economy.
Safety	Children are safe with their families, and are less likely to experience neglect, abuse or contact with the child protection system.
Health	Parents and carers are supported to care for their children's health before birth, and in the early years of development.

What is in the Outcomes Framework?

This Outcomes Framework guides policy makers and service commissioners on the links between three aspects of evidence based services: **outcomes**, **interventions**, and **indicators**. These are explained in further detail below.

The document is not currently limited to what is currently delivered through the FACS TEI system, and as such, there may be some outcomes that are not currently addressed by TEI services. The intention of this document was to look more broadly at the evidence base around early intervention, without using the current system as a starting point.

Outcomes

The Framework identifies the short, medium and long term outcomes that could be achieved by early intervention activities, programs and services.

What is an outcome?

In human services, outcomes are the positive changes that happen as a consequence of the program, service or activity. Changes can include attitudes, values, behaviours or conditions.

Outcomes can be short, intermediate or long-term:

- *short-term outcomes are the most direct result of an intervention*
- *over time this can lead to intermediate-term outcomes, which may be achieved by a different service or human service agency*
- *long-term outcomes are the result of achieving the short and intermediate-term outcomes. These can occur during the life trajectory of the child and family, and may only be indirectly attributed to the short term outcome.*

Outcomes are different from outputs. Outputs are the things that happen due to a program or activity (for example, a child gets a pair of glasses), and outcomes tell us about how things changed for the person (for example, the child has improved vision, the child becomes more engaged at school, the child's self-confidence increases)[1].

These outcomes are linked together in the Framework to create impact pathways. These impact pathways show the links between the immediate outcomes that early intervention services can achieve, and how these support better outcomes for children and families into the future. There are 13 impact pathways contained in the framework.

It is important to note that whilst the impact pathways in this document represent the links between outcomes in different domains, **these are not the only impact pathways that exist**. There are likely to be many more links that exist between different short, medium and long term outcomes, than what is presented here. However, in the goal of illustrating the framework on one page, it was necessary to pick a limited number of pathways to include, with the objective of demonstrating how improving an outcome in one domain, can influence outcomes in other domains.

There are also some outcome domains that appear to be more central (with a greater number of impact pathways), and others that are more peripheral. This simply reflects the relative weight of the evidence base that was assessed, and the way that the domains were defined. There was no pre-conceived notion about which domains should be more dominant.

[1] Adapted from NSW Department of Finance, Services & Innovation (2017), *Human Services Outcomes Framework Guide*

Interventions

For each outcome (or impact pathway link) specified in the Framework, there are examples provided of evidence-based interventions and programs that have been demonstrated to improve them. The interventions provided in this document do not represent *all* of the potential interventions that exist relating to each outcome, nor are they specifically related to what FACS currently provides. The interventions listed in this Framework have been selected from the literature as specific examples that show strong evidence for their effectiveness.

Indicators

Finally, for each outcome included in the Framework, the document includes examples of indicators that can be used to measure them. These include both 'program level' indicators that that could be used by a service to collect outcome data directly from clients, and population level indicators that exist in routinely collected national datasets. Again, the indicators listed in this document do not represent a comprehensive list of all indicators that exist to measure the relevant outcomes, but a small selection of examples.

There exist other sets of indicators that relevant to early intervention. These include:

- The National Framework for Protecting Australia's Children Indicators (available at http://www.aihw.gov.au/nfpac/)
- Children's Headline Indicators (available at http://www.aihw.gov.au/chi/)
- The National Youth Information Framework (available at http://www.aihw.gov.au/nyif/).

In practice, caution should be used where population level indicators are used to measure the impact of a particular program. Often, individual programs are not of sufficient size to shift a population level indicator.

Methodology

The evidence base for early intervention that underpins this Framework is based on two extensive and recently completed literature reviews:

- ***Better systems, better chances: A review of research and practice for prevention and early intervention***. Australian Research Alliance for Children and Youth (Fox et al., 2015).
- ***Best practices to breakthrough impacts: A science-based approach to building a more promising future for young children and families*** (Center on the Developing Child at Harvard University, 2016)

These reviews were examined to determine their key themes, the types of interventions to be considered, and the relevant client outcomes for early intervention.

Identifying literature

After examining the above reviews, we conducted an additional search of academic literature published from 2013 onwards to obtain research that may have been released subsequent to their release. We searched Scopus, Informit and Google Scholar databases, using the following search terms:

"prevent*" OR "risk" OR "targeted" OR "Universal" OR "early intervention" OR "support" OR "primary" OR "Parent" OR "school readiness" OR "education" OR "wellbeing" OR "capability*" OR "family"

These were combined with 3 cohort searches using the following terms:

a. "0-3 years" OR "infant" OR "child" OR "toddler" OR "1000 days" "first" OR "bab*" OR "preschool" OR "pre school" OR "boy*" OR "girl*" AND "development*"

b. "young" OR "teen" OR "adolescent" AND "parent"

c. "Aboriginal" OR "Indigenous" OR "First Nation" AND "cultur*" OR "safe" OR "competent" OR "focused" OR "specific" OR "intelligence" OR "self-determination" OR "community".

This search produced another 334 articles that were reviewed.

Building impact pathways

To build the impact pathways, each relevant study was examined with the aim of identifying significant relationships between specific outcomes, and their risk or protective factors. These were then recorded on a template. Once each study was reviewed, the templates were collated. The most commonly cited outcomes and risk factors were then selected, and categorised according to the seven outcome domains.

Assessing quality of interventions

Following the creation of the impact pathways, a targeted search of the collected literature was undertaken, to identify interventions that were effective in addressing those pathways.

To rate the level of intervention evidence, the National Health and Medical Research Council (NHMRC) guidelines were adopted. These guidelines covered the design of research studies; the most appropriate study designs were those that established a clear association between the risk factor and the outcome, *and* made a

determination of causality[2] (see Table 2). For more information on NHMRC rating scale see *How to use the evidence: assessment and application of scientific evidence* (https://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/cp69.pdf)

Table 2: Evidence rating scale for interventions

Study design	Level of evidence
Strong evidence has been found from a systematic review of randomised controlled trials. For interventions, a majority of included studies have shown a significant, positive effect on outcomes.	★★★★
Evidence obtained from at least one properly-designed randomised controlled trial (this may include individual studies included in a systematic review). For interventions, consistent evidence of effectiveness has been found (e.g. positive effect on all sub-groups).	★★★
Evidence obtained from a well-designed pseudo-randomised controlled trial (alternate allocation or some other method). OR For interventions, evidence obtained from at least one randomised controlled trial where the outcomes are not consistently positive (e.g. may not apply to all sub-groups or outcome measures)	★★
Evidence obtained from comparative studies (including systematic reviews of such studies) with concurrent controls and allocation not randomised, cohort studies, case-control studies, or interrupted time series with a control group.	★★
Evidence obtained from comparative studies with historical control, two or more single arm studies, or interrupted time series without a parallel control group.	★★
Evidence obtained from case series, either post-test or pre-test/post-test.	★

Source: Adapted from NHMRC, (2000) *How to use the evidence: assessment and application of scientific evidence*, Table 1.3, p. 8.

[2] This scale was used to rank the research around risk factors, as well as research on interventions. The research on risk factors did not generally use randomized controlled trials but instead used other methods (e.g. longitudinal research, without randomization). This meant that the research that informed the risk factors was generally ranked 2 stars, however in most cases this represented the best evidence that was available, and it is unrealistic that randomization would ever be used in many of these instances. This is a limitation of the use of this scale, but was considered preferable to using two separate scales.

Identifying indicators and outcome measures

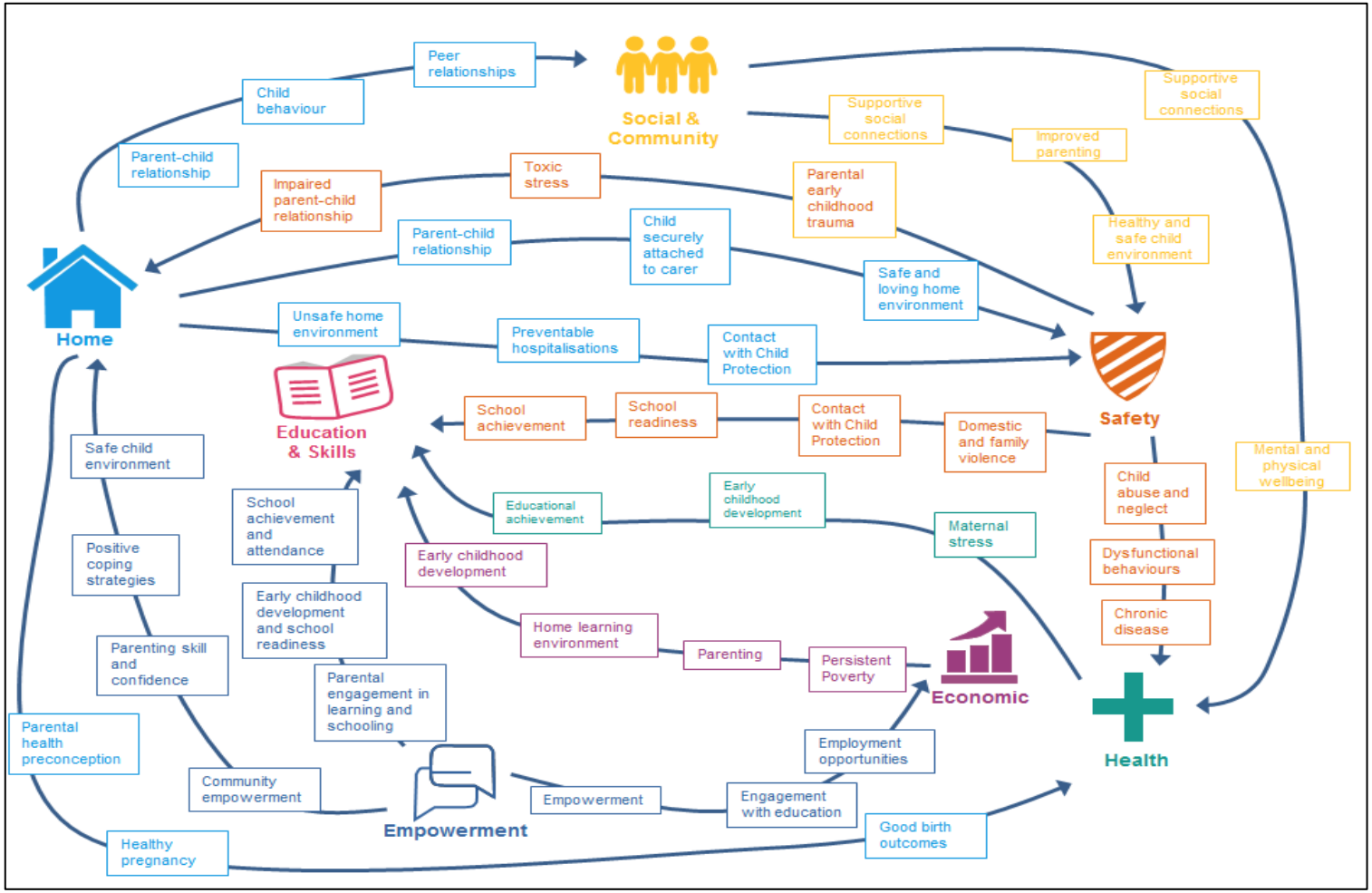
Similar to the process for identifying interventions, a targeted search of the collected literature was undertaken to identify suitable tools and indicators that could be used to measure outcomes. In addition, existing indicator banks were also examined for relevant indicators. These were categorized by the type of indicator, and where they **had been used in other instances, or drawn from (see).**

Table **3).**

Table 3: Key

Term	Definition
Program level	Indicator appropriate for the measurement of program-level outcomes (e.g. collected by a service)
Population level	Indicator appropriate for the measurement of population outcomes (collected at a population level)
SIC	Indicator from the Social Innovation Council bank
NFPAC	Indicator from the National Framework for Protecting Australia's Children.

The Early Intervention Outcomes Framework

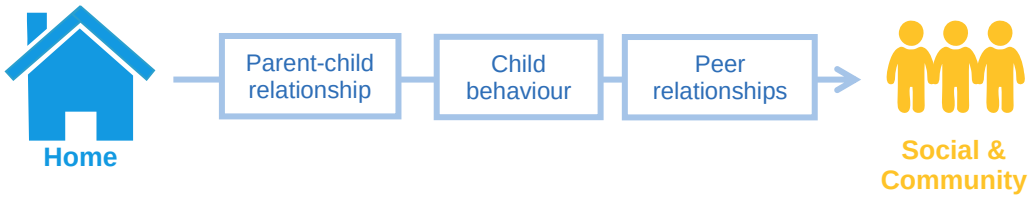


Individual domains: outcomes, interventions and indicators

Home

Under this domain, parents and carers have the skills and confidence to provide stable, positive, stimulating, safe and secure environments for their children. The evidence review revealed four key pathways from this domain that can support better outcomes for families and children.

Home to Social and Community



What is the evidence?

Impact pathway link	Evidence	Evidence rating
The quality of the parent-child relationship impacts child behaviour	• Parental hostility towards their children has been found to be associated with bullying in 4-10 year olds (Burkhart, Knox, & Brockmyer, 2013).	★★
	• Weak parent-adolescent attachment is associated with increased psychological symptoms in emerging adulthood (Brook et al., 2013).	★★
A child's behaviour impacts the quality of their relationship with peers	• Maltreated children who show better emotion regulation and display appropriate affective behaviours have been shown to be better accepted by peers, and more likely to show decreased internalising symptomatology over time (Kim & Cicchetti, 2010).	★★

	• The emergence of psychological symptoms in young adulthood has been related to affiliating with deviant peers and substance abuse disorders. This in turn as been associated with unsupportive spousal relationships in adulthood (Brook et al., 2013).	★★

What interventions impact these factors?

Factor	Intervention	Evidence for positive outcomes	Evidence rating
Parent – child relationship	**Home Visiting (e.g. Nurse Family Partnership, Miller Early Childhood Sustained home visiting)** Home visits by registered nurses or other health care professionals to first-time, low-income mothers, beginning during pregnancy and continuing through the child's second birthday (Browne & Jackson, 2013).	- Motor, cognitive and language development, child behaviour, less harsh parenting (Peacock, Konrad, Watson, Nickel, & Muhajarine, 2013) - Reduced later perpetration of child abuse or neglect by parents (Olds et al., 1998) - Reduced use of welfare by mother (Kitzman et al., 2010) - Increase in parents' emotional and verbal responsiveness, no impact on parent-child interaction or child development (Kemp et al., 2011) - Appropriate for Aboriginal families.	★★★
	Parent Child Interaction Therapy (PCIT) PCIT teaches authoritative parenting, which combines warm, nurturing support and age-appropriate limits	- Improved parent-child interactions - Decreased parental stress - Improved child behaviour (Thomas & Zimmer-Gembeck, 2011).	★★
	Triple P – Level 4 Parents learn strategies that promote social competence, self-regulation in children and decrease problem behaviour	- Reduction in dysfunctional parenting - Increase in positive parenting - Improved child behaviour (Hahlweg, Heinrichs, Kuschel, Bertram, & Naumann, 2010).	★★

Child behaviour	**Multisystemic Therapy** Intensive family and community based treatment program that focuses on addressing all environmental systems that impact chronic and violent juvenile offenders	- Decreased recidivism (Sawyer & Borduin, 2011) - Improved functioning (Timmons-Mitchell, Bender, Kishna, & Mitchell, 2006).	★★★
	Resilient Families Program focuses on family involvement and parent education to improve student adjustment to secondary school	- Decreased depressive symptoms in adolescents with moderate levels of depression only (not those with high levels of depression) (Buttigieg et al., 2015).	★★
	Incredible Years Program for parents of children aged to 12 years with disruptive and social behaviour problems	- Improvements to child behaviour (increased prosocial and decreased antisocial behaviour) (Menting, Orobio de Castro, & Matthys, 2013).	★★★★
	Functional Family Therapy Program for youth and their families that targets at-risk youth who have very serious problems such as conduct disorder, violent acting-out, and substance abuse	- Reduction in serious crimes by youth (Sexton & Turner, 2010).	★★★
	Indigenous Group Triple P Triple P appropriate to Indigenous communities where parents learn strategies that promote social competence, self-regulation in children and decrease problem behaviour	Improved parenting practices (reduction in verbosity) Improved child behaviour Appropriate for Aboriginal families (Turner, Richards, & Sanders, 2007).	★★★
Peer relationships	**Home Interaction Program for Parents and Youngsters (HIPPY)** Two-year early learning and parenting program for families with young children	- Improved peer relationships for children - Improved socio-emotional adjustment by children - Increased parental engagement with child's education - Appropriate for Aboriginal families (Liddell, Barnett, Roost, & McEachran, 2011).	★★

How do we measure the impact?

Impact pathway link	Factor	Measurement tool	Type of indicator
Child-parent relationship	Maternal Emotional Style	Maternal Emotional Styles Questionnaire (MESQ) 14 item scale (Lagacé-Séguin & Coplan, 2005)	Program level
	Family cohesion	Proportion of families who report 'good', 'very good' or 'excellent' family cohesion	Population level (NFPAC, LSAC)
Child behaviour	Bullying	Early Childhood Bullying Questionnaire (Burkhart et al., 2013) 11 item version (4-5.5 years) 12 item version (6-10 years)	Program level
	Child Behaviour	Strengths and Difficulties Questionnaire (Goodman, Ford, Simmons, Gatward, & Meltzer, 2000)	Program level
Peer relationships	Social connections	Items from the Child Health Questionnaire (https://www.healthactchq.com/survey/chq)	Program level
		Percent of population who report often feeling lonely	Population level (SIC)
		Percent of children having been bullied	Population level (SIC)
		Percent of children who self-report a sense of belonging at school and peer acceptance	Population level (SIC)

Home to Safety (Pathway 1)

What is the evidence?

Impact pathway link	Evidence	Evidence Rating
The quality of the parent-child relationship determines how secure the child feels in the relationship.	• Maternal sensitivity, defined as the ability to respond appropriately and promptly to the signals of the infant, is an important condition for the development of attachment security (Wolff & Ijzendoorn, 1997).	★★★
	• When a mother has the ability to accurately interpret and respond to the mental state of her child, the child is more likely to be securely attached (Meins, Fernyhough, Fradley, & Tuckey, 2001).	★★
When a child is securely attached to their primary carer, the home is likely to be safe and loving.	• Poor parent-child relationships and attachment are considered to be a critical risk factor for child abuse and neglect (Valentino, 2017).	★

What interventions impact these factors?

Impact pathway link	Effective intervention	Outcomes	Evidence rating
Parent ability to interpret child's emotions and behaviours	**Tuning into Kids** A universal prevention program that helps parents gain greater emotional awareness and self-regulation skills to support their child's emotional experiences	- Increased parental emotional regulation and parent emotional coaching in response to child's negative emotions (Wilson, Havighurst, & Harley, 2012).	★★

Parent-child relationship	**Attachment and Biobehavioural Catch-up** Targets caregivers of children who are at risk of neglect. Teaches reinterpretation of children's behavioral signals to provide nurturance and sensitive care	- Increase in child attachment (Bernard et al., 2012).	★
	Tuning into Teens Develop relationships between adolescents and their parents through increasing parental emotional awareness and competence	- Reduced internalizing difficulties - Reduced difficulties in emotion awareness - Reduced dismissive parenting practices - Reduced anxiety and depressive symptoms in youth(Kehoe, Havighurst, & Harley, 2014).	★★★

How do we measure the impact?

Impact pathway link	Factor	Measurement tool	Type of indicator
Quality of the parent-child relationship	Maternal sensitivity	Parental warmth (Paterson & Sanson, 1999)	Program level
Safe and loving home environment	Safety	Number of children 0-17 who were the subject of a child protection substantiation	Population level (NFPAC)
		Number of children aged 0-17 years who are in out-of-home-care	Population level (NFPAC)
		Proportion of adults who experienced current partner violence and their children saw or heard that violence in the previous 12 months	Population level (SIC)

Home to Safety (Pathway 2)

What is the evidence?

Impact pathway link	Evidence	Evidence Rating
Living in a physically unsafe home is associated with ill health	• The physical condition of the home can lead to poor health. Cold, dampness, and mould persistently pose the greatest health risks in cold climates. Housing improvements can remove these negative health effects (Mullins & Western, 2001).	★
A number of preventable hospitalisations may lead to contact with child protection services	• In NSW, children with three or more hospital admissions are more likely to be at actual or risk of harm compared to children with no hospital admissions (FACSARb, 2016)[3].	★★

What interventions impact these factors?

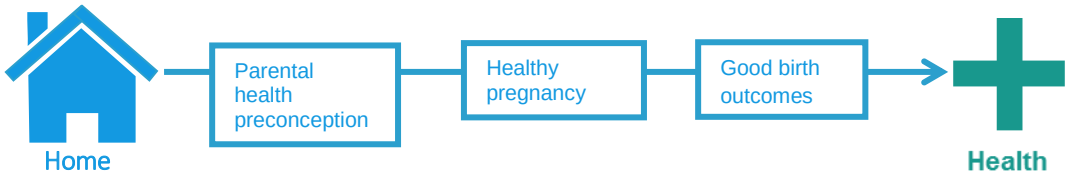
Impact pathway link	Effective intervention	Outcomes	Evidence rating
Improving the physical quality and safety of housing improves the health and well-being of families living in them	The installation of effective heating in households of children with asthma.	- Improved health outcomes and increased school attendance (Free, Howden-Chapman, Pierse, & Viggers, 2010).	★★★

[3] This paper measures the characteristics of children in OOHC relative to other children. The analyses measure associations only and do not imply causality.

How do we measure the impact?

Impact pathway link	Factor	Indicator/measurement tool	Type of indicator
Unsafe home environment	Quality of housing	Housing suitability (crowding)	Population level (SIC)
		Percentage of housing reported by occupants to be in good or fair condition	Population level (SIC)
	Crime	Incidence of violent crime	Population level (SIC)
		Incidence of domestic and family violence (reported to NSW Police)	Population level (SIC)
		Incidence of property crime	Population level (SIC)
	Parental risky behaviour	Percent of parents engaging in risky and high-risk drinking	Population level (SIC)
Preventable hospitalisations	-	Number of hospital admissions	Population level
Contact with child protection services	Child protection reports	Rate of substantiated Risk of Significant Harm (RoSH) reports for children	Population level (SIC)
		% of children re-reported at RoSH within 12 months of a case plan being closed	Program level

Home to Health



What is the evidence?

Impact pathway link	Evidence	Evidence Rating
When mothers are healthy before becoming pregnant they are more likely to have a healthy pregnancy.	• Poor preconception mental health was the most significant risk factor for pregnancy complications, a possible risk factor for non-live birth, and a strong risk factor for low birth weight (Witt, Wisk, Cheng, Hampton, & Hagen, 2012).	★★
When mothers are healthy and well before becoming pregnant, they are more likely to have good birth outcomes.	• Preconception stress increased the risk of infant mortality independently of measured covariates, and this association was timing specific and robust across low-risk groups. Prenatal stress did not increase risk of infant mortality (Class, Khashan, Lichtenstein, Långström, & D'Onofrio, 2013).	★★
When mothers have a healthy pregnancy, they are more likely to have good birth outcomes.	• There are several health risks that arise during pregnancy that can lead to adverse birth outcomes. Gestational hypertension increases the risk of preterm birth and low birth weight (LBW). Gestational diabetes also increases the risk of preterm birth and can lead to other complications. Multiple pregnancies, placental problems and umbilical cord issues are risks to intra-uterine growth restriction (IUGR). Further, an infection during a critical stage of a pregnancy can affect the foetal cells and also cause IUGR (de Bernabé et al., 2004).	★

What interventions impact these factors?

Impact pathway link	Effective intervention	Outcomes	Evidence rating
Parental health preconception	Promotion of preconception use of folic acid supplements among mothers undertaking a 6 month check up of their youngest child and who expected to be pregnant again within the year	- Increase in mothers using or intending to use folic acid (de Smit, Weinreich, & Cornel, 2015).	★★
	Preconception health awareness education in schools	- Increase preconception health knowledge among high school students (Charafeddine et al., 2014).	★

How do we measure the impact?

Impact pathway link	Factor	Measurement tool	Type of indicator
Parental health preconception	Nutrition	Proportion of people who meet Australian Dietary Guidelines	Population level (SIC)
		Proportion of people who are overweight and obese for their age and gender	Population level (SIC)
	General health	Percent of people reporting excellent/very good/good/fair/poor health	Population level (SIC)
	Access to services	Ration of GPs: A statistical proportion based on the number of General Practitioners (GPs), divided by the total population (000s)	Population level (SIC)
	Mental health	Proportion of people with high or very high levels of psychological distress, by age	Population level (SIC)
Healthy	Smoking	Proportion of women smoking in the first 20 weeks of pregnancy	Population level

pregnancy		Proportion of women smoking after the first 20 weeks of pregnancy	Population level
	General health	Proportion of women who gave birth where 5 or more antenatal visits were reported	Population level
Good birth outcomes	Birth weight	Proportion of live-born infants below a healthy weight at birth	Population level (NFPAC, SIC)

Safety

Under this domain, parents and carers have the skills and confidence to ensure that children are safe, and are less likely to experience neglect, abuse or contact with the child protection system. The evidence reviewed revealed three key pathways in which early intervention services can help support safety for families and children.

Safety to Home

What is the evidence?

Impact pathway link	Evidence	Evidence Rating
Parental early childhood trauma is linked to lifelong toxic stress.	• Toxic stress can play a powerful role in disrupting the architecture of the developing brain, thereby influencing behavioural, educational, economic, and health outcomes throughout a life trajectory (Garner et al., 2012).	★★
The effects of toxic stress can be transferred to children, and can impair the parent-child relationship.	• Children of women who experienced severe childhood abuse had greater likelihood of higher-risk smoking trajectories, overweight and obesity across adolescence and early adulthood compared with children of women who reported no abuse. These findings raise the possibility that childhood abuse may not only adversely affect the health of the direct victim but may also affect health risk factors in her children decades after the original traumatic events (Roberts et al., 2014).	★★
	• Substance abuse is more likely to occur among mothers who were raised in a household with substance abuse issues (Tedgård & Råstam, 2016).	★

	• Adolescents who have alcohol misuse issues are more likely to come from a household with a primary carer with alcohol misuse issues (Verdurmen, Koning, Vollebergh, van den Eijnden, & Engels, 2014).	★★
	• Traumatic experiences in both childhood and adulthood have been linked to parenting problems (Banyard, Williams, & Siegel, 2003).	★

What interventions impact these factors?

Impact pathway link	Effective intervention	Outcomes	Evidence rating
Parental early childhood trauma	**Trauma-Focused Cognitive Behavioural Therapy** Assists children and their families to overcome traumatic experiences	- Fewer symptoms of post-traumatic stress disorder, feelings of shame, and less abuse-specific parental stress (Deblinger, Mannarino, Cohen, & Steer, 2006).	★★
Toxic stress	**Child First** A model that identifies children in families with multiple risk factors as early as possible and intervenes to prevent or remediate serious emotional disturbance, developmental and learning problem, and abuse and neglect	- Reduced parenting stress - Reduced maternal psychopathology - Reduced contact with child protection system - Improved child behaviour and child language development - Suitable for Aboriginal families (Lowell, Carter, Godoy, Paulicin, & Briggs-Gowan, 2011).	★★★
Impaired parent-	**Attachment and Biobehavioural Catch-up**	- Increase in caregiver nurturance,	★★★

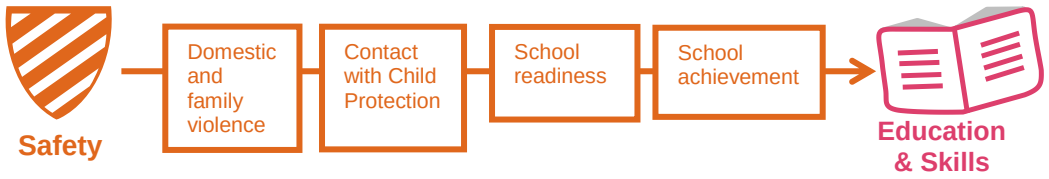
child relationship	Targets caregivers of children who are at risk of neglect. Teaches reinterpretation of children's behavioral signals to provide nurturance and sensitive care	sensitivity and delight - Decrease in caregiver frightening behaviours - Increase in child attachment - Increase in child regulation (Bernard et al., 2012).
	Home Visiting (e.g. Nurse Family Partnership, Miller Early Childhood Sustained home visiting) **Parent Child Interaction Therapy (PCIT)** **Attachment and Biobehavioural Catch-up** **Triple P – Level 4**	- See page 14

How do we measure the impact?

Impact pathway link	Factor	Measurement tool	Type of indicator
Childhood trauma	Experience of trauma	Childhood Trauma Questionnaire (Brief version) (Bernstein et al., 2003)	Program level
Toxic stress	Anxiety	Anxiety subscale of the shortened Profile of Moods Scale (Dipietro, Costigan, & Sipsma, 2008)	Program level
	Suicide	Suicide rate (per 100,000 population by age)	Population level (SIC)
	Parental risky behaviours	Percent of parents engaging in risky and high-risk drinking patterns	Population level (SIC)
	Smoking behaviours	Daily cigarette consumption (self-reported)	Program level
	Youth risky behaviours	Proportion of young people aged 12-24 years who had used an illicit drug within the last 12 months	Population level (SIC)

Impaired child-parent relationship	Parent confidence	Levels of confidence parents have in their parenting skills	Program level (SIC)
	Maternal Emotional Style	Maternal Emotional Styles Questionnaire (MESQ) 14 item scale (Lagacé-Séguin & Coplan, 2005)	Program level
	Quality of relationship	Percent of children and young people reporting the presence of relationships that facilitate disclosure of safety and wellbeing concerns	Population level (SIC)

Safety to Education & Skills



What is the evidence?

Impact pathway link	Evidence	Evidence Rating
Children living in households where domestic and family violence is occurring are likely to come into contact with child protection services.	• There is considerable evidence that domestic violence and child abuse co-occur (Osofsky, 2003)	★★
Children who have had contact with child protection services are less likely to be school ready compared to other children.	• In NSW, the proportion of children who are developmentally vulnerable on multiple AEDC domains is positively related to the rate of children reported at RoSH (FACSARa, 2016).	★★
	• Children reported at RoSH are more likely to experience other factors associated with poorer educational outcomes, including problems with the home environment and a lack of school preparedness (FACSARb, 2016).	★★
Being school ready predicts future academic achievement.	• Children who make a successful transition to school have higher levels of social competence and academic achievement compared to those who have a less successful transition (Shepard & Smith, 1989).	★★

What interventions impact these factors?

Impact pathway link	Effective intervention	Outcomes	Evidence rating
Family and domestic violence	Strategies to engage men and boys in violence prevention activities.	- Increased engagement in violence prevention (Carlson et al., 2015).	★
	Universal school-based programs for prevention of violent and aggressive behaviour.	- Reduction in violent behaviour (Hahn et al., 2007).	★★★★
	Cognitive behavioural therapy for depression and PTSD induced by intimate partner violence.	- Reductions in PTSD and depressive symptoms - Decreased likelihood of future domestic violence victimization (Iverson et al., 2011).	★★★
	The Mom's Empowerment Program A community based intervention targeting depression and parenting among mothers exposed to intimate partner violence.	- Reduction of depressive symptoms in mothers - Increase in positive parenting behaviour (Graham-Bermann & Miller-Graff, 2015).	★★
School readiness	High quality early childhood education and care.	- Improved cognitive development (Burger, 2010)	★★★

How do we measure the impact?

Impact pathway link	Factor	Measurement tool	Type of indicator
Domestic and family violence	Exposure to domestic and family violence	Proportion of adults who experienced current partner violence and their children saw or heard that violence in the previous 12 months	Population level (SIC)
	Incidence of reported domestic and family violence	Incidence rate of domestic and family violence reported to the NSW Police force	Population level (SIC)
Contact with Child Protection system	Child protection reports	Rate of substantiated RoSH reports for children	Population level (SIC)
		% of children re-reported at RoSH within 12 months of a case plan being closed	Program level
School readiness	Self-regulation, compliance, communication adaptive behaviours, autonomy, affect, and interaction with people	Ages & Stages Questionnaire – Social and Emotional (D'Aprano et al., 2016; Squires, Bricker, & Twombly, 2002)	Program level
	Emotional maturity, social competence, physical health and wellbeing, language and cognitive skills, communication skills and general knowledge	Proportion of children developmentally vulnerable on one or more domain of the Australian Early Childhood Census (Kindergarten)	Population level (NFPAC, SIC)
	Literacy	Peabody Picture Vocabulary Test	Program level

Safety to Health

What is the evidence?

Impact pathway link	Evidence	Evidence Rating
Abuse and neglect in childhood is linked to coping mechanisms such as smoking and alcohol abuse.	• Exposure to multiple adverse childhood experiences (abuse and household dysfunction) increases the likelihood of smoking by age 14, chronic smoking as adults, and the presence of smoking related diseases (Felitti, 1998).	★★
People who continue to use alcohol or substances are likely to develop other health problems later in life.	• There is a clear association between tobacco use and increased morbidity and mortality (Hubbard, Gorely, Ozakinci, Polson, & Forbat, 2016)	★★★★
	• Epidemiological studies have demonstrated that alcohol, tobacco and other substances represent a significant burden of disease (Rehm et al., 2009)	★★★

What interventions impact these factors?

Impact pathway link	Effective intervention	Outcomes	Evidence rating
Child abuse and neglect	**SafeCare** Home visitation program to reduce child abuse and neglect in families with a history of maltreatment	- Lower rates of referral to child protection services for child abuse and neglect (Chaffin, Hecht, Bard, Silovsky, & Beasley, 2012).	★★★

	Home visiting	- See Page 15	
Dysfunctional behaviours	**Smoking cessation** Interventions aiming to reduce child and family exposure to environmental tobacco smoking may be more successful than smoking cessation programs.	- Decrease in tobacco consumption - Increase and adherence to home and car smoking bans (Brown, Luckett, Davidson, & Di Giacomo, 2015).	★★★

How do we measure the impact?

Impact pathway link	Factor	Measurement tool	Type of indicator
Child abuse, neglect	Preventable hospitalisations	Number of hospital admissions	Population level
	Absenteeism	Rate of chronic absenteeism (20+ days) at preschool (3-4 years), school (5-17 years), employment or further education (15 years+)	Population level (SIC)
	Child protection reports	Rate of substantiated RoSH reports for children	Population level (SIC)
		% of children re-reported at RoSH within 12 months of a case plan being closed	Program level
Dysfunctional behaviours	Risky behaviour – youth	Proportion of young people aged 12-24 years who had used an illicit drug within the last 12 months	Population level (SIC)
	Parental risky behaviour	Percent of parents engaging in risky and high-risk drinking patterns	Population level (SIC)
	Smoking behaviours	Self reported daily cigarette consumption	Program level
		Adherence to home and car smoking ban	Program level

Health

Under this domain, parents and carers are supported to care for their children's health before birth, and in the early years of development. The evidence reviewed revealed one key pathway in which early intervention services can help support the health of children.

Health to Education & Skills

What is the evidence?

Impact pathway link	Evidence	Evidence Rating
Maternal stress can negatively impact a child's development	• Maternal depression compromises a mother's ability to respond to their child's signals in a prompt and sensitive way, which negatively impacts a child's physical, mental and social development as well as their ability to self regulate (Guttentag et al., 2014).	★★★
	• Higher maternal stress (as measured by cortisol levels) has a large negative and significant impact on child verbal IQ at age 7 (Aizer, Stroud, & Buka, 2015).	★★
A child who is developmentally on track is more likely to achieve academically.	• Early childhood development (as measured by the EDI) predicts reading and numeracy skills four, six and eight years later (Brinkman et al., 2013).	★★

What interventions impact these factors?

Impact pathway link	Effective intervention	Outcomes	Evidence rating
Maternal stress and child development	**Triple P – Standard and Enhanced Group Behavioural Family Interventions (Level 5)** An intensive, individually tailored program for families with child behaviour problems and family dysfunction	- Improved child behaviour and parenting practices (Sanders, Bor, & Morawska, 2007).	★★
	Trauma-Focused Cognitive Behavioural Therapy Assists children and their families to overcome traumatic experiences.	- Fewer symptoms of PTSD and feelings of shame - Reduced abuse-specific parental stress (Deblinger et al., 2006).	★★★
	Child First A model that identifies children in families with multiple risk factors as early as possible and intervenes to prevent or remediate serious emotional disturbance, developmental and learning problem, and abuse and neglect	- Reduced parenting stress and maternal psychopathology - Improved child behavior and language development - Reduced contact with child protection system (Lowell et al., 2011).	★★★
	Family Group Cognitive-Behavioural Preventive Intervention for Families of Depressed Parents (FGCB) Educate families about depressive disorders, increase family awareness of impact of stress and depression on functioning and to develop adaptive coping responses to stress and improve parenting skills.	- Decrease in child and parental depressive symptoms (Compas et al., 2011)	★★

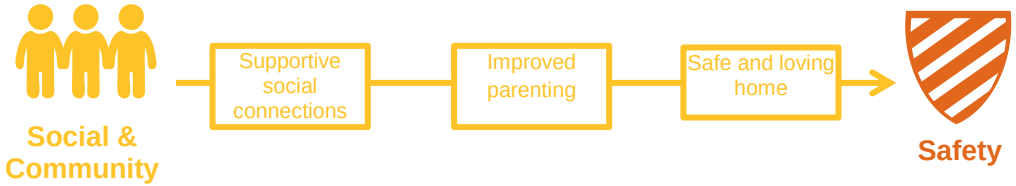
How do we measure the impact?

Impact pathway link	Factor	Measurement tool	Type of indicator
Maternal Stress	Exposure to stressful life events	Recent Life Changes Questionnaire	Program level
	Anxiety	Anxiety subscale of the shortened Profile of Moods Scale (Dipietro et al., 2008)	Program level
Child Development	Cognitive and language development	Communication and Symbolic Behaviour Scale Infant and Toddler Checklist (Wetherby & Prizant, 2003)	Program level (LSAC)
	Language development	MacArthur-Bates Communicative Development Inventories	
	Social and emotional development	Ages & Stages Questionnaire – Social and Emotional (D'Aprano et al., 2016; Squires et al., 2002)	Program level
	Emotional maturity, social competence, physical health and wellbeing, language and cognitive skills, communication skills and general knowledge	Proportion of children developmentally vulnerable on one or more domain of the Australian Early Childhood Census (Kindergarten)	Population level
	Literacy	Peabody Picture Vocabulary Test (PPVT)	Program Level

Social & Community

Under this domain, people are more connected to those around them, creating stronger and more resilient communities. The evidence reviewed revealed two key pathways in which early intervention services can help support community connections.

Social & Community to Safety



What is the evidence?

Impact pathway link	Evidence	Evidence Rating
Parents within a supportive community have access to more emotional and instrumental resources to engage in better parenting practices	• Women who report high social support self report greater improvements in parenting consistency than those who report lower levels of support. (Marra et al., 2009).	★
	• Higher levels of neighbourhood stress are related to greater psychological distress among mothers. This in turn is related to less engagement in positive parenting practice (Kotchick, Dorsey, & Heller, 2005).	★
	• Neglectful mothers have fewer networks, less contact with the people they know, and have less instrumental and emotional supports compared to other mothers (Coohey, 1996).	★
	• Aboriginal men are better able to cope with parenting, and have increased confidence in their abilities, when engaged in male-centred, strength focussed interventions within their community (Stuart, May, & Hammond, 2015).	★

Parents engaged in positive parenting practices are less likely to abuse or neglect their children compared to others	• An increase in parenting education reduces the likelihood of substantiated child maltreatment, child out-of-home placements, hospitalizations and emergency-room visits for child maltreatment injuries. (Prinz, Sanders, Shapiro, Whitaker, & Lutzker, 2009).	★★
	• Families are able to build on their strengths, ensuring a safe family environment, when they are given support through community services that they trust (Matthews & Burton, 2013).	★★

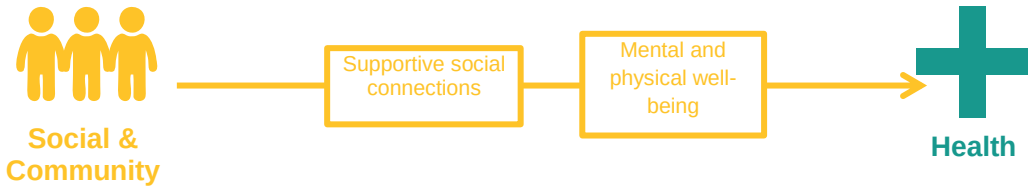
What interventions impact these factors?

Impact pathway link	Effective intervention	Outcomes	Evidence rating
Supportive social connections	**Supported playgroups** Structured positive learning environment where children can socialise and learn. Parents are able to meet and share their experiences.	- Increased social support, confidence and skills for parents - Stronger socialisation and emotional resilience of children (Grealy et al., 2012).	★
Improved parenting	**Tuning into Kids** A universal prevention program that teaches parents the skills of emotion coaching and also targets parents' own emotion awareness and regulation.	- Parents less dismissive of child's negative emotions - Increase in parent emotion coaching in response to child's negative emotions (Wilson et al., 2012).	★★
	Triple P A preventative (community wide) and early intervention (targeted groups in a community) parenting program.	- Improved parenting practices - Improved behaviour and emotional regulation for children - Improved parenting satisfaction and efficacy (Pickering & Sanders, 2014).	★★

How do we measure the impact?

Impact pathway link	Factor	Measurement tool	Type of Indicator
Supportive social connections	Community connections	Percent of population who feel they belong to their community/neighbourhood	Program level
		Percent of people attending events such as fetes, shows, festivals or other community events	Program/Population level
		Percent of people who report they engage in social activities with family and friends	Program level
Improved Parenting	Parent confidence	Levels of confidence parents have in their parenting skills	Program level (SIC)
Safe and loving home	Crime	Violent crime rates	Population level
		Incidence rate of domestic and family violence reported to the NSW Police force	Population level
	Parental risky behaviour	Percent of parents engaging in risky and high-risk drinking patterns	Population level (SIC)
	Preventable hospitalisations	Number of hospital admissions	Population level
	Absenteeism	Rate of chronic absenteeism (20+ days) at preschool (3-4 years), school (5-17 years), employment or further education (15 years+)	Population level (SIC)
	Child protection reports	Rate of substantiated RoSH reports for children	Population level (SIC)
		% of children re-reported at RoSH within 12 months of a case plan being closed	Program level

Social & Community to Health



Impact pathway link	Evidence	Evidence Rating
Participation in social networks through targeted community programs and events supports better mental and physical well-being	• There is a consistent link between perceived emotional support, perceived instrumental support, and large, diverse social networks, with a reduced risk of depression (Santini, Koyanagi, Tyrovolas, Mason, & Haro, 2015).	★★
	• Loneliness, social isolation and living alone have all found to be associated with an increased likelihood of mortality (Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015)	★★

What interventions impact these factors?

Impact pathway link	Effective intervention	Outcomes	Evidence Rating
Participation in targeted community programs	Participation in social recreation groups, facilitated by social workers	- Reduction in depression symptoms (Cruwys et al., 2014)	★

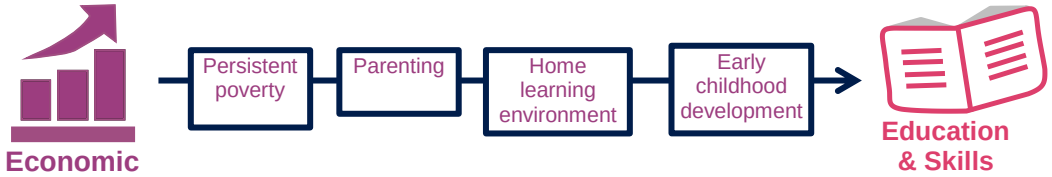
How do we measure the impact?

Impact pathway link	Factor	Measurement tool	Type of indicator
Supportive community connections	Community connections	Percent of population who feel they belong to their community/neighbourhood	Population level (SIC)
		Percent of people attending events such as fetes, shows, festivals or other community events	Population level (SIC)
		Attendance rates at cultural venues and events in NSW	Population level (SIC)
		Percent of people in NSW who report they engage in social activities with family and friends	Population level (SIC)
	Support in crisis	Number of people aged 18 years and over who are able to get support in time of crisis from persons outside the home	Program level (SIC)
Mental and physical wellbeing	Mental health	Depression Anxiety Stress Scales (DASS-21)	Program level
		Kessler 10 scale	Program level

Economic

Under this domain, families are financially stable and have opportunities to contribute to and benefit from our economy. The evidence review revealed one key pathway through which early intervention services can contribute to better financial and economic outcomes.

Economic to Education & Skills



What is the evidence?

Impact pathway link	Evidence	Evidence Rating
Persistent poverty may undermine a parent's ability to spend time and resources on their children.	• Low income has a twofold effect on children's cognitive ability. It has a direct effect on children, but it also has an indirect impact through its impact on parenting itself. Poverty leads to a lack of resources available to poorer parents, preventing parental investment, which in turn has a negative impact upon cognitive development (Dickerson & Popli, 2016)	★★
	• Positive parenting is shown to be an important contributor to school achievement that matters for children, regardless of poverty experience or family disadvantage. It is also shown to be an important mediator in redressing the effects of poverty and disadvantage (Kiernan & Mensah, 2011).	★★
Poor parenting (resources and style) impacts	• An association has been demonstrated between parental anger/hostility and home chaotic environments (high in noise and crowding, low in regularity)	★

household chaos.	(Coldwell, Pike, & Dunn, 2006).	
The quality of the home environment impacts a child's cognitive and social development.	• Daily household chaos (disorganization) over children's first three years of life may be one of the possible proximal pathways to children's poorer language development in low-wealth communities (Vernon-Feagans, Garrett-Peters, Willoughby, Mills-Koonce, & Investigators, 2012).	★★

What interventions impact these factors?

Impact pathway link	Effective intervention	Outcomes	Evidence Rating
Parenting	**Video Interaction Project** Parents and children attend one-on-one sessions with a trained facilitator. Parent-child interactions in play and shared reading are reviewed; learning materials and parenting pamphlets are also provided to facilitate parent–child interactions at home.	- Reduced parenting stress related to parent-child interaction (Cates et al., 2016).	★
	Smalltalk Plus A supported playgroup where sessions are based on parenting topics. Supports, encourages and models the parent-child interaction and can be supplemented with sessions in the home	- Improvement in parent child interactions - Improvement in home learning environment (Hackworth et al., 2017).	★★
	Home Visiting (e.g. Nurse Family Partnership, Miller Early Childhood Sustained home visiting) **Parent Child Interaction Therapy (PCIT)** **Attachment and Biobehavioural Catch-up**	- See page 14.	

	Triple P – Level 4		
Home environment and school readiness	Promote reading aloud to young children to parents through anticipatory guidance and the distribution of picture books.	- Increase in parental reading to children - Increased in ownership of picture books in the home (Needlman, Toker, Dreyer, Klass, & Mendelsohn, 2005).	★★
	Home Interaction Program for Parents and Youngsters (HIPPY) HIPPY is a combined home and centre-based early childhood enrichment program that supports parents in their role as their child's first teacher.	- Increased parental confidence - Increased parental participation in preschool, school and community life - Improved child literacy and numeracy - Suitable for Aboriginal children and families (Liddell, 2011).	★★

How do we measure the impact?

Impact pathway link	Factor	Measurement tool	Type of indicator
Persistent Poverty	Housing stress	Housing costs exceed 30 percent of income and the household is in the bottom 40 percent of the income distribution	Program/population level
	Family economic situation	Contribution of government pensions and allowances to gross household income (ABS Surveys of Income and Housing)	Population level (NFPAC)
	Financial stress	Financial stress indicators: General Social Survey (GSS)	Population level
	Financial stress	Proportion of households with internet access	Program/population level (SIC)
	Poverty	Number of people living in relative poverty	Program/population

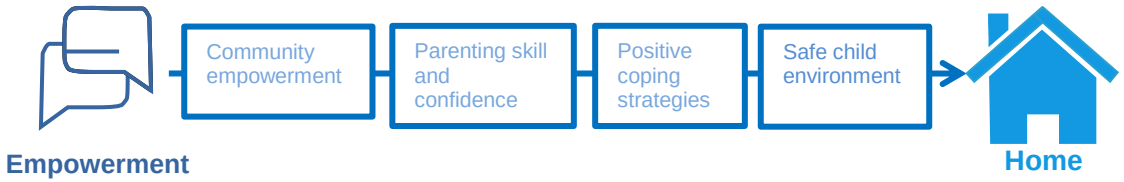
			level
	Homelessness	Homelessness status (by age categories)	Program/population level
	Employment	Proportion of children (under 15 years) living in jobless families	Population level (SIC)
Parenting	Parent confidence	Levels of confidence parents have in their parenting skills	Program level (SIC)
	Maternal emotional style	Maternal Emotional Styles Questionnaire (MESQ) (Lagace Seguin & Coplan, 2005) 14 item scale	Program level
	Maternal sensitivity	Parental warmth scale (Sanson, 1995)	Program level
	Quality of relationship	Children and young people have supportive relationships which facilitate disclosure of safety and wellbeing concerns	Population level (SIC)
Home Learning Environment	Household chaos	1. Total number of times a child has moved house 2. Total number of changes in the primary carer 3. Total number of changes in the secondary caregiver 4. Total number of different people in the household 5. Total number of times household members moved into or out of the household 6. Average number of hours that the TV is on each day 7. Average house density (number of rooms in the home divided by the number of people residing in the home (Vernon-Feagans et al., 2012)	Program level
	Promotion of literacy development	Proportion of children read to by a parent on a regular basis (0- 8 years) ‘ Number of days last week parent(s) read from a book or told a story	Program level

Early child development (Cognitive Development)	Self-regulation, compliance, communication, adaptive behaviours, autonomy, affect, and interaction with people	Ages & Stages Questionnaire – Social and Emotional (D'Aprano et al., 2016; Squires et al., 2002)	Program level
	Emotional maturity, social competence, physical health and wellbeing, language and cognitive skills, communication skills and general knowledge	Proportion of children developmentally vulnerable on one or more domain of the Australian Early Childhood Census (Kindergarten)	Population level (SIC)
	Literacy	Peabody Picture Vocabulary Test (PPVT)	Program level

Empowerment

Under this domain families and communities are empowered. Empowerment is defined as a person's or communities' capacity to make effective choices; that is, as the capacity to transform choices into desired actions and outcomes. The extent or degree to which a person is empowered is influenced by personal agency (the capacity to make purposive choice) and opportunity structure (the institutional context in which choice is made)(Alsop & Heinsohn, 2005). The evidence review revealed three key pathways through which early intervention services can contribute to empowering individuals and communities.

Empowerment to Home



What is the evidence?

Impact pathway link	Evidence	Evidence Rating
Community empowerment enables an increase in parenting skill and confidence.	• Successful Aboriginal community organisations empower their communities by building people's skills and confidence, setting expectations, and supporting people to meet them; and enabling people to take on new responsibilities and achieve goals (Hunt, 2016).	★
Parenting skill and confidence is important in coping positively with stress.	• Co-parenting competition can be reduced with preventative parenting programs, improving child adjustment problems by age 3 (Solmeyer, Feinberg, Coffman, & Jones, 2014).	★★

Positive coping strategies are integral to a safe child environment.	• Alcohol and other drug use can be a coping strategy for parents and carers who experience chronic stress, and is a common factor in child protection investigations of infants (Fallon et al., 2013).	★★
	• Maternal substance abuse is associated with increased severity of neglect (Manly, Oshri, Lynch, Herzog, & Wortel, 2013).	★★
	• Substance-abusing mothers have often reported experiencing a high level of psychological distress in the parenting role that is, in turn associated with compromised parenting (Suchman, Decoste, Mcmahon, Rounsaville, & Mayes, 2011).	★★

What interventions impact these factors?

Impact pathway link	Effective intervention	Outcomes	Evidence Rating
Community empowerment	**Family Wellbeing Program** Empowerment and personal development of Aboriginal and Torres Strait Islander people through people sharing their stories, discussing relationships, and identifying goals for the future.	- Increased personal empowerment - Identification of community issues, values, goals and areas for improvement (McCalman, McEwan, Tsey, Blackmore, & Bainbridge, 2010).	★
Parenting skill	**Tuning into Kids**	- See Page 42.	
	Home Visiting (e.g. Nurse Family Partnership, Miller Early Childhood Sustained home visiting) **Parent Child Interaction Therapy (PCIT)** **Attachment and Biobehavioural Catch-up**	- See Page 14.	

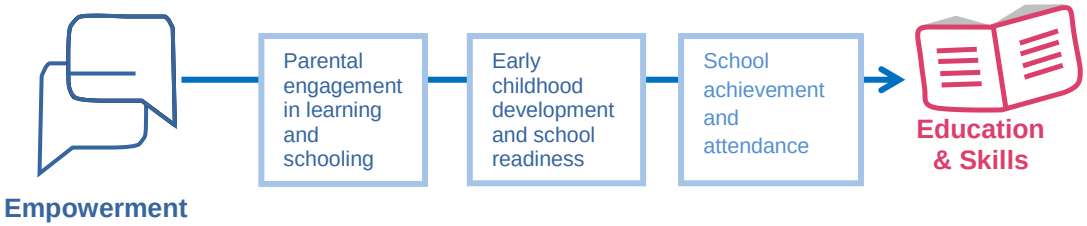
	Triple P – Level 4		
Positive coping	**Smoking cessation** Interventions aiming to reduce child and family exposure to environmental tobacco smoking may be more successful than smoking cessation programs.	- Decrease in cigarette consumption - Increased adherence to home and car smoking bans (Brown et al., 2015)	★★★
	Family Group Cognitive-Behavioral Preventive Intervention for Families of Depressed Parents (FGCB) Goal is to educate families about depressive disorders, increase family awareness of impact of stress and depression on functioning and to develop adaptive coping responses to stress and improve parenting skills	- Decrease in child and parental depressive symptoms (Compas et al., 2011).	★★★
Safe child environment	**SafeCare**	- See Page 38.	

How do we measure the impact?

Impact pathway link	Factor	Measurement tool	Key
Community empowerment	Community connections	Percent of population who feel they belong to their community/neighbourhood	Program level
Parenting skill	Parent confidence	Levels of confidence parents have in their parenting skills	Program level (SIC)
	Maternal sensitivity	Parental warmth scale (Sanson, 1995)	Program level
Positive coping	Parental risky	Percent of parents engaging in risky and high-risk	Population level

	behaviour	drinking patterns	(SIC)
	Smoking behaviours	Self reported daily cigarette consumption	Program level
		Adherence to home and car smoking ban	Program level
	Anxiety	Anxiety subscale of the shortened Profile of Moods Scale (Dipietro et al., 2008)	Program level
Safe child environment	Safety	Number of children reported to child protection services in last 12 months	Population level
	Exposure to domestic and family violence	Proportion of adults who experienced current partner violence and their children saw or heard that violence in the previous 12 months	Population level (SIC)
		Incidence rate of domestic and family violence reported to the NSW Police force	Population level (SIC)

Empowerment to Education & Skills



What is the evidence?

Impact pathway link	Evidence	Evidence Rating
Parental engagement and interest in their child's education impacts early development and school readiness.	• Early parental interest in a child's education has a stronger link to a child's school progress than a parent's own educational status (Feinstein & Symons, 1999).	★★
	• Two kinds of parental behaviour are shown to have positive associations with children's school outcomes: home–school partnership and parental interest in children's academic activities (Huat See & Gorard, 2015).	★★
	• Reading aloud to young children, particularly in an engaging manner, promotes emergent literacy and language development and supports the relationship between child and parent (Arnold & Whitehurst, 1994; Whitehurst et al., 1988).	★★
When children are school ready they are more likely to do well at school.	• Early childhood development (as measured by the EDI) predicts reading and numeracy skills four, six and eight years later (Brinkman et al., 2013).	★★

What interventions impact these factors?

Impact pathway link	Effective intervention	Outcomes	Evidence Rating
Parental engagement in learning and schooling	Promotion of reading aloud to young children through anticipatory guidance and the distribution of picture books	- Increase in parental reading to children - Increase in ownership of picture books per family (Needlman et al., 2005).	★★
	Home Interaction Program for Parents and Youngsters (HIPPY) HIPPY is a combined home and centre-based early childhood enrichment program that supports parents in their role as their child's first teacher.	- Increased parental confidence - Increased parental participation in preschool, school and community life - Improved child literacy and numeracy. - Suitable for Aboriginal children and families (Liddell, 2011).	★★
Early childhood development and school readiness	High quality early childhood education and care.	- Improved cognitive development (Burger, 2010)	★★★

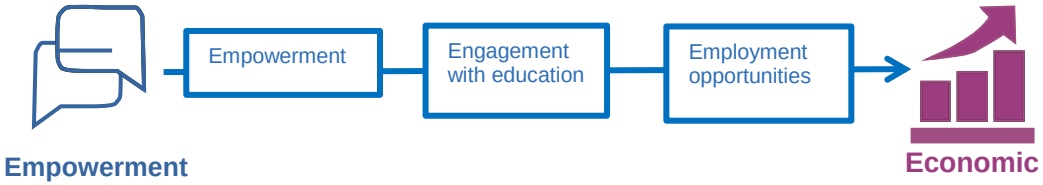
How do we measure the impact?

Impact pathway link	Factor	Measurement tool	Type of indicator
Parental engagement in learning and	Promotion of literacy development	Questions adapted from the StimQ (https://med.nyu.edu/pediatrics/developmental/sites/default/files/developmental/stimqt_english.pdf): 1. Do you ever read children's books to your child, or is she/he too	Program level

schooling		young for that? 2. How many books do you have at home that you read to your child?* 3. How many days each week do you read children's books with your child? How confident are you in the role of your child's first teacher? (Likert scale 1 = Not at all confident to 5 = Very confident)(Liddell, 2011)	
		Proportion of children read to by a parent on a regular basis (0- 8 years)	Population level (SIC)
		Number of days last week parent(s) read from a book or told a story	Population level (SIC)
	Parental participation in child's education	For child's teacher: In your opinion, how involved are this child's parents in her/his learning and education? 1 = Very involved, 2 = somewhat involved, 3 = not involved (Liddell, 2011)	Program level
	Preschool attendance	Percent of Indigenous and non-Indigenous children aged 3 and 4 years attending preschool	Population level (SIC)
Early child development	Self-regulation, compliance, communication, adaptive behaviours, autonomy, affect, and interaction with people	Ages & Stages Questionnaire – Social and Emotional (D'Aprano et al., 2016; Squires et al., 2002)	Program level
	Emotional maturity, social competence, physical health and wellbeing, language and cognitive skills,	Proportion of children developmentally vulnerable on one or more domain of the Australian Early Childhood Census (Kindergarten)	Population level (SIC)

	communication skills and general knowledge		
	Literacy	Peabody Picture Vocabulary Test (PPVT)	Program level
	Developmental assessment	Percent of children and young people who receive annual health and developmental assessments	Population level (SIC)
School achievement	School attendance	School attendance rates for Indigenous and non-Indigenous students	Population level (SIC)
	School engagement	Self-reported student engagement and wellbeing	Population level (SIC)
		Rate of long and short suspensions from school	Population level (SIC)
	General capabilities	Proportion of 5-17 year olds achieving across all seven general capabilities	Population level (SIC)
	NAPLAN	Literacy and numeracy for all Indigenous and non-Indigenous children	Population level (SIC)
	Educational Attainment	Percentage of students completing Year 12 or the equivalent Australian Quality Framework qualifications OR Proportion of 20-24 year olds who have attained a Year 12 or Australian Qualification Framework at Certificate III or above	Population level (SIC)

Empowerment to Economic



What is the evidence?

Impact pathway link	Evidence	Evidence Rating
Empowerment improves engagement with education.	• High perceived self-efficacy for learning in high school contributes to school results and the likelihood of remaining in school (Caprara et al., 2008).	★★
	• Young Aboriginal men involved in community engagement programs focusing on social and emotional wellbeing show an increased engagement with education and employment facilities (Whiteside et al., 2016).	★
Education leads to increased employment opportunities.	• Increased education, and particularly degree completion, is associated with greater earnings and employment, in particular for youth exiting care (Okpych & Courtney, 2014).	★★

What interventions impact these factors?

Impact pathway link	Effective intervention	Outcomes	Evidence Rating
Empowerment to engage in education	**Home Interaction Program for Parents and Youngsters (HIPPY)** HIPPY is a combined home and centre-based early childhood enrichment program that supports parents in their role as their child's first teacher.	- Increased parental confidence - Increased parental participation in preschool, school and community life - Improved child literacy and numeracy. - Suitable for Aboriginal children and families (Liddell, 2011).	★★
Bridging education and employment opportunities	**Australian Indigenous Mentoring Experience (AIME)** The program provides individualised student support and assistance to Indigenous high school students by identifying career pathways linked to individual aptitudes and interests	- Increased Year 10, Year 12 completion rates - Increased University admission rates - Increased self-esteem, sense of belonging and career aspirations (Harwood et al., 2013).	★★

How do we measure the impact?

Impact pathway link	Factor	Measurement tool	Type of indicator
Empowerment	Parent confidence	Levels of confidence parents have in their parenting skills	Program level (SIC)
	Employment	Proportion of children (under 15 years) living in jobless families	Population level (SIC)

	Promotion of literacy development	Proportion of children read to by a parent on a regular basis (0- 8 years) ‘ Number of days last week parent(s) read from a book or told a story	Program level
Engagement with education	Preschool attendance	Percent of Indigenous and non-Indigenous children aged 3 and 4 years attending preschool	Population level (SIC)
	School attendance	School attendance rates for Indigenous and non-Indigenous students	Population level (SIC)
	School engagement	Self-reported student engagement and wellbeing	Population level (SIC)
		Rate of long and short suspensions from school	Population level (SIC)
	Absenteeism	Rate of chronic absenteeism (20+ days) at preschool (3-4 years), school (5-17 years), employment or further education (15 years+)	Population level (SIC)
	Social connections	Percent of children who self-report a sense of belonging at school and peer acceptance	Population level (SIC)
Employment opportunities	Underemployment	Underemployment rates among young people under 25	Population level (SIC)
	Employment opportunities	Difference in employment rates between Indigenous and non-Indigenous people	Population level (SIC)
		Percent of the population of a given age group and gender who is not employed and not involved in further education or training	Population level (SIC)
		Number of employment opportunities created by employers for disadvantaged jobseekers	Population level (SIC)

Aboriginal Children, Families and Communities

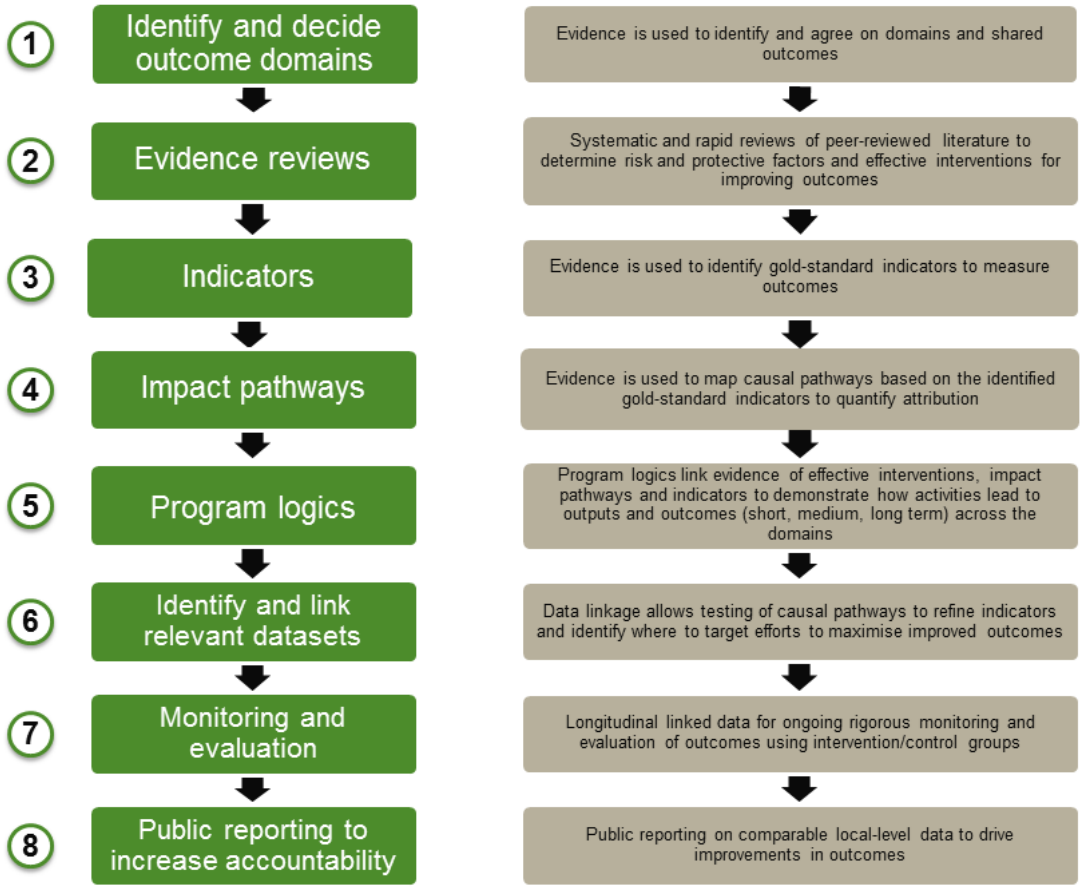
The evidence review had a particular focus on outcomes and effective programs for Aboriginal children, families and communities in Australia. 72 peer reviewed articles and evaluation reports were reviewed and summarised. Where a program is suitable for Aboriginal families (i.e. the research has involved Aboriginal clients) this has been indicated in the above tables.

Implementing the Early Intervention Outcomes Framework

FACSAR has developed a guide to implementing the Human Services Outcomes Framework (https://www.facs.nsw.gov.au/reforms/nsw-human-services-outcomes-framework). This document sets out eight steps in developing evidence based policy, using the outcomes framework. The process begins with identifying the desired outcomes (Step 1), the indicators (Step 3), and finishing with monitoring and evaluation (Step 7) and public reporting (Step 8, see Figure **2**).

This Application of the HSOF to Early Intervention is a resource that can help to inform many of the steps in below process.

Figure 2: An evidence based approach to implementing the Outcomes Framework in FACS



One of the most important ways in which Applications of the HSOF can be used to develop programs and interventions, is through program logics (step 5 of the above Figure). Every program that is funded or delivered by FACS should have a program logic that:

1) clearly identifies the problem or situation that a program seeks to address
2) identifies the activities/ intervention the program will provide
3) references evidence related to activities/intervention, and
4) articulates the short, medium, and long term outcomes that are anticipated by that program (see Table 4 below for an example program logic).

For programs that are part of the FACS TEI system, the outcomes that are identified in each program's logic should be drawn from and align with the outcomes provided in this Outcomes Framework. The particular desired outcomes will depend on the program being delivered.

Table 4: Example program logic

PROBLEM	EVIDENCE	PROGRAM	MECHANISMS OF CHANGE	OUTPUTS AND CLIENT OUTCOMES				GOAL
There are increasing numbers of children who are coming into contact with FACS at risk of significant harm. Analysis of data has found that a common issue underlying these reports is child neglect.	Poor parent-child relationships and attachment are considered to be a critical risk factor for child abuse and neglect. The parents' ability to respond appropriately and promptly to the signals of the infant is an important condition for the development of attachment.	A parenting program which focuses on improving parental emotional awareness, responsivity, and self-regulation skills.	By addressing these factors, the program will improve the parent child relationship, and the attachment between child and parent. This in turn will increase the responsivity of the parent to the child's needs, reducing child neglect.	Immediate outputs and implementation outcomes	Immediate outcomes	Intermediate outcomes	Long term outcomes	Improved safety for children and young people
				• Numbers of parenting programs conducted • Number of parents attending • Client satisfaction with program	• Improved parental confidence and self-efficacy • Improved parental skills	• Improved parent-child relationship	• Reduced child abuse and neglect • Reduction in numbers of children at risk of significant harm.	

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