

Early intervention for under-13s

EVIDENCE BRIEF

International research shows that early intervention for children under 13 can reduce teenage and adult offending. It can also improve children's intellectual development, academic achievement and health.

OVERVIEW

- In New Zealand, programmes targeting children aged under 13 who are at risk of offending in adolescence and adulthood, tend to focus on:
 - promoting healthy child development (e.g. Early Start, Family Start)
 - improving parents' parenting skills (e.g. Incredible Years Parent)
 - teaching children skills that encourage pro-social behaviour such as self control (e.g. Positive Behaviour for Learning (PB4L) School-Wide)
 - training teachers to manage problem behaviour in ways that create a positive learning environment (e.g. Incredible Years Teacher).
- Ten international studies show that interventions for at-risk children reduce offending in the teenage years. The results show that between 12 to 21 at-risk children need to take part in a programme to prevent 1 from offending in adolescence.
- Nine studies show that interventions for at-risk children reduce offending in the adult years. The results show that about 30 children need to take part to prevent 1 from offending in adulthood.
- In New Zealand, some programmes for at-risk children have been evaluated and found to have a positive effect on the children's

disruptive behaviour. However, as the children have not reached their teenage years yet, it is not possible to test the programmes' effect on their offending in adolescence and adulthood.

- Ideally any future investment would include funding to implement and deliver programmes as planned by the programme designers.
- It would also include funding for data collection systems to support ongoing monitoring and evaluation that assessed: (a) programme participants' outcomes in childhood, adolescence and adulthood, and (b) the effectiveness of the programme for sub-groups such as Māori children and their whānau.

EVIDENCE BRIEF SUMMARY

Evidence rating:	Promising
Unit cost:	Variable, with \$5,700 for an intensive home visit programme
Effect size (number needed to treat):	Offending in adolescence: About 12-21 children need intervention to prevent 1 from offending, on average Offending in adulthood: About 30 children need intervention to prevent 1 from offending, on average
Current justice sector spend:	None
Unmet demand:	Moderate

WHAT DOES THIS BRIEF COVER?

Research shows that children who exhibit persistent disruptive behaviour are at higher risk of offending during adolescence and adulthood, than children who do not have conduct problems. This suggests that programmes which treat disruptive behaviour in childhood can reduce later offending.

There are different types of programmes for treating conduct problems in children aged under 13:

- intensive home visiting programmes for parents of babies and toddlers, which promote healthy child development (e.g. Nurse-Family Partnership Programme, Early Start, Family Start)
- programmes for parents with children aged under 12 years, which aim to improve parents' parenting skills (e.g. Incredible Years Parent, Triple P Positive Parenting Programme)
- interventions which teach children skills that encourage pro-social behaviour (e.g. PB4L School-Wide)
- programmes that help teachers and schools create positive learning environments (e.g. Incredible Years Teacher, PB4L School-Wide).

There is only a small number of meta-analyses about the effect of specific types of programmes for at-risk children on their later offending. Consequently, all types of programmes are covered in this evidence brief.

There is also limited research on whether programmes for at-risk children do reduce later offending, because only a small number of studies examine the long-term effects of these programmes. Studies tend to assess the programmes' short-term effects on child antisocial behaviour.

A small number of children start offending from late childhood (9 to 12 years old). Programmes for these children are covered in separate evidence briefs on: behaviour management in schools; family-based interventions for teenagers (including Functional Family Therapy and Multisystemic Therapy); youth mentoring; cognitive-behavioural therapy.

DOES EARLY INTERVENTION REDUCE TEENAGE AND ADULT OFFENDING?

International evidence

There is international research on whether programmes for at-risk children prevent these children from offending in adolescence and adulthood.

Three systematic reviews (covering ten studies) found that programmes delivered to children had a moderate effect in reducing their teenage offending.ⁱ The results show that between 12 to 21 at-risk children need to take part in a programme to prevent 1 from offending in adolescence.

One meta-analysis (covering nine studies) found that early intervention programmes led to a small reduction in adult offending amongst children, many of whom were from disadvantaged families (e.g. low socio-economic status).ⁱⁱ The results show that about 30 children need to take part to prevent 1 from offending in adulthood.

An economic analysis found that the benefits (measured as reductions in disruptive behaviour) to cost ratio for Incredible Years Parent, a programme designed to enhance parents' parenting skills, was \$1.19 benefits per \$1 cost. The researchers calculated that this programme's benefits would exceed its costs 52% of the time.ⁱⁱⁱ

New Zealand evidence

In New Zealand, the Advisory Group on Conduct Problems¹ (AGCP) and the Social Policy Evaluation and Research Unit (Superu) identified programmes that are likely to be

effective for under 13 year olds with conduct problems.^{iv}

Nurse-Family Partnership Programme

The Nurse-Family Partnership Programme provides nurse home visits for first time mothers, most of whom are disadvantaged (e.g. low socio-economic status, little education) during their pregnancy and the first two years of their child's life. Three separate randomised controlled trials found this programme led to a range of sustained positive outcomes, including in one trial to fewer arrests and convictions in adolescence.^v

Early Start

The Early Start Project Ltd runs Early Start, a targeted, intensive home visiting service for vulnerable families in the Christchurch region. This service aims to improve child and family wellbeing.

In a randomised controlled trial, Fergusson et al. found that Early Start had beneficial effects across a number of areas including lowering rates of childhood problem behaviours at ages three and nine. The results showed Early Start had similar beneficial effects for Māori and non-Māori families.^{vi}

Family Start

Family Start is another intensive home visiting programme. It is run by a range of providers throughout New Zealand. While a recent quasi-experimental study found that Family Start has beneficial effects for vulnerable children, data limitations meant that Family Start's effect on child behaviour (the subject of this brief) could not be measured.^{vii}

Well Child/Tamariki Ora

Well Child/Tamariki Ora is a free service for all children from birth to five years. It consists of health assessments, health promotion and support services for these children and their families. It includes evidence-based assessment

¹ This is a group of academics and clinicians who have extensive experience in the causes and treatment of childhood conduct problems.

of the children's development and behaviour, such as the B4 School Check for four year olds. The effectiveness of the Well Child/Tamariki Ora service has not been evaluated to date.^{viii}

Incredible Years Parent

Incredible Years Parent is a targeted programme designed to enhance parents' parenting skills. It is funded and provided by the Ministry of Education (MOE) under PB4L. MOE provides Incredible Years Parent because it has a strong evidence base^{ix} and the AGCP identified it as an effective programme.^x

Sturrock et al. concluded that Incredible Years Parent led to sustained improvements in child behaviour, and that these improvements were similar for Māori and non-Māori families.^{xi}

Triple P Positive Parenting Programme

The Triple P Positive Parenting Programme provides parents with strategies to help them manage their children's behaviour. It consists of a suite of interventions of increasing intensity from level 1 (universal) to level 5 (intensive support). One meta-analysis found it had a moderate effect on improving child problem behaviour.^{xii}

The Ministry of Health (MOH) has funded training for practitioners to provide brief level 1 Triple P interventions in Auckland, Bay Of Plenty and Manawatu. This initiative will be evaluated in 2016/17 as part of a MOH-led multi-agency project on conduct problems.

PB4L School-Wide

PB4L School-Wide is a framework that helps schools build a positive school-wide culture of shared values and behaviour expectations that support learning. A report by the New Zealand Council for Educational Research found that School-Wide has contributed to positive changes in school culture and a decrease in major behaviour incidents.^{xiii}

Incredible Years Teacher

Incredible Years Teacher is also delivered under PB4L. It provides teachers of 3–8 year olds with behaviour management strategies that help create a positive learning environment. A report by the New Zealand Council for Educational Research found that behaviour plans developed with and supported by Incredible Years Teacher, underpinned reported improvements in students' engagement in learning.^{xiv}

WHAT MAKES EARLY INTERVENTION EFFECTIVE?

What factors increase success in reducing crime?

The AGCP indicate that the factors which increase programme effectiveness are:

- having well-designed programmes that are implemented according to the programme specification – factors that affect implementation are described below
- matching a programme’s content and delivery to participants’ needs
- having trained, enthusiastic programme delivery staff who use high quality programme manuals and receive professional supervision
- having participants who are actively engaged in the content of the programme; this, in turn, increases their responsiveness to the content.

The AGCP states that it is important that programmes to manage childhood conduct problems take into account the co-existing problems (e.g. learning difficulties) that these children are likely to have.^{xv}

Superu found that effective parenting programmes tend to have a clear theoretical framework and processes to ensure they are delivered as intended.^{xvi}

We are unable to comment with confidence about specific factors that make early intervention programmes more effective at reducing teenage or adult crime, as the research findings about these factors are tentative due to the limited number of studies that follow participants over time.

Factors influencing implementation fidelity

‘Implementation fidelity’ refers to implementing and delivering programmes as intended in the original design. It is important because, as noted above, good implementation is fundamental to a programme’s effectiveness. Factors that influence implementation fidelity, while allowing for iterative improvements to programme design, include:

1. Programme provider: ensuring the organisation delivering the programme has the infrastructure to support effective implementation (e.g. economic stability, low staff turnover, good data collection systems, and systems for managing any changes made to the programme design as a result of continuous quality improvement).
2. Programme staff: having appropriately skilled programme staff who are adequately trained, resourced and supervised; having ‘implementation or technical assistants’ who support practitioners to drive implementation, implementation fidelity and change management.
3. Programme participants: developing culturally-appropriate processes that encourage targeted families to take part in programmes.^{xvii}

How does early intervention reduce crime?

Several theories and a large body of research suggest that early childhood can be an important time to enhance a child’s cognitive and behavioural development, in order to minimise delinquent behavioural problems (including offending) in the future.^{xviii}

The AGCP states that “...New Zealand-based research from the Christchurch and Dunedin longitudinal studies has established that conduct problems in childhood are precursors of a wide

range of adverse outcomes in adulthood.^{xxix} These outcomes include criminal offending, imprisonment, and alcohol and substance abuse.

According to the AGCP, a robust research finding is that children who develop conduct problems tend to come from families experiencing multiple social and economic disadvantages. This has led to the development of early intervention programmes for children from disadvantaged families that address a range of social and economic issues, including preventing or managing childhood conduct problems to reduce the risk of antisocial behaviour in later life.

WHAT OTHER BENEFITS DOES EARLY INTERVENTION HAVE?

International and New Zealand studies show that early intervention programmes have a positive effect on a range of child outcomes.

These include:

- improved intellectual development^{xx}
- increased academic achievement^{xxi}
- reduced health problems, physical child abuse and neglect.^{xxii}

Early intervention programmes also lead to better parenting skills and practices, and improved parental mental health.^{xxiii}

Some children are exposed to traumatic events, such as intimate partner violence, which can lead to externalising behaviours (e.g. aggression) and internalising behaviours (e.g. depression) emerging over time.^{xxiv} One meta-analysis, covering 39 randomised controlled trials of psychological interventions, found that these interventions are effective in treating posttraumatic stress disorder in children and adolescents.^{xxv}

CURRENT INVESTMENT IN NEW ZEALAND

The Ministry of Social Development (MSD) funds early intervention services². In 2014/15 they allocated:

- \$76m to services designed to support vulnerable children and children in hardship, and reduce child maltreatment
- \$15.5m to early intervention services that aim to support vulnerable young people, including young offenders, and reduce youth crime.^{xxvi}

Under PB4L, in 2014/15 MOE:

- provided Incredible Years Parent, under PB4L, to 3,331 parents at a cost of \$5.5m
- supported over 2,500 teachers through the Incredible Years Teacher programme at a cost of approximately \$5.3m
- supported over 610 schools (impacting on over 250,000 students) to implement PB4L School-Wide at a cost of \$6.2m.

In 2012/13, the MOH provided \$60.39m funding for the Well Child/Tamariki Ora service.

MOH has also funded:

- the training of approximately 800 practitioners to deliver Incredible Years Parent
- the provision of specialist mental health clinicians to work in pilot parenting programmes in education settings in Auckland, Bay Of Plenty and Manawatu
- the training of practitioners to provide brief level 1 Triple P Positive Parenting Programmes in these locations.

² This applies to social services purchased by Community Investment and the Ministry of Youth Development, but does not apply to services purchased for Work and Income.

EVIDENCE RATING AND RECOMMENDATIONS

Each Evidence Brief provides an evidence rating between Harmful and Strong.

Harmful	Robust evidence that intervention increases crime
Poor	Robust evidence that intervention tends to have no effect
Inconclusive	Conflicting evidence that intervention can reduce crime
Fair	Some evidence that intervention can reduce crime
Promising	Robust international <i>or</i> local evidence that intervention tends to reduce crime
Strong	Robust international <i>and</i> local evidence that intervention tends to reduce crime

According to the standard criteria for all Evidence Briefs³, the appropriate evidence rating for early intervention is Promising.

According to our standard interpretation, this means that:

- there is robust international or local evidence that interventions tend to reduce crime
- interventions may well reduce crime if implemented well; and
- further evaluation is desirable to confirm interventions are reducing crime and to support the fine-tuning of the intervention design.

This rating reflects that the international research shows that programmes delivered to children had a moderate effect in reducing their teenage or adult offending.

³ Available at www.justice.govt.nz/justice-sector/what-works-to-reduce-crime/

Evaluations of early intervention programmes, which followed up participants in adolescence and adulthood, would strengthen the New Zealand evidence. If demonstrated to work in New Zealand, the investment rating for early intervention would increase to Strong or Very Strong.

There is also clear international evidence that early intervention provides a range of other benefits, not just the prevention of offending. As such, there is an investment case for both the justice sector and broader social sector to invest in at-risk children.

In applying these programmes in New Zealand, it would be beneficial to consider how early intervention programmes can be made more effective for Māori children and whānau, and how these programmes should be evaluated in relation to effectiveness for Māori adolescents and adults, given that Māori are over-represented in offending statistics.

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FIND OUT MORE

Web

www.justice.govt.nz/justice-sector/what-works-to-reduce-crime/

Email

whatworks@justice.govt.nz

Recommended reading

Dekovic, M., Slagt, M., Asscher, J., Boendermaker, L., Eichelsheim, V. & Prinzie, P. (2011). Effects of early prevention programmes on adult criminal offending: A meta-analysis. *Clinical Psychology Review*, 31, 532-544.

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Citations

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- ⁱ Manning et al. 2010, Farrington & Welsh 2003, Losel and Beelmann 2007
- ⁱⁱ Dekovic et al. 2011
- ⁱⁱⁱ Washington State Institute for Public Policy 2015
- ^{iv} Advisory Group on Conduct Problems 2009a, Social Policy Evaluation and Research Unit 2015
- ^v Olds 2010
- ^{vi} Vaithianathan et al. 2016, Fergusson et al. 2012
- ^{vii} Vaithianathan et al. 2016
- ^{viii} Social Policy Evaluation and Research Unit 2014
- ^{ix} Washington State Institute for Public Policy 2011
- ^x Advisory Group on Conduct Problems 2009b, Advisory Group on Conduct Problems 2011
- ^{xi} Sturrock et al. 2014
- ^{xii} Nowak & Heinrichs 2008
- ^{xiii} New Zealand Council for Educational Research 2015b
- ^{xiv} New Zealand Council for Educational Research 2015a
- ^{xv} Advisory Group on Conduct Problems 2009a
- ^{xvi} Social Policy Evaluation and Research Unit 2015
- ^{xvii} Advisory Group on Conduct Problems 2009b
- ^{xviii} Cullen et al. 2012, Dekovic et al. 2011, Manning et al. 2010, Loeber et al. 2008
- ^{xix} Advisory Group on Conduct Problems 2009a p.14
- ^{xx} Elkan et al. 2000
- ^{xxi} Dekovic et al. 2011, Manning et al. 2010
- ^{xxii} Peacock et al. 2013, Geeraert et al. 2004, Fergusson et al. 2012
- ^{xxiii} Nowak & Heinrichs 2008, Furlong et al. 2012
- ^{xxiv} Vu et al. 2016
- ^{xxv} Morina et al. 2016
- ^{xxvi} Ministry for Social Development 2015

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SUMMARY OF EFFECT SIZES FROM META-ANALYSES

Treatment type	Meta-analysis	Outcome measure	Reported average effect size	Number of estimates meta-analysis based on	Assuming 20% untreated recidivism	
					Percentage point reduction in offending	Number needed to treat
Parent training (Triple-P)	Washington State Institute for Public Policy 2012a	Child disruptive behaviour disorder symptoms	d=0.85*	5	0.15	7
Parent training	Barlow and Parsons 2005	Child antisocial behaviour	d=0.54 ⁴	5	0.11	9
Parent training (Incredible Years)	Washington State Institute for Public Policy 2012b	Child disruptive behaviour disorder symptoms	d=0.47*	21	0.10	10
Behavioural parent-training (BPT)	McCart et al 2006	Youth antisocial behaviour	d=0.45*	7	0.10	10
Parent training	Furlong et al. 2012	Child antisocial behaviour	d=0.44*	9	0.10	10
Various early interventions	Farrington and Welsh 2003	Teen offending	d=0.372*	10	0.09	12
Home visits or parent training	Piquero et al. 2016a	Child antisocial behaviour	d=0.37*	78	0.09	12
Parent training / support (Triple-P)	Nowak and Heinrichs 2008	Child antisocial behaviour	d=0.35*	55	0.08	12
Parent training (Incredible Years)	Menting et al. 2013	Child antisocial behaviour	d=0.27*	50	0.07	15
Child training (self-control)	Piquero et al. 2016b	Delinquency	d=0.27*	36	0.07	15
Various early interventions	Manning et al. 2010	Teen offending	d=0.243*	5	0.06	16
Various early interventions	Dekovic et al. 2011	Adult offending	OR = 1.26*	9	0.03	29
Child training	Losel and Beelmann 2007	Teen offending	d=0.18*	11 ⁵	0.05	21
		Antisocial behaviour	d=0.29*	82 ⁶	0.07	14
School based programmes (including child skills training)	Wilson et al. 2001	Teen offending	d=0.04 NS ⁷	165	0.01	88
		Child antisocial behaviour	d=0.15* ⁸	165	0.04	25

* Statistically significant at a 95% threshold

OR=Odds ratio

d=Cohen's d or variant (standardised mean difference)

NA=Not applicable (no positive impact from treatment)

NS=Not significant

NR=Significance not reported

⁴ This is the result for independent observations of children's behaviour. The results for parent reports of changes in children's behaviour were not statistically significant.

⁵ It is unclear whether the interventions in these studies were delivered to children aged under or over 12.

⁶ The interventions in these studies were delivered to people aged 0 to 18.

⁷ This is the overall effect size on delinquency for both children and adolescents.

⁸ This is based on the summary effect for 'other problem behaviours' for both children and adolescents. A further test showed the effect size was not significantly different for younger children.