



Better systems, better chances

A review of research and practice for prevention and early intervention



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Better Systems, Better Chances: A Review of Research and Practice for Prevention and Early Intervention

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Disclaimer

This report is based on a rapid synthesis of prevention and early intervention research conducted over a 6 week period in April and May 2014. It provides an overview and analysis of key themes and messages from peer-reviewed and grey literature. Readers are advised to consider the most current evidence when selecting and implementing interventions.

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Executive Summary

“The two public policy strengths of early intervention are firstly that it is less expensive and second it is more effective than late intervention. It is no longer viable to take ever increasing amounts of taxation from the public to deal with the ever increasing impact of failing to intervene early ” (Allen and Smith, 2008).

Effective prevention and early intervention is possibly the most promising strategy for changing the trajectories of children. There is clear evidence that children’s life chances are influenced by their families and communities and that they are able to be changed for the better. Improving the wellbeing of children, young people and families at population-level requires flexible and responsive systems that are equipped to deliver preventive interventions and respond effectively early to emerging issues and challenges. There is a strong and growing evidence-base that supports the effectiveness of many prevention and early intervention programs and approaches, and consistent evidence about the features of service systems that contribute to poorer outcomes.

This paper has used available research to synthesise the factors that promote positive child development and to highlight factors that enable effective prevention and early intervention at a system-wide level. Current research provides strong theoretical underpinnings and directions for building systems that reflect the best available evidence about what children, young people and families require to enable them to thrive. The balance of evidence would suggest that there is no single model or ‘silver bullet’. Instead, the aim must be agile and responsive system comprised of cultures, structures and processes that produce service responses tailored to the needs and circumstances of families and communities; systems underpinned by robust accountability and governance mechanisms that enable adaptation and problem-solving; and an explicit focus on delivering interventions that are grounded in evidence.

This paper presents the findings of a rapid strategic literature review of prevention and early intervention programs and systems, with a specific focus on:

- Child development pathways and processes;
- The social and economic benefits of prevention and early intervention;
- Risk and protective factors for positive child development;
- Key pathways for intervention at key developmental stages (from antenatal through to adolescence); and
- System design elements that facilitate prevention and early intervention.

Child development: Key concepts, frameworks and theories

Understanding current research on how children grow, learn and thrive is central to understanding why prevention and early intervention is crucial and how to design interventions and systems that support optimal child development. This section presents key concepts, theories and models relating to child development, which are then drawn on and further explored in later sections of this report. The evidence shows:

- Early childhood provides a crucial 'window of opportunity' for public policy interventions to shape long-term trajectories given the brain development occurring over the period of 0-3 years.
- Child health is a strong predictor of adult health.
- Genetics are a considerable non-modifiable factor in predicting health and wellbeing outcomes. However, epigenetics helps us understand the importance of potentially modifiable parental behaviours and in particular maternal health, not only for the parent's current child but for generations to come.¹
- Brain development during adolescence presents another window of influence as the brain continues to grow at what is a time of transition from family to increasing peer influence, and exposure to risky behaviours increases.
- Disadvantage, poverty and inequality are contributors to poorer outcomes for health and wellbeing. However, services targeted only to those living with disadvantage will not address developmental vulnerability at a population level.
- Parents, play and home environments are critical to child development and health and wellbeing outcomes. Parenting is so influential that it can moderate the impact of social and economic disadvantage.
- There is typically no one driver or no one point of intervention that can ensure positive child development - combinations of risk and protective factors can create developmental pathways, leveraging and building resilience or exposing or escalating vulnerabilities.

The interaction of factors and context for development can be complex. Understanding the ecological model of child development as well as those combinations of risk and protective factors allows us to better understand how to intervene to improve child outcomes (through prevention or treatment).

Social and economic benefits of prevention and early intervention

There is a strong argument that expenditure on late intervention and crisis response is becoming unsustainable – rising demand and increasing complexity is creating significant long-term challenges for government budgets.

In addition to being crucial to children's developmental trajectories, it is clear that investments in the early years and in prevention and early intervention more broadly yield

¹ References to parents throughout this report include all primary caregivers and adults involved in raising children.

significant financial returns. The return on investment for prevention and early intervention is consistently greater than costly remedial responses. Getting it right in the early years reduces downstream expenditure on remedial education, school failure, poor health, mental illness, welfare reciprocity, substance misuse and criminal justice. Expenditure on evidence-based prevention initiatives can reduce incidence and prevalence at a population-level. It is most cost effective to invest in early intervention that resolves issues as they emerge and are malleable, rather than responding to crisis, toxic stress and trauma, which is both more challenging and more expensive to resolve.

There is an ongoing debate regarding the relative cost effectiveness of universal and targeted services (Moore, 2008). Universal services tend to involve lower costs per-person but greater costs overall. They have the benefits of accessibility, being non-stigmatising, focusing on prevention and reaching the majority of children in need and therefore lifting wellbeing and outcomes at a population-level. Targeted services often involve substantially higher costs per-person, with potentially lower costs overall (although often the administrative costs of determining eligibility make this approach more expensive). They may be the most appropriate response to emerging or established problems, but they may not reach all those who require them and are often difficult and stigmatising to access. Further, while targeted interventions can shift the 'tail end' of the population distribution, because there are far greater numbers of children experiencing developmental difficulties across the rest of the population, universal interventions are much more likely to deliver large-scale, population-level change.

Heckman (2008) argues for the prioritisation of young children experiencing disadvantage, given the higher rate of return and the need to compensate for poorer rates of parental investment (although he defines disadvantage as poor parenting rather than simply economic or social disadvantage). However, families with the greatest levels of need or the greatest potential to benefit from targeted interventions are often the least likely to access them and the most difficult to retain in an intervention long enough to receive the 'dose' needed to change outcomes. Our systems are not consistently effective in identifying needs and vulnerability does not only cluster in specific geographic areas. A proportionate universalism approach that combines universal and targeted interventions is the optimum approach.

Risk and protective factors

Understanding risk and protective factors and the complex interrelationships that 'activate' particular risk and protective pathways, can assist in determining the optimal points of intervention. The evidence shows:

- Risk and protective factors influence the course of development through their cumulative impact across time (Loxley et al., 2004).
- Some risk and protective factors have general impacts across multiple outcomes while others have more specific, defined pathways or apply more strongly to a particular demographic marker.

- A range of risk and protective factors can exist at proximal (individual and family) and distal (community and society) levels (Loxley et al., 2004).
- Processes can be implemented to modify the effects of risk factors through targeted preventive interventions (O’Connell et al, 2009).
- The more risk factors that are present, and the longer they persist over time, the greater the subsequent developmental impact.
- Parents, play and home environments are critical to child development and health and wellbeing outcomes. Parenting is so influential that it can mitigate the impact of social and economic disadvantage or, conversely, it can cancel out the benefits of other protective factors.
- Recent research has identified a consistent set of strongly supported protective factors that mediate the impact of significant risk factors and adverse life events for young people.

There is a core set of protective factors at individual, family and community levels that are strongly predictive of positive outcomes for young people. At the individual level, relational skills, self-regulation skills, problem-solving skills and involvement in positive activities protect even highly vulnerable people from negative trajectories, especially when accompanied by strong parenting competencies, positive peers and caring adults, as well as positive community environment, school environment and economic opportunities (ACYF, 2013).

Conversely, there is a core set of individual, family and community stressors and circumstances that are consistently predictive of a wide range of adverse outcomes for young people. The absence of positive attachment and warm family relationships, poor parenting behaviours such as harsh and inconsistent discipline and limited cognitive stimulation, the presence of contributors to toxic stress, such as parental mental illness, family violence or substance abuse, and community factors such as unsafe neighbourhoods and schools, social isolation and poverty.

It is clear that many of these factors are malleable. There are a range of preventive interventions that have strong evidence to show they strengthen protective factors and reduce both the likelihood and severity of negative outcomes. There are also established approaches to identifying needs early and significantly moderating their impact and altering children’s developmental trajectories. One of the key messages of the risk and protective factor literature is that the antenatal period and children’s first three years are crucial to building strong foundations and establishing the competencies that lead to the development of essential relational, self-regulation and problem-solving skills. This is also a critical window of opportunity for engaging with parents, given their openness to change, their contact with the universal child and family health system, and the impact of a mother’s health and family circumstances on foetal health.

Optimal intervention points for child and youth wellbeing

There are effective and important preventive interventions in multiple domains of wellbeing and across the life course. However, the best investments are made in three key preventative areas:

- In the antenatal to age five period, particularly through investment in universal services that provide holistic health, learning and parenting support, along with early needs identification of potential risk factors and comprehensive support for families with established risks and low protective factors to prevent escalating negative trajectories (such as, employing proportionate universalism to respond to early signs of vulnerability and disadvantage);
- In parenting, with both universal, systems approaches and targeted interventions at different life stages to engage parents, to foster nurturing and skilled parenting from prior to birth and again throughout key life transition points; to develop positive social norms and constructive, preventative help-seeking behaviours; and to respond early to prevent risk factors escalating across the life course; and
- In universal and targeted mental health programs to support development of social and emotional wellbeing, fostering resilience and leveraging the strengths of individual, family and community contexts to prevent serious problems in adulthood stemming from multiple risk factors or emerging challenges of changing circumstances.

A synthesis of example evidence-based interventions across each life stage is provided in the appendices to this report. In summary, listed below are those interventions or pathways with higher levels of evidence of impact, address the key or multiple risk and protective factors; and leverage the child development science of brain development and early intervention or preventative influence.

Life stage	Priority intervention pathways
Antenatal	High quality antenatal care, breastfeeding preparation, smoking cessation, maternal mental health, maternal alcohol use
Infancy and early childhood	Access to health and social care, parenting skill development, home learning environment, promoting breastfeeding, social connections and support, nutrition, physical activity and obesity prevention
Preschool	Early education, parenting skill development, behavioural issues and social and emotional wellbeing, speech and language development, home learning environment, transition to school
Primary years	Parenting skill development, school-based nutrition, physical activity and obesity prevention, engagement in learning, school-based social and emotional wellbeing promotion, participation in sport and community activities, parent engagement in learning and schooling,
Middle years	Parenting skill development, promoting engagement with school and preventing disengagement, learning support, behavioural issues,

	school-based health and wellbeing, preventing substance misuse, transition to high school
Adolescence and youth	Preventing disengagement from school, mental health promotion, access to health services, sexual health promotion, preventing risky behaviours, young parenthood, preventing substance misuse, community connectedness and participation, crime prevention, restorative justice, suicide prevention, career pathways and transition

Analysis of current child and family service systems and evidence for change

Reviews of child and family service systems in Australia and internationally identify a common set of systemic issues. A recent analysis summarises these as being:

- A fragmented and poorly coordinated system in which specific service sectors largely focus on particular issues or groups of vulnerable people without a whole of system view.
- A program focus instead of a client focus, where the onus is on people to make sense of services, navigate from door to door and 'fit' a program to qualify for support.
- Services which fail to consider the family circumstances of clients, in particular the existence and experience of children.
- A traditional welfare approach that focuses on crisis support and stabilisation, and that may encourage dependency.
- A focus on solving problems after they occur rather than anticipating and intervening to prevent them arising (Department of Human Services (DHS), 2011).

While there is strong and consistent evidence about the challenges and limitations, failures and excessive costs of current service systems, the converse is not true; there is a significant lack of robust evidence about optimal service system design and only a limited number of models with hard evidence of effectiveness. This gap is being addressed, however, with a growing evidence base about effective interventions and the system structures required to maximise their impact. In addition, there is compelling evidence that that evidence-based prevention and early intervention can be significantly more effective and more cost effective than remedial responses.

This report does not suggest that *every* preventive intervention works (there is clear evidence that many do not); that *no* tertiary interventions are effective (there is clear evidence that they can and do change children's trajectories); or that large scale delivery of prevention and early intervention initiatives will entirely remove the need for tertiary responses. Rather, there is unambiguous evidence that evidence-based prevention and early intervention can lead to measurable and substantial reductions in the factors that place children and families at risk of poor outcomes.

Moreover, there is consistent evidence about the factors that promote child wellbeing, a growing body of programs with proven efficacy, and consistent messages about the types of service delivery and approaches to working with families that achieve better outcomes. Friedman summarises the core messages emerging from this research:

- development of a set of values and principles to serve as a foundation for systems and services;
- a strong emphasis on individualised and family-driven care;
- service responses designed to meet the needs of children and their families rather than to meet the convenience of funders, systems, and providers;
- a strong focus on culturally competent systems and services; and
- a balance between the focus on deficits and a focus on strengths (Friedman, 2006).

There are strong indications that the 'ideal system' is not a rigid or static model. Instead, cultures, structures and processes need to be flexible and responsive, underpinned by robust accountability and governance mechanisms, to enable adaptation and problem-solving. In keeping with this thinking, this report focuses on several key directions:

- **A common approach to measuring outcomes:** the use of an outcomes framework to provide accountability and embed the measurement of effectiveness and building of evidence at all levels of the system;
- **Data-driven local planning and commissioning:** local approaches to needs assessment, service planning and resourcing;
- **Scale-up of evidence-based practice:** building 'evidence ready' systems and using evidence to guide investment decisions and service provision;
- **Shared ways of working:** shared values, a common approach to identifying needs and intervention thresholds, and processes and structures that enable and promote shared ways of working;
- **Matching services to needs:** assessment and planning processes that respond holistically to meeting the needs of children and families, and focus on building their capacity and working towards improved outcomes; and
- **Key principles:** grounding the system in the core principles of a holistic approach, strengths-based practice, working in partnership with families, and building capacity.

These elements can contribute to shifting systems from their current state to a preferred state, highlighted below.



This report details interventions and system structures and processes with a strongly evidence-informed theory of change and, where possible, identifies programs and models proven to be effective. In addition, it highlights the importance of a commitment to implementation and the use of insights from implementation science and the role of governance and accountability mechanisms that focus on addressing systemic barriers.

Features of a prevention-focused service system

There are a number of system-level factors that can contribute to and enable effective prevention and early intervention. The report identifies effective system design approaches, current system reform directions and approaches - in Australia and internationally - and key considerations for implementation. Conclusions that emerge from this analysis include:

- The central importance of establishing the infrastructure for an 'intelligent system', especially by measuring common outcomes, improving collection and use of data (including cost-benefit analysis), developing data analysis capacity and embedding a data-driven approach at all levels of the system.
- The benefit of a shared and consistent practice model and guide to identifying areas of strength and need, grounded in an ecological approach to child and family wellbeing and informing practice across universal, secondary and tertiary sectors.
- Governance approaches that strike a balance between tailoring to local needs and local decision-making with the important role of central leadership in maintaining momentum – recognising that the right balance is likely to differ between areas (due to different starting points and capacity) and across time (at different stages of implementation).
- An approach that recognises and builds on existing good practice and builds the mechanisms that enable a focus on continuous quality improvement rather than a

pre-determined ideal end-state – aiming for iterative rather than transformational change.

- Governance models that contain authority and capability to address system barriers at the local level.
- Utilising implementation science approaches that engage with explicit and implicit elements of the system, including building capacity and adopting common principles and processes.
- The importance of building the capacity of systems, organisations and practitioners to implement evidence-based interventions at scale.

Conclusion

The aim of reform must be the development of infrastructure for an 'intelligent system' that collects and uses data to measure the outcomes it is achieving, and which has mechanisms for decision-making that are responsive to evidence, data and changing local contexts. Effective systems are designed around the factors that promote the wellbeing of children and reflect the ways families work. They leverage trusted universal service platforms to promote the factors known to be important for child development and they respond early to emerging problems.

Introduction

“The accumulation of experiences a child receives shapes the outcomes and choices they will make when they become adults” (Marmot, 2010, 26)

Aims and objectives of the evidence review

This strategic literature review was undertaken by the Australian Research Alliance for Children and Youth (ARACY) for the New South Wales (NSW) Department of Family and Children’s Services (FACS). The paper presents the findings of broad and rapid review of the key features and components of systems that support prevention and early intervention to promote the wellbeing of children, youth and families.

The paper aims to summarise thinking and evidence around:

- Child development pathways and processes relevant to prevention and early intervention;
- The social and economic benefits of prevention and early intervention;
- Identification of key risks and protective factors by life stage, including analysis of optimal intervention points, effective interventions and cost-benefit data, where available; and
- The features and core components of an optimal prevention and early intervention service system.

Method and approach

This paper is the product of a rapid, strategic and pragmatic literature review, reflecting the tight timeframes for the project and the broad scope of the content. A systematic review methodology, designed to ensure identification of all available evidence in the domains of interest and unbiased analysis, would be the most robust approach for this type of review (Hammerstrøm, Wade & Jørgensen, 2010; Thomas, Newman & Oliver, 2013). However, given the context of the project, a practical and hybrid literature search strategy was used – commencing with a stocktake of existing evidence and knowledge, an analysis of gaps, and the design of a search strategy that targets identified gaps.

ARACY prioritised systematic review-level evidence from highly credible sources (such as the Cochrane and Campbell Collaborations), meta-analyses and national clinical guidelines. Other searching included a review of key databases and sources (EBSCO, Informit Core Collection, IngentaConnect, JSTOR, Open Access Journals, PubMed, Cochrane and Campbell Libraries, Google Scholar) and included peer-reviewed and grey literature.

State of the evidence

While there is a large volume of publications on prevention and early intervention, there are a number of significant gaps in the evidence base. For instance:

- There have been relatively few high quality studies of health and social service interventions and system design approaches, and the evidence clusters in a few core domains and intervention types (for example, in the health sector or specific interventions such as nurse home visiting). In a number of areas, there is sufficient information to support broad guidelines for good practice but no rigorous evidence from experimental studies.
- Very few health and social service research studies include cost-benefit analyses, and the most robust data on the cost-effectiveness of particular interventions is largely derived from several key longitudinal studies (such as Perry Preschool, Nurse Family Partnership and Chicago Child-Parent Centres).
- There has been a systematic under-investment in efficacy studies and cost-benefit analysis in Australia. The majority of high quality data comes from the US and the UK. US data is valuable, but also reflects a fundamentally different social welfare platform and service system.
- While the body of evidence for effective programs is growing, there is very little robust evidence on system-level factors that improve outcomes and very limited outcomes data to enable an analysis of the relative efficacy of alternative system designs.

However, there has been a rapid expansion in the number of high quality studies in recent years and across all the research field and service sectors relevant to this analysis there are consistent findings. There is clear and persuasive evidence that prevention and early intervention is more effective and more cost effective than remedial responses. This is not to say that every preventive intervention works (there is clear evidence that many do not), that tertiary interventions are not effective (as there is clear evidence that they can and do change children's trajectories), or that large scale delivery of prevention and early intervention initiatives will entirely remove the need for tertiary responses. Rather, there is unambiguous evidence that evidence-based prevention and early intervention can lead to measurable and substantial reductions in the factors that place children and families at risk of poor outcomes.

While the balance of evidence clearly supports prevention and early intervention, the evidence-base is not consistently sufficiently advanced to provide clear direction about what works best for whom, in what circumstances and most cost-effectively. These questions are currently a major focus of research and there is good evidence in some fields (sustained nurse home visiting, early education and preventive mental health, for example) and emerging evidence in others.

The most significant challenge is that measuring outcomes – at program, region or system level – is not an established feature of social policy service systems, which limits our ability to know if the interventions our systems deliver change outcomes for children and families, and which combinations of interventions are the most efficient and effective. Our capacity to move programs and processes from experimental studies to system-wide scale-up is also still developing.

This report details interventions and system structures and processes with a strongly evidence-informed theory of change and, where possible, identifies programs and modes proven to be effective. The report uses best available evidence on intervention models and pathways to provide guidance on investment in a dynamic and evolving system, which would ultimately include the evidence collation, evaluation and monitoring required to support improved efficacy (and transparency of efficacy) of interventions.

Prevention and early intervention

For the purposes of this paper, the term 'early intervention' refers to activities, programs and services designed to alter the behaviour or development of individuals who show signs of an identified problem, or who exhibit risk factors or vulnerabilities, by providing the resources and skills necessary to combat the identified risks. 'Prevention' refers to activities, programs and services designed to prevent those identified risks emerging in the first place. Prevention and early intervention services are typically classified into two main groups:

1. Universal/primary interventions: offered to all individuals or families and generally preventive in nature.
2. Targeted/secondary interventions: interventions or approaches catering for individuals or families experiencing (or at significantly heightened risk of) specific or multiple issues, such as a parenting program for parents of children at risk of conduct disorder or group cognitive behavioural therapy for young people experiencing depression.

A 2010 UK report argues that the recent advancements in the science of child development and the practice evidence now emerging together provide a solid foundation for policy decision making in this area:

...early intervention is nothing new. What has changed is that our knowledge and understanding of human development, especially in childhood, has grown to the point that we can now identify many more problems earlier; some we can even anticipate, or clearly predict a risk factor. Practice has also developed to enable us to intervene more effectively to address many of these problems. Such developments are continual, but we appear to have reached a tipping point where our knowledge and practice have progressed sufficiently to make the policy question not whether we should invest in early intervention, but how can we not do so? (C4EO, 2010, p. 4).

Importance of systems thinking and proportionate universalism

"A system that incorporates the principle of proportionate universality for children in their early years would create and maintain a platform of universal services organized in a way that would eliminate the barriers to access that affect populations in the highest need" (Human Early Learning Partnership (HELP), 2011, p. 1).

Understanding how systems work, and how they can be changed, is central to achieving a reorientation to prevention and early intervention and is crucial for changing outcomes for children and young people. Components of child and family service systems – such as the structure of human service agencies, the nature of routine business processes, and established mindsets about professional roles or the causes of disadvantage – shape everyday practice on the ground and create norms that determine how practitioners work, what they do and how effectively they engage with families.

Designing systems that enable and promote evidence-based ways of working (evidenced-based programs as well as evidence-based practices) is a key priority for reform.

- Systems thinking involves holistic approaches to problems – understanding how the whole system works rather than merely 'joining up' services.
- Systems, structures and processes can be designed and used to drive service delivery that achieves outcomes and fosters innovation.
- Effective systems have a common vision, outcomes framework and monitoring systems to report progress, support evidenced based practice, meet the needs of service users and foster continuous improvement.
- Systems change involves consideration of ways of working (common assessments, joint commissioning, multidisciplinary approaches, collective impact models) which leverage and reflect the context and realities of child development in family and community life (reflecting an ecological model of child development).
- Implementation and program fidelity are as important as the interventions themselves – poor implementation of best practice approaches can result in negative outcomes.

The importance of 'systems thinking' for early intervention and prevention is emphasised most in the literature concerning a range of recent UK reforms, where it is argued that the key to success for early intervention is 'a reorientation of the system at all levels' (C4EO, 2010, p. 8). The role of universal services and, in particular schools, is underlined in these approaches. Change proponents argue for the systematic approach to achieving change that avoids 'cherry picking' from recommendations and instead draws on holistic suites of measures, considering the influences on outcomes that collectively will have most impact:

These golden threads [key influencers] have to be taken together, applied universally and pursued relentlessly to achieve significant change. In other words, they are not a 'pick and mix' list but a recipe for whole system change. These are the keys to change, are of interest to everyone but in particular are essential reading for those responsible for leading and managing services, especially Directors of Children's Services (along with their partners...) and other leaders across the children's sector (C4EO, 2010, p. 17).

The principle of proportionate universalism (Marmot, 2010) underpins this paper's discussion of system design. The fundamental proposition of this approach is that: "focusing solely on

the most disadvantaged will not reduce health inequalities sufficiently. To reduce the steepness of the social gradient in health, actions must be universal, but with a scale and intensity that is proportionate to the level of disadvantage” (Marmot, 2010).

The rationale for this approach is the ‘prevention paradox’ – while poorer children are at greatest risk of vulnerability, a greater number of children across the population are vulnerable. As a result,

the key to reducing vulnerability in the early years is a universal platform of supports and services available to all children. This platform needs to be accompanied by additional targeted services for highly vulnerable children and children in low SES ranges or geographical areas. Key also is the elimination, as far as possible, of barriers to access (HELP, 2011).

Proportionate universalism is a response to the limitations in investing in either universal or targeted services:

- “A universal approach has the potential to improve things for children in all SES ranges. But in practice, children in higher SES ranges tend to benefit more than those in lower SES ranges. This is because lower SES families are more likely to face obstacles to accessing services – these might be physical, cultural, or social. Using a universal approach without addressing barriers to access, one that provides the same service to all, can actually steepen the gradient, and create greater differences in child outcomes between SES ranges” (HELP, 2011).
- “Targeting programs toward children who are most vulnerable has the potential to reach children in the greatest need. But targeting also has substantial challenges. First, targeted solutions can reach the most vulnerable children in low SES ranges in a more intensive way, and so possibly improve outcomes for these children. However, as the largest number of vulnerable children are in the middle class, the majority of vulnerable children are missed. Second, targeting programs in itself does not eliminate barriers to access – barriers such as the stigma associated with some programs continue to affect families. Targeting alone then, does not flatten the social gradient overall and improve child outcomes across the whole population” (HELP, 2011).

There are clear indications that, currently, the families that most need assistance are the least likely to access help and that secondary services are overwhelmed and failing to cope with demand, even though they are not close to reaching all those who need help (Moore, 2006). All levels of the service system appear to struggle to engage and retain vulnerable families. Moore identifies four major themes from his review of current system limitations:

- the need to shift from treatment and targeted services to a universal prevention approach;
- the need to develop an integrated tiered system of universal, targeted and specialist services;

- the need to shift from a risk-based approach to targeting children and families in need to a response-based approach; and
- the need to develop better ways of engaging and retaining the most vulnerable families (Moore, 2008, p. 8).

As such, this report examines both prevention and early intervention programs or intervention types *and* the components and features of systems that are central to the effectiveness of those programs or interventions.

Structure of the report

The report consists of two parts.

Part 1: Child development and family wellbeing

- Section 1: Child Development: Key concepts, Frameworks and Theories.
- Section 2: Social and Economic Benefits of Prevention and Early Intervention
- Section 3: Understanding risk and protective factors
- Section 4: Priority intervention points for child and youth wellbeing

Part 2: Systems Design to Support Prevention and Early Intervention

- Section 5: Features of an optimal prevention and early intervention system
- Section 6: Analysis of existing systems
- Section 7: Models and approaches to support collaboration and integration
- Section 8: A common approach to collecting and using outcomes for data-driven decision making.
- Section 9: Local and data-driven planning and commissioning.
- Section 10: Using evidence to guide investment decisions and service provision.
- Section 11: Shared practice frameworks
- Section 12: Identifying strengths, needs and intervention thresholds
- Section 13: Matching needs and services: Case planning and care pathways
- Section 14: Core principles for working effectively with families

In addition, the six appendices provide a synthesis of optimal intervention pathways at each life stage (antenatal, infancy and early childhood, preschool, primary years, middle years, adolescence and youth), as well as a range of illustrative evidence-informed programs/interventions, a synthesis of key risk and protective factors within that life stage and available evidence about the cost effectiveness of intervention.

Part 1: Child Development and Family Wellbeing



1. Child development: key concepts, frameworks and theories

1.1. Overview

This section presents key concepts, theories and models relating to child development. It serves to establish the central arguments about how children grow, learn and thrive which are then drawn on and further explored in later sections of this report. The evidence shows:

- Early childhood provides a crucial 'window of opportunity' for public policy interventions to shape long-term trajectories given the brain development occurring over the period of 0-3 years.
- Child health is a strong predictor of adult health.
- Genetics are a considerable non-modifiable factor in predicting health and wellbeing outcomes. However, epigenetics helps us understand the importance of potentially modifiable parental behaviours and in particular maternal health, not only for the parent's current child but for generations to come.²
- Brain development during adolescence presents another window of influence as the brain is continuing to grow at a time of transition from family to increasing peer influence and exposure to risky behaviours increases.
- Disadvantage, poverty and inequality are contributors to poorer outcomes for health and wellbeing. However, services targeted only to those in disadvantage will not address developmental vulnerability at a population level.
- Parents, play and home environments are critical to child development and health and wellbeing outcomes. Parenting is so influential that it can moderate the impact of social and economic disadvantage.
- There is typically no one driver or no one point of intervention that can ensure positive child development - combinations of risk and protective factors can create developmental pathways leveraging and building resilience or exposing or escalating vulnerabilities.

The interaction of factors and context for development can be complex. Understanding the ecological model of child development as well as those combinations of risk and protective factors allows us to better understand how to intervene to improve child outcomes (through prevention or treatment).

1.2. Early brain development – a window of opportunity

It is well documented that children's early years are a critical time in which the foundations for healthy development are laid. It is emphasised throughout the literature that positive stimulation early in life affects subsequent health, wellbeing, coping skills and competence across the lifespan. Abundant research also demonstrates that experiences from conception

² References to parents throughout this report include all primary caregivers.

to age three have the most important influence on connecting and sculpting the neurons in children's brains (see for example Australian Institute of Family Studies (AIFS), 2005; Department of Children and Youth Affairs, 2013).

More specifically, in a child's first three years of life their brain grows from approximately 25 per cent to 80-90 per cent of adult size. Important connections between the brain's nerve cells are developed and there is rapid growth in cognitive, language and social and emotional development (Royal Australian College of Physicians, 2006). Brain development during these early years is strongly subject to environmental experiences and influences. While these early years provide a significant opportunity for development, negative experiences during this critical period can impact upon outcomes throughout life (Centre on the Developing Child, 2010).

This process of biological embedding (Silburn et al., 2011) is at its most influential from gestation and into the early years of life when the brain is undergoing critical phases of growth and development:

- Brain development commences in the prenatal stage with a period of neural proliferation. Long-lasting impacts to the structure and formation of the brain can be influenced at this stage by maternal health.
- During infancy the brain undergoes a process of 'wiring', where neural pathways are formed (synapses); these pathways are shaped by the child's experiences and environments. Research shows these pathways typically form in a hierarchical manner: from sensory pathways to language development and higher cognitive function, and thus represent 'windows of opportunity' for development.
- Early experiences either enhance or diminish innate potential, laying either a strong or a fragile platform on which all further development and learning of the person, the body and the mind is built. The longer children spend in adverse environments, the more pervasive and resistant to recovery are the effects (Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEECDYA), 2010).
- During early childhood (and, less so, into the rest of life), these brain connections undergo a process of 'hard-wiring' and 'pruning'. This is where connections in the brain are bedded down through repeated use – a 'use it or lose it' process which is again shaped by experience and means that certain connections become bedded down while others dissipate (Silburn et al., 2011; McCain, Mustard & Shankar, 2007; (National Scientific Council on the Developing Child, 2007).

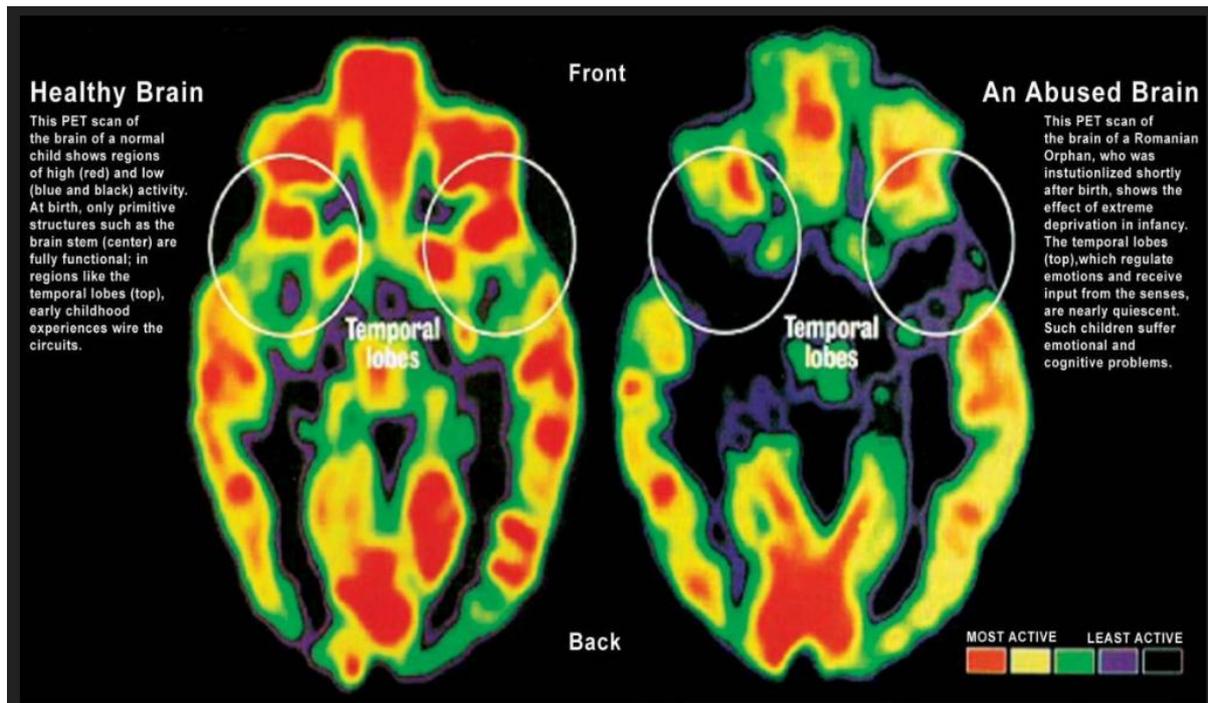
Box 1: Key neuroscience messages for child development (MCEECDYA, 2012, p. 4).

- The first five years last a lifetime
- Good nutrition, health, and exercise are critical
- Children are born ready to learn
- The best learning happens in nurturing relationships
- The brain develops through use
- Children’s wellbeing is critical to brain development and learning
- Children learn through being engaged and doing
- Children learn from watching and copying
- Children’s self-control is critical for learning, responsibility and relationships
- Children learn language by listening to it and using it
- Children are born ready to use and learn mathematics

The importance of early brain development and the lasting impact of positive early physical health has been empirically validated through the pivotal Adverse Childhood Experiences (ACE) Study (Felitti et al., 1998). The ACE study is one of the largest investigations ever conducted to assess associations between childhood and later-life health and wellbeing. It involved 17,000 people and examined the association between childhood experience and health. It demonstrates how stress and trauma early in life (for example, neglect, abuse, family death, parental substance misuse) can increase the likelihood of a raft of adult issues including: hyperactivity, anxiety, depression, suicide, substance abuse, violent behaviour, criminality, lower IQ and economic performance, cardiovascular health problems, diabetes, obesity and biomedical disease (Felitti et al., 1998). Longitudinal studies in Australia and other countries add weight to this evidence by examining the association between the developmental environment to which a child has been exposed and a range of health outcomes.

An often-cited example of the impairment to a child’s brain physical development and function, as a result of abuse and neglect, is shown in Figure 1.

Figure 2: How adverse childhood experiences impair a child's brain development (Chugani, 1997; Chugani et al., 2001)



1.3. Genetics and epigenetics

The non-modifiable factors of genetic makeup – what a child is born with – are major contributors to adult health and wellbeing. Genetics have been shown to influence risky behaviours during adolescence and adulthood. For example, an Australian analysis of the influence of genetics using the Victorian Adolescent Health Cohort Study data (an eight-wave longitudinal study of adolescent and young adult development), shows that there is a strong genetic predisposition to high tobacco, cannabis and alcohol use (binge drinking) for adolescents born with a particular genes connected with the dopamine receptor gene (DRD4) (Olsson et al., 2013).

Epigenetics provides yet further insight into the complexity of child brain development as it examines the interaction between genetics and environment. The science of epigenetics is the study of changes in gene expression caused by mechanisms *other than* changes in the underlying DNA – with some of these changes being heritable.

Epigenetics is central to understanding the impact that current behaviours and environments in which parents live may have on future generations. For example, we know the environment of the early embryo can alter development by modifying the DNA. We also know from the ACE study that child abuse and neglect can, in addition to harming the immediate wellbeing of the child, impair early brain development and metabolic and immune system function, leading to chronic health problems.

These lasting impacts are enacted through leaving epigenetic marks on a child's genes. These are not mutations in the DNA itself, but rather these marks define how certain genes

are expressed or silenced. There have been some very strong twin studies, and also a recent paper showing that abused children often have different patterns of DNA gene expression compared to those who were not abused as children (Mehta et al., 2013). Similarly, research currently being conducted with Aboriginal women in Western Australia suggests that smoking and other stressors can adversely affect offspring for several generations (Australian Institute of Health and Welfare (AIHW), 2013). Similarly, a recent study (Olsson et al., 2013) also using the Victorian Adolescent Health Cohort Study data supports these findings, as they also found that interactions between genes and parenting behaviours (in this case, lack of attachment), may intensify risk for problematic tobacco and cannabis use.

1.4. Child development and adult physical and mental health

A wealth of evidence over the last 50 years links development in the early years of childhood (0-5) to future health and wellbeing outcomes. As the World Health Organization (WHO) states, the “many challenges faced by adults, such as mental health issues, obesity, heart disease, criminality, and poor literacy and numeracy, can be traced back to early childhood” (Irwin, Siddiqui, & Hertzman, 2009).

Antenatal health is particularly important: risk factors to in-utero brain development during maternity include smoking, alcohol and drug use, malnutrition, antenatal depression, and stress. These risks are linked to a range of later health and development outcomes including: behaviour and conduct disorders (including criminality), hyperactivity, emotional and cognitive functioning, intellectual impairment, anxiety and depression (McCain, Mustard & Shankar, 2007). The Adverse Childhood Experiences (ACE) study also shows clear links between childhood events and adult health, with significantly greater risks of depression, risky health behaviours and cancer associated with adverse childhood events (Felitti et al., 1998, p. 253).

1.5. Brain development during adolescence

Adolescence is a key period of rapid and extensive psychological and biological growth, second only to early childhood in the rate and breadth of developmental change. Changes in the brain and all organ systems during puberty and adolescence interact with social development to set up a range of new behaviours that can be both positive and potentially negative. Brain and body development also set up a number of transitions that are important for an individual to function as a productive adult (Viner, 2013).

One of the great discoveries of neuroscience in the past 20 years has been the recognition there is a surge of brain development during early adolescence, and brain development continues into the early 20s if not beyond. Waves of ‘synaptic pruning’ travel across the brain between 10–12 and 20 years of age, discarding unused connections between brain cells to increase cognitive capacity and speed. Particular areas that develop rapidly are those dealing with social relationships, taking risks and controlling feelings and emotions. While it is still too early to directly translate neuroscience into policy interventions, we are starting to understand why adolescents are particularly vulnerable to peer influences and why there appears to be a ‘window of vulnerability’ to risky behaviours around ages 14-17 years, particularly in the presence of peers (Viner, 2013).

There is a considerable body of research centred on the causes and solutions to or prevention of behaviours manifesting during adolescence, such as substance abuse, violence, antisocial behaviour and youth crime and incarceration. Developmental theories of antisocial behaviours and violence highlight the importance of experiences from birth and through childhood. These theories differentiate between early onset (life course persistent) offenders and adolescent offenders, with the latter being more influenced by adolescent risk processes (rebelliousness; peer affiliation; bullying; substance use; and precocious or delayed physical maturation) than by early childhood development such as neuropsychological deficits (hyperactivity, low self-control, difficult temperament as a child) (Moffit & Caspi, 2001).

An evidence review into preventing youth violence prepared for ARACY in 2010 (Hemphill & Smith, 2010) highlighted the behavioural implications of changes in the brain during adolescence given the parts of the brain that are continuing to grow and change: the cortex and prefrontal cortex, the area of the brain where rational thinking, reason and logic originate; and the cerebellum, which controls voluntary motor movement, balance and muscle tone (Feinstein, 2003). Hemphill and Smith argue, "the cognitive, psychological and behavioural consequences of these neurological changes may also place young people at heightened risk of violent and antisocial behaviour" (2010, p. 9). They suggest these risks may manifest because adolescents may be:

- experiencing difficulty in prioritising and organising tasks and making decisions (Feinstein, 2009);
- overwhelmed by complex instructions (Chamberlain, 2009);
- more sensitive to stress (Feinstein, 2009);
- seeking novelty and stimulation (Feinstein, 2009);
- going to sleep later and needing to sleep longer, and experiencing symptoms similar to attention deficit hyperactivity disorder (ADHD), depression and being less able to control their emotions (Chamberlain, 2009) if they are sleep deprived; and/or
- particularly vulnerable to the effects of alcohol and other drugs on their developing brains (Chambers, Taylor, & Potenza, 2003; Winters, 2008). (Hemphill & Smith 2010, p. 9).

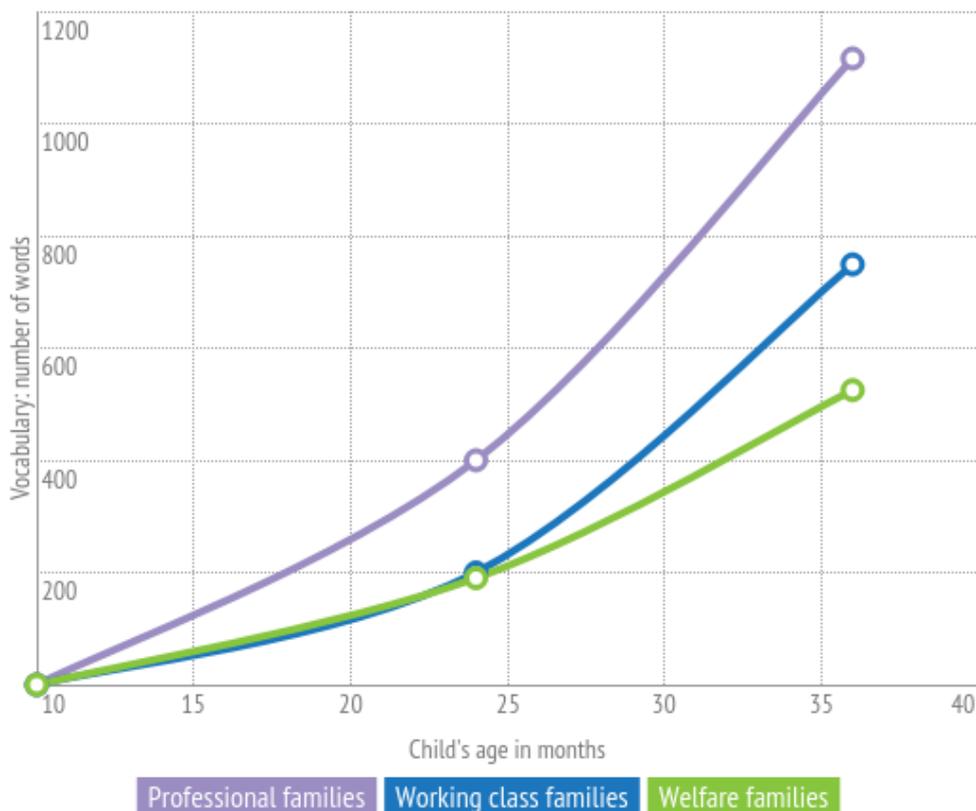
While the adolescent years are identified as a time of significant vulnerability, Hemphill and Smith also identified the middle and early adolescent years (10-14 years), before violent and antisocial behaviour have become entrenched in young people's lives, as a potent opportunity for positive intervention. This is a particularly important time given the transition as young people move from primary to secondary education and the influence of peer groups assume greater importance relative to family influences such as parental authority and supervision at this time.

1.6. The impact of disadvantage and inequality

Socio-economic disadvantage is recognised as a major risk factor for poorer health and wellbeing outcomes. Studies that document the impact of socio-economic status show that children from the most 'deprived' backgrounds are more likely to encounter adverse health outcomes in adulthood; this picture improves incrementally in line with income (or other measures for wealth/deprivation) (UK Government Department of Health, 2010).

A striking example of the impact of poverty on early child development is research conducted with regard to early literacy, which shows that the number of words used by children decreased as socio-economic status decreases (Hart & Risley, 2003; Figure 2). This then is associated with lower academic achievement – and for some children then repeating the 'cycle of disadvantage' for their children.

Figure 2: Child vocabulary development by parent income (Hart & Risley, 2003)

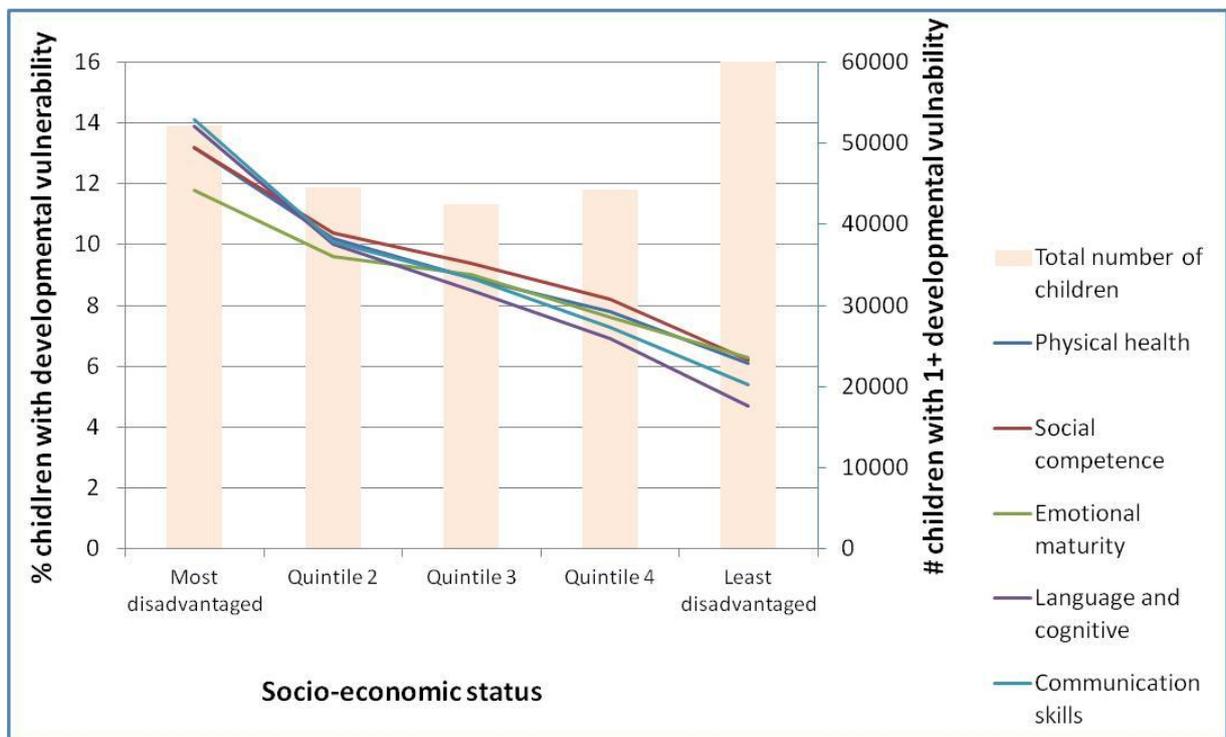


However, not everyone born into relative poverty faces an inevitable pathway towards poorer health and education. Similarly, not every child born into wealth will be healthy and ready to learn. While it is true to say that in general, the incidence (or percentage) of child vulnerability may be higher in lower socio-economic status groups, there is a greater number of children who are vulnerable spread throughout the population. Epidemiologist Geoffrey Rose named this the 'prevention paradox' – which describes the situation where

the majority of cases of a problem or 'disease' come from a population at low or moderate risk of that disease, and only a minority of cases come from the high risk population.

This is highlighted well in the Australian Early Development Index (AEDI), which is a saturation survey of all 4-5 year old children starting school which measures developmental 'vulnerabilities'. As Figure 4 below shows, the *percentage* of children with developmental vulnerability is higher in the most disadvantaged communities (31.9 per cent of children, or 17,000 children in quintile 1 of the Socio-Economic Index for Areas (SEIFA) are developmentally vulnerable), while the *number* of children who are developmentally vulnerable totals around 36,000 children across the other SES groups. This 'prevention paradox' means interventions that only target the most disadvantaged will not shift outcomes at a population level (Centre for Community Child Health & Telethon Institute for Child Health Research, 2011).

Figure 3: Incidence and total numbers of developmental vulnerability (as measured by the AEDI) and by socio-economic status (as measured by SEIFA) (Centre for Community Child Health & Telethon Institute for Child Health Research, 2011)



Inequality is also a driver of poor health and wellbeing. Australia ranks near the bottom (26th out of 34) in comparison to other OECD countries on the OECD measure of income inequality, as measured by the gap between low-income households and households in the middle income distribution. Of particular and fundamental concern is the ARACY *Report Card: The wellbeing of young Australians* finding that levels of income inequality and joblessness are increasing in Australia (data reported in ARACY, 2013).

Table 1 illustrates how marked inequalities in child wellbeing outcomes are manifested for Indigenous, compared with non-Indigenous children; and for children living in more remote areas compared with those in major cities. Other cohorts that are disproportionately affected

by income-related inequalities include children and young people who are homeless or at risk of homelessness; children and young people from a refugee background; and children in care.

Table 1: Child wellbeing outcomes and key population groups (AIHW, 2011 data, included in ARACY, 2012c, p. 8)

Indigenous children, compared with non-Indigenous children	Children living in more remote areas, compared to those in major cities, were:	Children living in the lowest socio-economic status areas, compared to those in the highest socio-economic status areas
<ul style="list-style-type: none"> • 2–3 times more likely to die as infants or due to injury, be born with low birth weight or to be developmentally vulnerable at school entry • 5 times more likely to be born to a teenage mother • 8 times more likely to be the subject of a child protection substantiation • between 20–30 per cent less likely to meet national minimum standards for reading and numeracy 	<ul style="list-style-type: none"> • 2–3 times more likely to die as infants or due to injury (other areas compared with major cities) • 30 per cent more likely to be of low birth weight • 30 per cent more likely to be overweight or obese (other areas compared with major cities) • more likely to be developmentally vulnerable at school entry (very remote compared with major cities) and around 40–50 per cent less likely to meet national minimum standards for reading and numeracy (very remote areas compared with metropolitan areas) • 5 times as likely to be born to a teenage mother 	<ul style="list-style-type: none"> • almost twice as likely to die as infants and nearly 3 times as likely to die due to injury • 30 per cent more likely to be born with low birth weight • 60 per cent more likely to have dental decay • 70 per cent more likely to be overweight or obese • more likely to be developmentally vulnerable at school entry

Recent research shows that detangling the effects of parenting from those of poverty is difficult. There is a complex relationship between poverty and parenting. The most recent evidence and academic consensus is that:

- The detrimental impact of poverty on cognitive development early in a child’s life has a lasting legacy effect. Data from the Millennium Cohort Study (MCS) from the UK shows that poverty at birth and at age 3 can still have an adverse impact on cognitive ability at age 7 (Dickerson & Gurleen, 2012).
- The impact of persistent poverty is worse for children’s cognitive development than intermittent poverty (Dickerson & Gurleen, 2012).

- Low income has a twofold effect on children’s cognitive ability (Dickerson & Gurleen, 2012). It has a direct effect on children regardless of anything their parents do, but it also has an indirect impact on parenting itself. For instance, poverty leads to a lack of resources available to poorer parents, preventing parental investment, which in turn has a negative impact upon cognitive development.
- Even after controlling for parenting investment, poverty still has a direct effect on child cognitive development, especially if the household is in poverty at birth and/or age three (Dickerson & Gurleen, 2012).
- The MCS shows that poor children experiencing good parenting do better than wealthier children experiencing poor parenting (Keirnan & Mensah, 2011). For children experiencing no poverty and positive parenting, 73 per cent are on-track in their development, and for those experiencing no poverty and poor parenting only 42 per cent are on-track. Yet of children experiencing persistent poverty and positive parenting 58 per cent are on track. However, only 19 per cent of children experiencing persistent poverty and poor parenting are on track.
- Both poverty and parenting quality are important in affecting child development outcomes, however poor parenting has nearly twice the impact of persistent poverty, and positive parenting and a strong home learning environment can mediate its impacts.
- The authors of the Effective Provision of Pre-School Education (EPPE) study conclude that “for all children, the quality of the home learning environment is more important for intellectual and social development than parental occupation, education or income” (Sylva et al., 2004).

1.7. Developmental pathways - resilience and vulnerability

Whilst the research evidence relating to brain development in young children is compelling, it is also important to acknowledge the vast amount of literature that demonstrates the capacity of children to be resilient even when exposed to less than optimal environments during early childhood (see, for example, Garbarino, 1992; Garbarino & Abramowitz, 1992a, 1992b; Shonkoff, 2010). It is the interaction of risk and protective factors that, through their combined and cumulative effects, shape the developmental trajectories of children. Figures 4 and 5 demonstrate the pathways through which children’s vulnerability and resilience is developed, reinforced and consolidated over time.

The figures demonstrate the importance of early childhood in establishing the foundations for future health and wellbeing, as well as the need for early childhood interventions that are multifaceted, mutually reinforcing and target the key determinants of children’s outcomes. They also demonstrate the complexity of the developmental pathway, highlighting that there is not just one intervention point or one key determinant but a dynamic system at play.

As noted above and, featured again in these figures, parenting and factors related to social and economic disadvantage alter the developmental pathways. Risk and protective factors and priority pathways for intervention are discussed in detail in section 4.

Figure 4: Pathways to Resilience (Silburn, 2003 in Robinson, Leckning, and Silburn (2012))

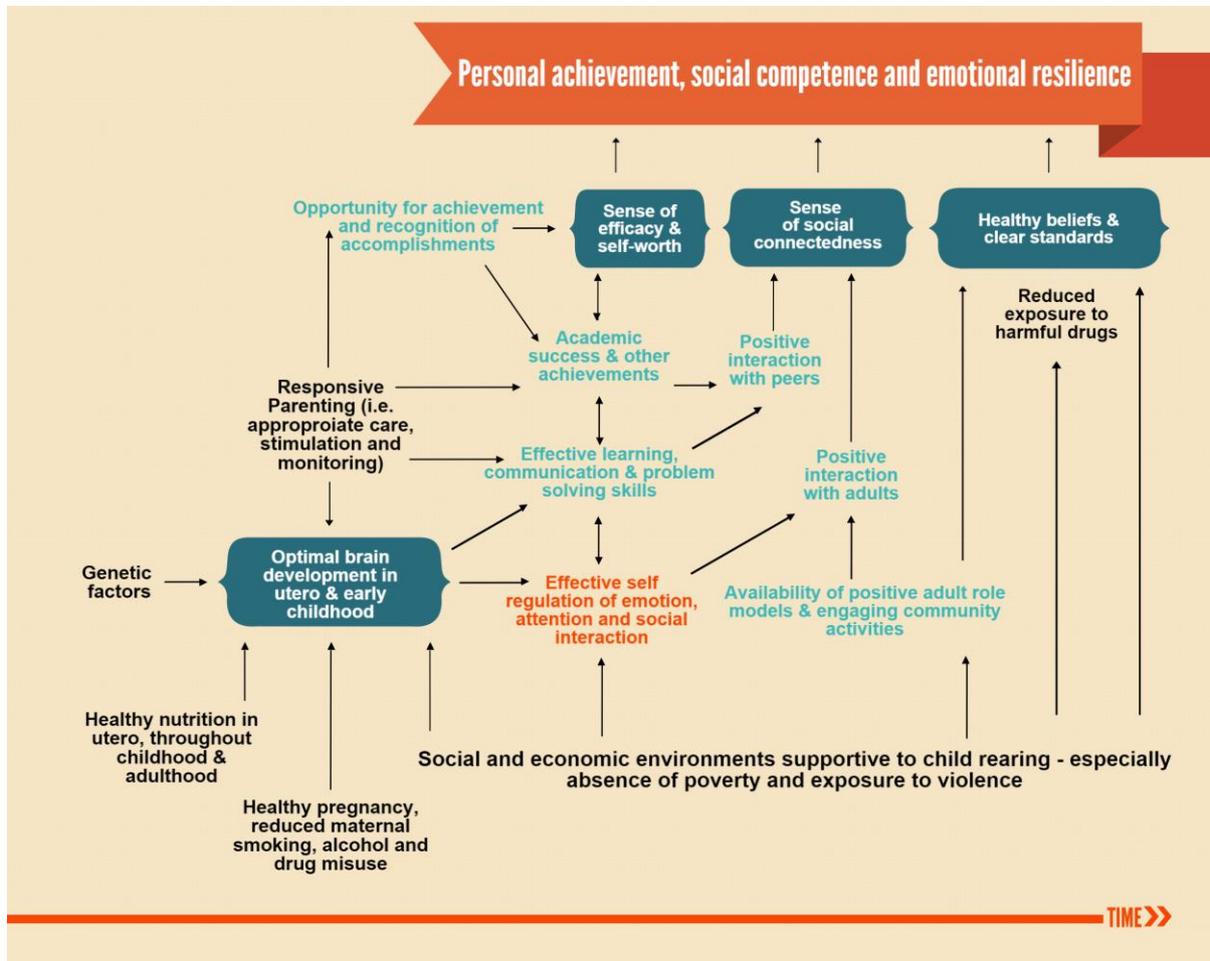
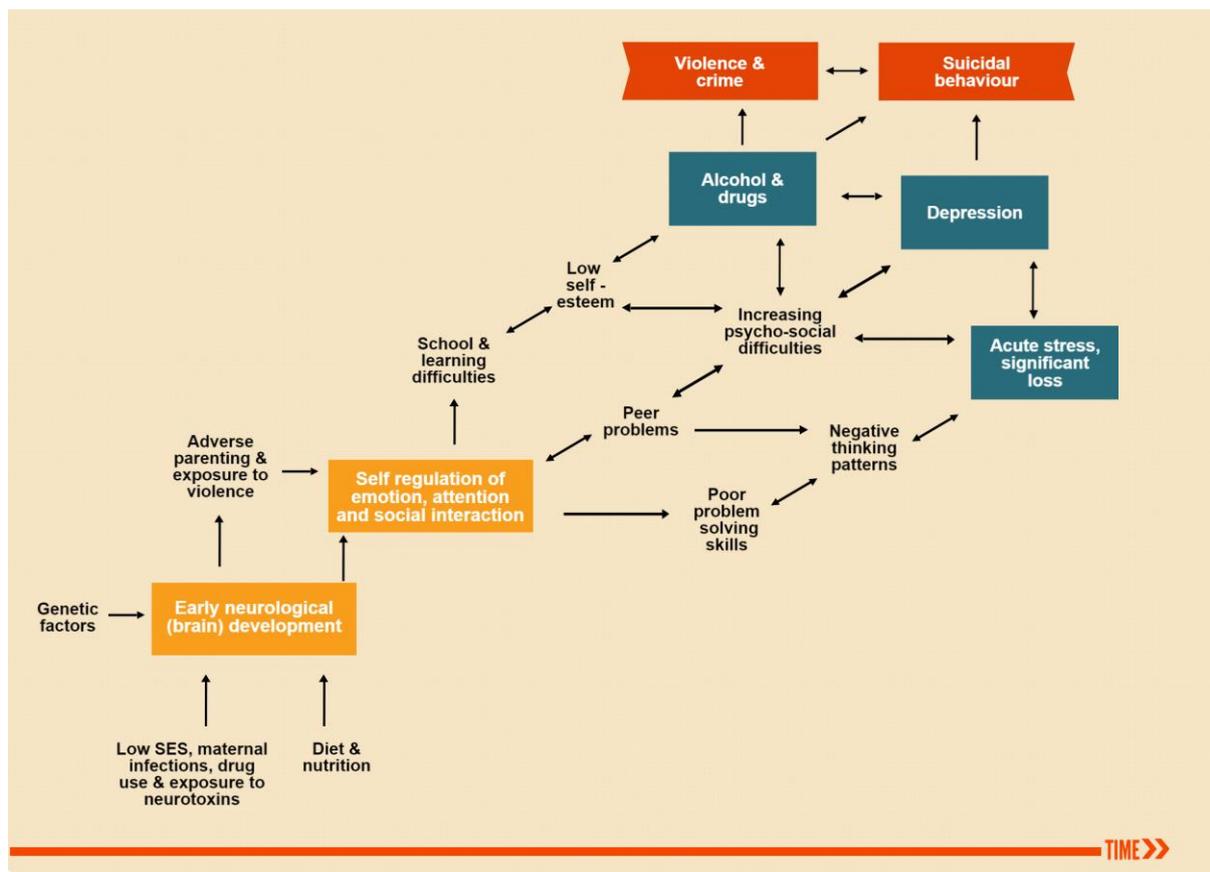


Figure 5: Pathways to Vulnerability (Silburn, 2001 in (Robinson et al., 2012))



1.8. The impact of parents

Parenting has a significant effect on a child’s development and long-term life opportunities. There is strong evidence that the single most important factor influencing a child’s intellectual and social development is the quality of parenting and care they receive and the quality of the home environment this creates (Paterson, 2011). While there is a socio-economic gradient evident in parenting behaviours, there is evidence that “it is family background, parental education, good parenting and the opportunities for learning and development in those crucial years that together matter more to children than money, in determining whether their potential is realised in adult life” (Field, 2010).

Children’s healthy development is dependent on positive, nurturing relationships with their parents or primary caregivers. Both nurturing behaviours and parenting skills are important for optimal development and the prevention of adverse child outcomes (Berry, Charlson & Dawson, 2003; Berry & Letendre, 2004; Munford & Sanders, 2006; Sims, 2002). A positive early caregiving environment also mediates around half the impact of many negative contextual factors that have been shown to impact children’s early development, such as poverty (Barlow & Blair, 2013, p. 6); Keirnan & Mensah, 2011).

It is also clear that parental ability to nurture children is impacted by their health and wellbeing (Barnes et al., 2006; Garbarino, 1992;(Ghate & Hazel, 2004); Sims, 2002; Shonkoff & Phillips, 2000). Further, parents’ own relational experiences impact on the ways

in which they interact with their children and need to be duly considered (Berry et al., 2003; Berry & Letendre, 2004; Munford & Sanders, 2006).

Parental mental health and depression is of significance for child development, particularly as it impacts early child brain development and physical health. Postpartum depression leads to increased costs of medical care, inappropriate medical care, child abuse and neglect, discontinuation of breastfeeding, and family dysfunction and adversely affects early brain development (Earls, 2010). Depression in fathers is linked to increased family conflict, substance abuse and lost work time. In both mothers and fathers, depressive symptoms have been linked with parents being less involved in positive enrichment activities with the child such as reading, singing songs, and telling stories (Paulson et al., 2006).

Much attention has been paid to preventing and identifying maternal postnatal depression in Australia, however, the health and wellbeing of fathers is also critical. Depression in fathers is, in and of itself, a serious public health issue impacting 10 per cent of fathers. In 50 per cent of couples where the mother is depressed, so is the father. Further still, the mood and actions of all fathers have a considerable impact on children:

- Well fathers have been shown to have a buffering effect against the detrimental consequences of a mother's depression on the infant's wellbeing.
- A father's postnatal depression may exacerbate the effects of the mother's depression on their child's development, and children with two depressed parents are at an elevated risk of social, psychological and cognitive deficits.
- Having a father who was depressed at eight weeks postpartum was found to double the risk of behavioural and emotional problems in children at 3.5 years of age (Fletcher, Matthey & Marley, 2006).

An infant's developing sense of self and security is developed through their relationships with their carers and is strongly influenced by parent behaviours. The foundations of secure parent-child attachment develop during the first year of life, through parental attunement to infant cues and warm and responsive parenting. Attachment establishes the foundation for emotional regulation, and children with secure attachment have been shown to "function better across a range of domains including emotional, social and behavioural adjustment, as well as peer-rated social status and school achievement, in addition to having better physical outcomes" (Sroufe, 2005; Fraley, 2002; Maunder, 2008; Barlow & Blair, 2013, p. 64). Conversely, disorganised attachment has been found to be a strong predictor of later psychopathology (Maunder, 2008; Green and Goldwin, 2002) and is correlated with heightened risk of child maltreatment.

Poor parenting behaviours, such as harsh and inconsistent discipline, little positive parental involvement with the child, and poor monitoring and supervision, are linked with child antisocial behaviour, while warm and proactive parenting behaviours, involving praise, encouragement, affection and boundary-setting, are associated with high child self-esteem, social and academic competence, and protection against later disruptive behaviour and

substance misuse (Barlow & Blair, 2013, p. 65; Scott et al., 2010; (Kumpfer & Bluth, 2004) Byford, Kuh & Richards, 2012; and Raviv, Kessenich, & Morrison, 2004).

There is consistent evidence that, from birth, child-parent/caregiver attachment and interaction (such as warm or harsh interactions or responsive or detached emotional attunement) impact the child's developing brain architecture. Poor parental responsivity is associated with a range of adverse cognitive, emotional and physical health outcomes (and eventual mortality) including: language acquisition, behavioural and conduct disorders, antisocial and risk-taking behaviour, substance abuse, criminality, emotional detachment, mental health issues, cardiovascular health problems, obesity and type II diabetes (McCain, Mustard & Shankar, p. 207; Allen & Duncan-Smith, 2008; Boivin & Hertzman, 2012).

There is good evidence that parenting behaviours are modifiable, although the evidence base is stronger for families with higher levels of vulnerability (such as targeted interventions like group-based parenting programs and sustained nurse home visiting) than for universal interventions – but, at least in part, this reflects a dearth of high quality studies of universal parenting interventions.

In a recent review of parenting interventions the Parenting Research Centre (PRC) found 34 international and 25 Australian programs with strong evidence. A large proportion of the programs with good evidence targeted child behaviour in children with identified behavioural problems (PRC, 2013, p. 5). These findings also reflect findings of an earlier overview that found considerable evidence programs that use 'behavioural' approaches are effective in modifying parental attitudes and behaviours (NSW Department of Community Services (DoCS), 2000, p. 9).

There is a consistent body of evidence about types of parenting behaviour that are associated with positive child development, improved social and emotional wellbeing and improved longer-term outcomes, but these are not always well understood by parents or consistently reflected in program designs for early years interventions (MCEECDYA, 2011). Engaging parents and influencing social norms about parenting - using 'behavioural' approaches - is a significant feature of systems reform in the UK. Lexmond et al. (2011) observe parenting should be understood as an issue of public health, particularly in the context of the current challenges that are faced by many parents.

Supporting relevant parental behaviours can also result in significant benefits to the community (and return on investment is significantly faster). Returns can be measured through increased productivity gains, health cost savings, child welfare savings, and reductions in crime. Various sources advocate for a policy approach that reflects the current challenges faced by parents in balancing work and life commitments (Kershaw et al., 2009). The practice examples outlined in a recent UK evidence review (C4EO, 2010) demonstrate the importance of engaging parents in a collaborative approach, building on their strengths and taking account of their views and experiences.

The C4EO report also calls for change on a universal level to engage parents and support life-long learning for all parents:

what is needed is a whole society attitude shift to parenting akin to those achieved with seat belt wearing and drink driving. Instead of parenting being seen as a private matter which must not be invaded, it should be celebrated as a matter where achieving high standards is in everyone's interest, and it is socially acceptable for everyone to recognise they are able to learn (Wave Trust 2010, in C4EO 2010, p. 5).

1.9. The importance of play and home learning environments

Stimulating, rich play environments are central to 0-5 year old children's growth and development. Research demonstrates the vital contribution play makes to young children's social, emotional, physical and cognitive development (Bodrova & Leong, 2003; CCCH, 2008a, 2008b; Elliott, 2006a; Ginsburg, 2007; Pramling-Samuelson & Fler, 2009; Shonkoff & Phillips, 2000) and it is recognised as the right of every child under the United Nations Convention on the Rights of the Child (Office of the United Nations High Commissioner for Human Rights, 1989). More specifically, Smilansky and Shefatya (1990) in a review of numerous studies on play found that it contributes to verbalisation, vocabulary, language comprehension, imagination, concentration, impulse control, curiosity, problem-solving strategies, cooperation, empathy and group participation. Other authors have also pointed to the substantial benefits across all areas of development play has for children's transition to formal schooling, particularly when combined with high quality relationships (CCCH, 2008a; Dockett & Perry, 2003; Woodrow & Jackson, 2008).

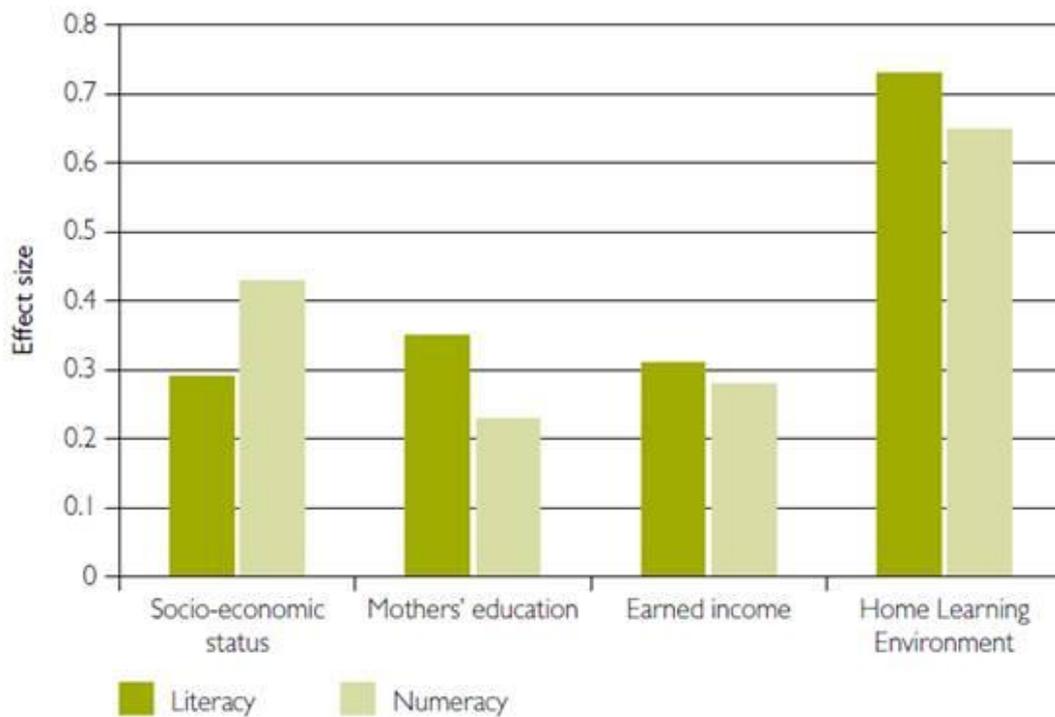
Most discussions of play and its importance to early childhood reflect a social constructivist approach to child development, which is underpinned by the belief that very young children learn through ongoing interactions with rich environments. This approach is also characterised by the belief children learn best in holistic environments in which they actively construct or co-construct meaning in real-life situations. Children's play from a social constructivist perspective is exemplified in cross-cultural studies conducted by Rogoff, Paradise, Mejia Arauz, Correa-Chavez and Angelillo (2003) and Rogoff et al. (2007) in which they articulate the processes by which children learn from participation and play in everyday activities with or alongside adults. These authors emphasise the value of co-participation between adults and young children in activities that are relevant to their particular cultures.

The quality of play in young children's home environments is also addressed substantially in the research. Across the early childhood education and social science literature the impacts of inadequate home learning environments are discussed at length. These discussions result in greater emphasis being placed on improving the types of experiences young children are exposed to in their homes and the widespread implementation of compensatory programs (Shonkoff & Phillips, 2000; Sylva et al., 2004).

The 'home learning environment' is a term used to describe activities in the home such as talking and reading to children, singing songs and nursery rhymes and learning through simple activities and play. Some studies have highlighted the home learning environment as the single most important behavioural factor influencing children's outcomes at age three and five, contributing significantly to both cognitive and non-cognitive development. As shown in figure 6, data from the EPPE study showed an effect of the early home learning

environment on age five outcomes over and above parental background factors such as socio-economic status, maternal education and family income. In particular, the presence of books and toys in a household has significant and large associations with child development and self-esteem and can account for between five per cent and 12 per cent of the gap in development between the richest and the poorest children at age five (Melhuish et al., 2008).

Figure 6: Relative impacts on child learning outcomes (Field, 2011, p. 43)



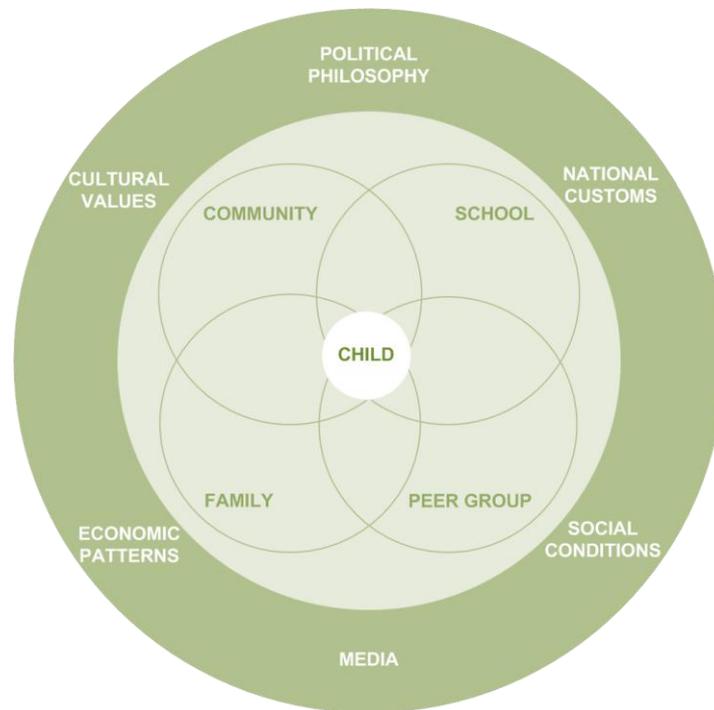
Source: Melhuish et al. (2008) 'Effects of the Home Learning Environment and Preschool Center Experience upon Literacy and Numeracy Development in Early Primary School', *Journal of Social Issues*, Vol. 64, No.1.

Effective interventions to support play-based learning and to improve home learning environments are discussed in section 6.

1.10. The ecological model

As illustrated by the previous discussion on play-based learning and the home learning environment, context and interactions are critical to child development. Children do not develop in a vacuum. Improvements in outcomes will be driven by a complex inter-relationship of factors in the context of their broader family and community life. It is recognised that there are many complex social and environmental factors, which may directly or indirectly influence daily decisions and shape the outcomes of the child and family. Drawing on the ecological model of child development (Bronfenbrenner, 1979), these factors combine to influence early childhood and can be understood to operate at the level of the child, his or her family, his or her networks and wider community and society factors, as detailed in Figure 7.

Figure 7: Factors influencing child wellbeing (the ecological model) ((ARACY, 2012b adapted from Bammer et al., 2010)



Longitudinal research identifies a range of key risk and protective factors at the child, school, peer, family, and broader community and societal levels, that are known to influence the course of child development (for a summary in relation to early child development, see Australian Early Development Index, 2013). Improvements in outcomes will be driven by reducing known risk factors and enhancing known protective factors at each environmental level of influence. Considerations for systems development which reflects and leverages the richness of the environment described by the ecological model is contained in section 3. Risk and protective factors and the associated priority pathways for more effective interventions are outlined in section 4.

2. Social and economic benefits of prevention and early intervention

“The two public policy strengths of Early Intervention are firstly that it is less expensive and second it is more effective than late intervention. It is no longer viable to take ever increasing amounts of taxation from the public to deal with the ever increasing impact of failing to intervene early” (Allen and Smith, 2008, p. 113).

2.1. Overview

The evidence from the child development sciences (including neuroscience, psychology, genetics and numerous longitudinal studies from multiple countries) is clear that early childhood and early adolescence offer crucial windows of opportunity to build strong cognitive and social and emotional foundations, which in turn equip children and young people to cope with adversity and optimises their life chances. The theoretical rationale for prevention and early intervention, and for prioritising investment in the early years, is incontrovertible.

In addition to being crucial to children’s developmental trajectories, it is clear that investments in the early years and in prevention and early intervention more broadly yield significant financial returns. The return on investment for prevention and early intervention is consistently greater than costly remedial responses; preventative investment reduces downstream expenditure on remedial education, school failure, poor health, mental illness, welfare reciprocity, substance misuse and criminal justice. Expenditure on evidence-based prevention initiatives reduces incidence and prevalence at a population level. It is most cost effective to invest in early intervention that resolves issues as they emerge and are malleable, rather than responding to crisis, toxic stress and trauma, which is both more challenging and more expensive to resolve.

While the balance of evidence makes a clear case for investment in prevention and early intervention, not all interventions that aim to prevent or intervene early are effective. There are many examples of programs, many of them extremely intensive and costly, which have ultimately been found to have no impact on children’s outcomes. Additionally, the effectiveness of prevention and early intervention is related to the investment made and the attention given to implementation processes, such as adherence to program design and fidelity issues.

A 2007 report from NSW Health argued that smarter choices need to be made about investment in health and other services: “prevention strategies in Australia appear likely to suffer from ‘investment failure’ rather than ‘program failure’. That is, although evidence-based strategies exist they may not be implemented with the necessary intensity or duration to deliver their full potential in health and economic outcomes” (NSW Health, 2007, p. 6).

2.2. The costs of late intervention and responding to symptoms rather than causes

There is a strong argument that expenditure on late intervention and crisis responses is becoming unsustainable – rising demand and increasing complexity is creating significant long-term challenges for government budgets. National and state budgets consistently favour reactive tertiary responses over proactive preventive investment: Michael Marmot found that only 4 per cent of health funding in the UK was targeted at prevention (Marmot, 2010, 26), while a Scottish parliamentary inquiry cited evidence that 40-45 per cent of their total public spending was on short-term responses to social problems (Christie, 2011), and it is estimated that only 1.6 per cent of all health spending in Australia is on prevention-focused public health (Australian National Preventive Health Agency [ANPHA], 2013, p. 32).

The pressure on public expenditure from addressing dysfunction is one driving force behind moves toward prevention and early intervention internationally. A UK think-tank estimated that at current levels, spending on social issues will amount to £4 trillion over a 20 year period (AFC [Action for Children] and the New Economics Foundation (NEF), 2009). Allen and Smith (2008, pp. 33-34) estimate that current annual expenditure on the impacts of social issues is over £140 billion on social welfare, £20 billion incurred from the costs of violence, £2 billion on children in care and £1 billion spent on the costs arising from child abuse. Canadian research estimates that reducing early childhood vulnerability (as measured by the Early Development Index) by nine per cent by 2020 would result in an increase in GDP of more than 20 per cent over the life course of those children (Kershaw et al., 2010).

In Australia, a number of studies have sought to establish the costs arising from aspects of vulnerability and dysfunction, including the remedial interventions instigated in relation to these. ARACY extrapolated the Canadian research cited above and determined that reducing rates of childhood vulnerability as measured by AEDI could result in a 7.35 per cent increase in GDP over 60 years (ARACY, 2014). valentine and Katz calculated the long-term annual human and social costs of child abuse and neglect in Australia, which in 2003 were estimated to be close to \$2 billion (2007, pp. 5-6) (valentine and Katz, 2007). Almost half of this cost was accounted for by adult criminality arising later in life (Table 2).

Table 2: Annual long-term human and social costs of child abuse and neglect in Australia (valentine and Katz, 2007)

	Estimated annual cost (2003)
Cost of mental health service use as a consequence of child abuse and neglect	\$335.2m
Cost of juvenile delinquency arising from child abuse and neglect	\$288.6m
Cost of adult criminality arising from child abuse and neglect	\$976.9m
Cost of the intergenerational transmission of abuse	\$343.9m

valentine and Katz also report a cost of \$1.4 billion to Queensland for children and adolescents with conduct disorder up until the age of 28 (valentine & Katz, 2007, p. 8).

Segal, Dalziel, and Papandrea (2013, p. 623) also examine the costs of child maltreatment in Australia. They report that a cost of \$245,000 per child is encountered (at 2011 rates) for each new substantiation of child maltreatment. The authors also note, however, that costs are likely to be higher for some children with a child abuse history and who demonstrate severely disturbed behaviours.

Baldry et al. (2012) examined the life course costs of eleven highly vulnerable people in NSW currently experiencing homelessness. The researchers accessed administrative data (especially the Mental Health and Cognitive Disability in the Criminal Justice System data set) for each individual and developed a methodology for costing their interactions with housing, health, community services and criminal justice agencies, concluding that “the economic costs to government are significant, as are the social and human costs” (Baldry et al., 2012, p. 6). The participants in the study varied in age between 23 and 55 years, the life course institutional costs ranged from \$900,000 to \$5.5 million per individual.

In almost every case discussed, significant disadvantage, vulnerability and risk factors are obvious from early adolescence and, for several individuals from childhood, yet care and protection and early intervention do not occur in any substantial or sustained way. The evidence is stark that this early lack of adequate services is associated with costly criminal justice, health and homelessness interactions and interventions later in their lives. Millions of dollars in crisis and criminal justice interventions continue to be spent on these vulnerable individuals whose needs would have been better addressed in early support or currently in a health, rehabilitation or community space. It is obvious that access to integrated and responsive support services including drug and alcohol support, mental health and disability services or other psycho-social forms of support is needed (Baldry et al., 2012, p. 6).

In addition to the costs to the state of highly vulnerable and disadvantaged individuals, there are a number of preventable behaviours with high prevalence rates and substantial immediate and long-term costs (Table 3).

Table 3: Current prevalence and cost of modifiable behaviours and outcomes

Modifiable behaviours	NSW prevalence	Cost estimates (NSW and international)
Tobacco	Approximately 25 per cent of NSW school students report smoking at least once, 17 per cent in the past 12 months and 7 per cent in the last 7 days	Annual social costs of tobacco for NSW in 1998/99 estimated at \$1.8 million in direct costs and \$4.8 million in indirect costs (NSW Health, 2007).
Obesity	In 2004, 25 per cent of 5–16 year olds were overweight or obese (NSW Health, 2007)	The total direct cost for overweight and obesity in Australia in 2005 was \$21 billion (\$6.5 billion for overweight and \$14.5 billion for obesity), with indirect costs of \$35.6 billion per year, resulting in an overall total annual cost of \$56.6 (Colagiuri et al., 2010)
Mental health	In 2007, 250,000 NSW children and adolescents were estimated to be living with mental illness (NSW Health, 2007)	In 2009, the financial cost of mental illness in people aged 12-25 in Australia was \$10.6 billion. \$7.5 billion (70.5 per cent) was productivity lost due to lower employment, absenteeism and premature death of young people with mental illness; and \$1.4 billion (13.4 per cent) was direct health system expenditure.
Early school leaving	In Australia, 21 per cent of students do not complete secondary school (Deloitte Access Economics, 2012)	The overall cost of one year's early school-leavers is an estimated \$2.6 billion (King, 1999). Increasing the proportion of young people completing school from 80 per cent to 90 per cent would increase GDP by \$1.8 billion in 20 years, with a rate of return on investment of 8-10 per cent (BCA, 2003).
Abuse and neglect	In 2011-12, there were over 23,000 substantiated cases of abuse and neglect in NSW	Total long-term human and social costs of child abuse and neglect \$1,944m (valentine and Katz, 2007).
Preterm birth	In 2010, there were over 7,000 preterm births in NSW, equivalent to 7.4 per cent of all births	Estimated additional public sector cost associated with preterm birth up to age 18 at £1.24 billion.

2.3. Estimating cost savings from reducing vulnerability and dysfunction

Data analysis and modelling from Deloitte Access Economics (2012) demonstrates potential cost savings from reducing the incidence of a range of modifiable outcomes. The analysis estimates the net present value (NPV) of the cost of a range of scenarios accumulated between the period 2008-2050 if the patterns for these scenarios continue on current trajectories. This forms the basis for modelling potential cost savings that would arise from a 25, 50 or 75 per cent linear reduction in the rate at which a set of problems occurs (for example, if obesity rates were to reduce by 50 per cent between 2008-2050, it would result in \$21,310 million dollars being saved over this time) (Table 4).

Table 4: Financial cost and potential savings for scenarios between 2008-2050 in Australia (Deloitte Access Economics, 2012)

	Financial cost 2008-2050	Cost saving with 50 per cent reduction 2008-2050
Child abuse and neglect	\$25,494m	\$5,460m
Obesity	\$98,948m	\$21,310m
Mental illness	\$59,312m	\$12,379m
(Unrealised) human capital	\$418,070m	\$87,324m
Crime and delinquency	\$1,380m	\$289m
Bullying	\$46m	\$9.7m
Adolescent pregnancy	\$4,130m	\$868m
Binge drinking	\$5,816m	\$1,219m

Due to inter-relationships between scenarios, the potential cost-savings established in this analysis are not cumulative; however, this modelling does indicate that substantial savings would be made from a reduction of 50 per cent in each of the scenarios. Savings would also begin to emerge after five years and increase exponentially over the longer term (Deloitte Access Economics, 2009, p. 70). Even with the conservative estimate of 25 per cent, the modelling suggests that within five years, child protection costs could reduce by \$52m, obesity by \$185m and mental illness by \$120m (Deloitte Access Economics, 2009, p. 70).

2.4. Cost effectiveness of prevention and early intervention approaches

Nobel prize-winning economist James Heckman is a prominent advocate for prevention and early intervention. He argues strongly that “interventions early in the life cycle of disadvantaged children have much higher economic returns than later interventions such as reduced pupil-teacher ratios, public job training, convict rehabilitation programs, adult literacy programs, tuition subsidies, or expenditure on police” (Heckman, 2008, p. 50). He

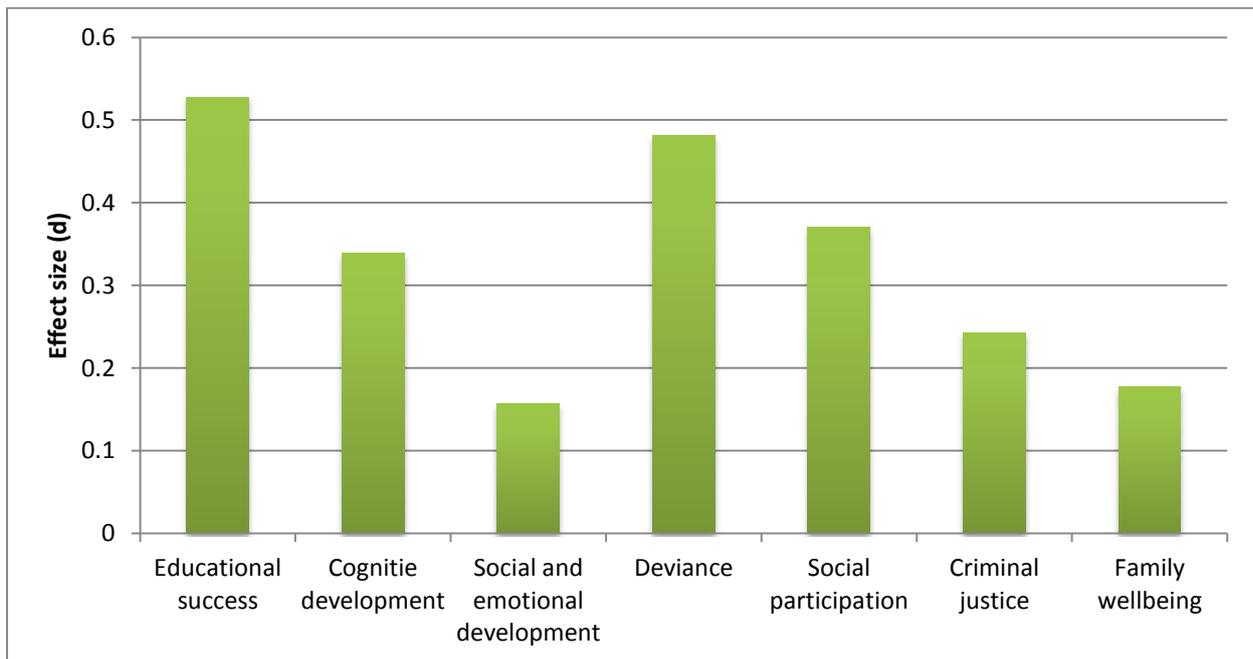
concludes that while “it is possible to remediate rather than to intervene early ... it is also much more costly” (Heckman, 2008, p. 54).

Similarly, Kilburn and Karoly (2008, p. 2) review of economic evaluations of early childhood programs concludes that prevention “yield[s] better outcomes for participants than a treatment approach”. Karoly et al. argue that longitudinal studies of effective interventions find that the personal benefits (cognitive development, behaviour and social competence, educational attainment, earnings), social benefits (reduced delinquency and crime) and government savings (higher tax revenues, reduced social welfare spending), associated with intervening early in a child’s life clearly outweigh the costs (Karoly, Kilburn, & Cannon, 2005).

Confirming Heckman and Kilburn and Karoly’s argument that investments in early childhood yield the greatest impact, a number of studies have found strong evidence for ongoing and sustained impacts throughout the life course. Manning, Homel, and Smith (2011) conducted a meta-analytic review of a range of early years prevention programs (including structured preschool programs, centre-based developmental day care, home visitation, family support services and parental education) delivered to at-risk populations with children aged 0-5. The review focused on outcomes that were maintained into adolescence, and found a range of significant effect sizes on key outcomes: educational success, cognitive development, social-emotional development, deviance, social participation, involvement in criminal justice, and family well-being (Manning et al., 2011, p. 512). They found an overall effect size of 0.313, which was equivalent to a 61 per cent difference between intervention and control groups (Figure 8) (p. 514).

The majority of the interventions in their sample focused on the development of cognitive skills which, they suggest, explains the large effect on educational success. They note that the mean effect size of early years interventions for cognitive development (0.34) was larger than the effect size for the cumulative impact of primary school education (0.30), indicating that early interventions persist throughout the primary years and into adolescence (Manning, Homel & Smith, p. 514).

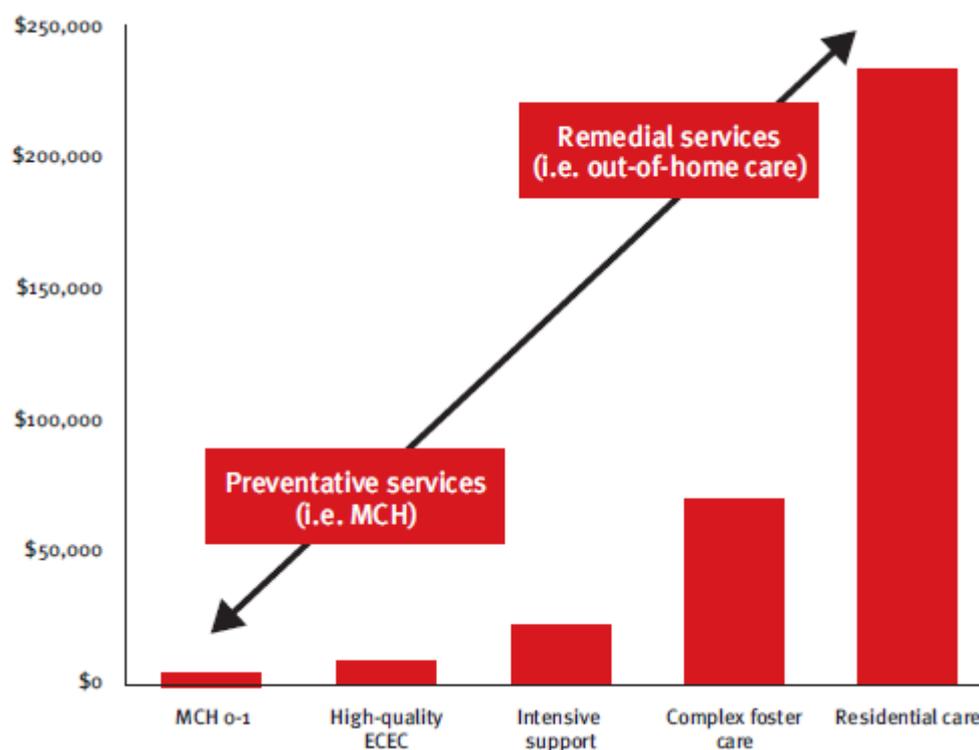
Figure 8: Mean effect size of early years programs on adolescent outcomes (Manning, Homel & Smith, 2010, p. 512)



There is emerging Australian evidence to support the benefits of early intervention. For example, Robinson, Silburn and Arney’s analysis of the *Pathways to Prevention Project*, a whole-of-community partnership approach to early intervention, found a cost per participant of more than \$20,000 lower than a remedial reading program adopted in Queensland (2011, p. 3). The study argues that such a community-wide program with multiple components addressing social skills, early literacy and family intervention, would achieve significant and measurable reductions in costs to society, even if it were to divert just a small number of children from such a remedial service. An Australian randomised controlled trial and cost-benefit analysis of sustained nurse home visiting is currently underway (ARACY, 2014).

Victorian Government modelling illustrates the comparative costs of universal services, such as maternal child health, versus remedial interventions, such as out-of-home care (Figure 9). This analysis concludes that “these services, provided across a broad population, are often more cost-effective per individual than later remediation” (DEECD, 2014c, pp. 7-8).

Figure 9: Maximum annual unit cost of Victorian children's services



2.5. Cost-benefit analyses and return on investment in the short term

The best international data on the cost-effectiveness of social policy interventions comes from the Washington State Institute for Public Policy (WISPP). The WISPP provides ROI figures for a range of prevention, early intervention and remedial interventions (Lee, Aos, Drake, Pennucci, Miller & Anderson, 2012), with the express purpose of informing public policy investment decisions: "the goal is to provide Washington policymakers and budget writers with a list of well-researched public policies that can, with a high degree of certainty, lead to better statewide outcomes coupled with a more efficient use of taxpayer dollar" (WISPP).

WISPP analysis measures ROI broadly, as well as specifying the total monetary benefits, benefits to the taxpayer, non-taxpayer benefits and the odds of achieving a net beneficial value, across a range of policy areas: education, child welfare, children's mental health, juvenile justice, general prevention, public housing, public health and mental health. One of the benefits of their approach to calculating ROI is that it enables relatively reliable calculation of the cost savings that are able to be monetised and the specific benefits to the state budget. The longitudinal studies that have yielded the strongest ROI figures, discussed in the next section, include benefits to government and individuals over the long term.

A meta-analysis of the WISPP database of effective interventions shows that the majority of programs for children (53 out of 79) have a positive cost-benefit return. Lee, Aos and Miller also examined 26 (mostly US-based) individual programs, 14 of which were assessed to

have a statistically significant impact (in a positive direction) on at least one child welfare outcome (Table 5). While there are gaps in the data, there is some basis to infer that later intervention/treatment for children who are already facing vulnerability and welfare issues is less cost-effective, compared with prevention and early intervention programs.

The analysis reflected in Table 5 shows that, clearly, not every program and intervention is cost-effective and that programs have different marginal returns. WISPP analyses pay close attention to issues of implementation fidelity and scale-up, which have significant impacts on the quality of the intervention and thus its effectiveness. WISPP also argues that their analysis is based on the appropriateness and impact of programs within Washington State – this is especially pertinent given the fundamental social policy differences between the US and Australia, especially in terms of Australia’s highly efficient tax-transfer system and universal health service. It cannot be assumed that US-based programs would achieve the same impacts in Australia. The WISPP model points to both the feasibility of state-level measurement of program effectiveness and ROI, and importance of developing the capacity to identify and monitor the impact of programs developed locally. The UK government has been working with the WISPP to adapt their costing model to the UK context.

Table 5: Benefit-cost ratios and net returns for child welfare programs in Washington State³

Program	Cost : Benefit return	Total Net Benefits per participant
Prevention		
Chicago Child-Parent Centres	4.82 : 1	\$31,036
Nurse Family Partnership for Low Income Families	3.02 : 1	\$18,054
Parents as Teachers	1.39 : 1	\$1,509
Iowa Family Development and Self Sufficiency Program	n/a	\$448
Healthy Families America	0.57 : 1	-\$1,830
Other Home Visiting for at Risk Mothers	0.56 : 1	-\$2,359
Intervention		
Intensive Family Preservation Service Programs (@Homebuilders)	2.54 : 1	\$4,775
Parent-Child Interaction Therapy	5.93 : 1	\$4,962

³ Comprehensive data on the full range of WISPP-evaluated programs and updated 2012 data is available at: <http://www.wsipp.wa.gov/BenefitCost>

Dependency (or Family Treatment) Drug Court	0.74 : 1	-\$970
Intensive Case Management for Emotionally Disturbed Youth	n/a	-\$2,120
Other Family Preservation Services	n/a	-\$2,814
SAFE Homes	n/a	-\$5,721
Administrative		
Subsidised Guardianship	n/a	\$4,954
Family Assessment Response	n/a	\$2,751
Flexible Funding	n/a	\$947

2.6. Cost-benefit analyses and return on investment in the longer term

Longitudinal data sets consistently show a positive return on investment for effective and well-implemented prevention and early intervention programs. It should be noted that the number of credible and corroborated cost-benefit analyses is actually fairly small, and the evidence for return on investment is grounded in a remarkably small number of high quality randomised controlled trials (primarily, the Perry Preschool Program, the Abercedarian Program, Nurse Family Partnerships and Chicago Child-Parent Centres).

These studies are, however, grounded in robust study designs and credible long-term data and yield persuasive figures and provide a strong rationale for policy decisions as a result. Heckman argues that there is a return of 15-17 per cent reported for every dollar invested in services for preschool aged children (Australian Health Ministers' Advisory Council, 2011, p. 7), while other ROI figures are closer to 3:1. The 17:1 figure reflects Heckman's economic modelling and the results of the oldest of all the longitudinal studies, the Perry Preschool Program. Perry participants are now aged around 40 years and the ROI figures provide an accurate reflection of the life-course benefits of high quality preschool, as illustrated in Figures 10 to 13.

Figure 10: Educational effects by treatment group (Barnett, 2004 in Heckman, 2008, p. 90)

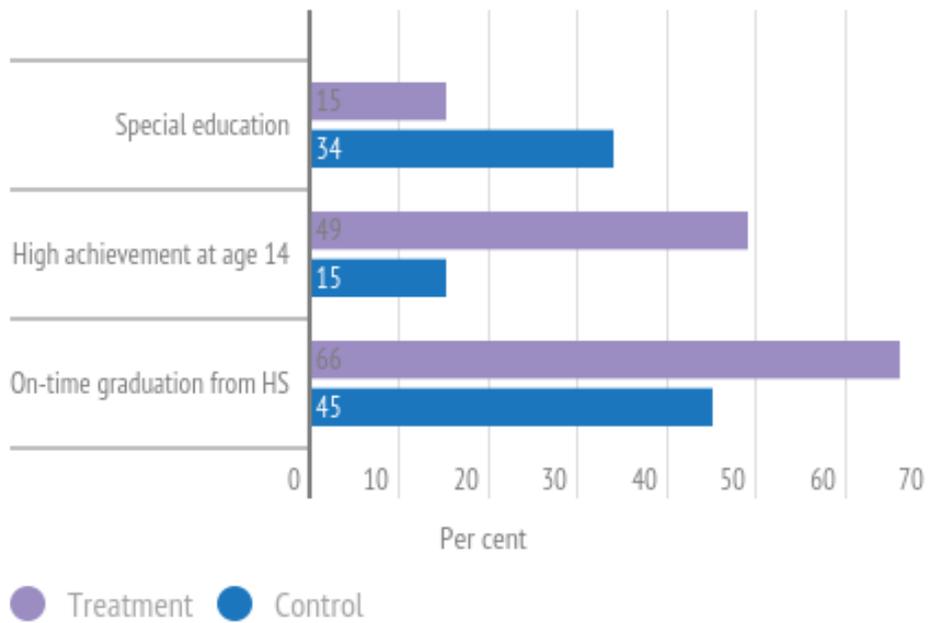


Figure 11: Economic effects at age 40 (Barnett, 2004 in Heckman, 2008, p. 90)

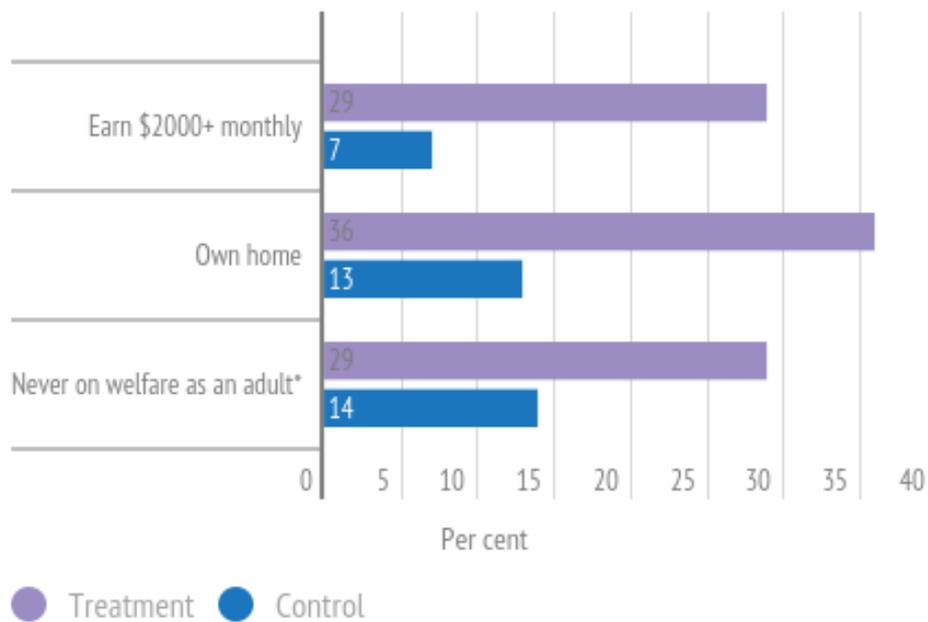


Figure 12: Arrests per person before age 40 (Barnett, 2004 in Heckman, 2008, p. 90)

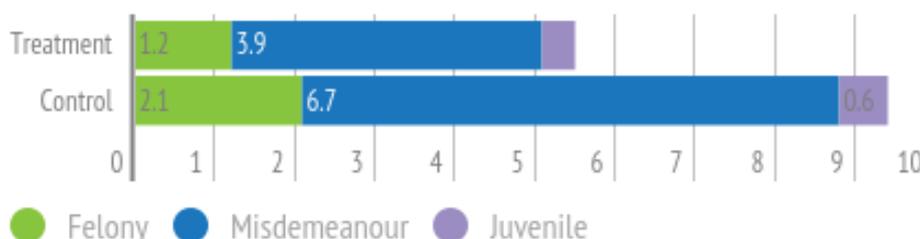


Table 6 illustrates the most recent ROI data for the interventions with the strongest levels of evidence, early learning and nurse home visiting, providing data when at least two sources corroborate the figures provided.

Table 6: Benefit-cost ratios cited for various childhood prevention and early intervention programs (return per dollar invested)

Program type	Benefit : cost ratio
Early Childhood Education and Care	
Perry Preschool Program	17 : 1 for participants at 40 year follow up
Abecedarian Program	Between 3-4 : 1 at 21 year follow up
Chicago Child-Parent Centres	10 : 1 at 28 year follow up
Home Visiting Programs	
Nurse Family Partnerships (NFP)	2.88 : 1 at 15 year follow up
NFP (low risk cohort)	1.26 : 1 at 15 year follow up
NFP (high risk cohort)	5.7 : 1 at 15 year follow up
Various Home Visit Programs	2.24 : 1 (various age follow up)

Based on synthesis of findings from the following sources: Access Economics (2009); Kilburn & Karoly (2008); McCain, Mustard & McCuaig (2011); Robinson et al. (2011); Segal et al. (2013); valentine & Katz (2007); Wise et al. (2005).

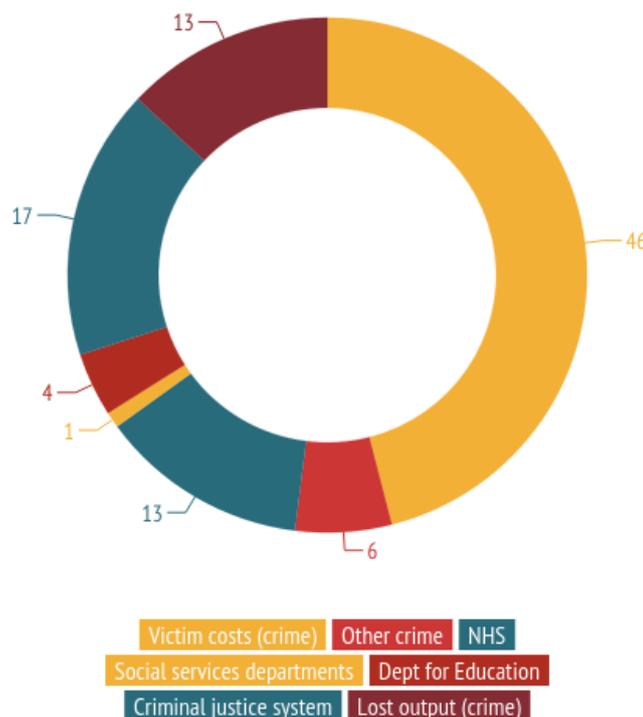
Bonin et al. (2011) modelled cumulative costs and benefits of delivering a parenting intervention for a child with conduct disorder over 25 years. Utilising current evidence of the impact of parenting programs on children with conduct disorder, as well as data on the cost of conduct disorder for the criminal justice, education, social services, health and not-for-profit sectors, they estimated that the benefits are substantial: £1,271 for the worst case scenario (breaking even within 9 years) and £41,611 for the best case scenario (breaking

even in 1 year) (Figure 13) (Bonin et al., 2011, p. 6). Figure 14 outlines the distribution of cost savings between agencies.

Figure 13: Present value of net public sector savings per family from a parenting program

	Worst case	Base case	Best case
Public sector savings Year 1 (post-intervention)	-£1,011	-£781	£152
Total public sector savings (25 years)	£1,271	£4,660	£41,611
Years to break even group provision only	9	5	1
Years to break even 80% group, 20% individual	9	6	1
Years to break even individual provision only	12	8	2
Return to public sector	1.2 to 2.6	2.8 to 6.1	20.6 to 45.0
Return to society	2.1 to 4.7	5.1 to 11.1	38.9 to 84.8

Figure 14: Distribution of cost savings across systems by age 35 (Bonin et al., 2011)



Importantly, programs are embedded in systems and broader social contexts. They do not (and should not) work in isolation and are likely to have cumulative and collective impacts. Indeed, Heckman (2008, p. 21) argues that “the advantages gained from effective early interventions are best sustained when they are followed by continued high quality learning experiences ... [and] due to dynamic complementarity, or synergy, early investments must be followed by later investments if maximum value is to be realised”. There is a lack of

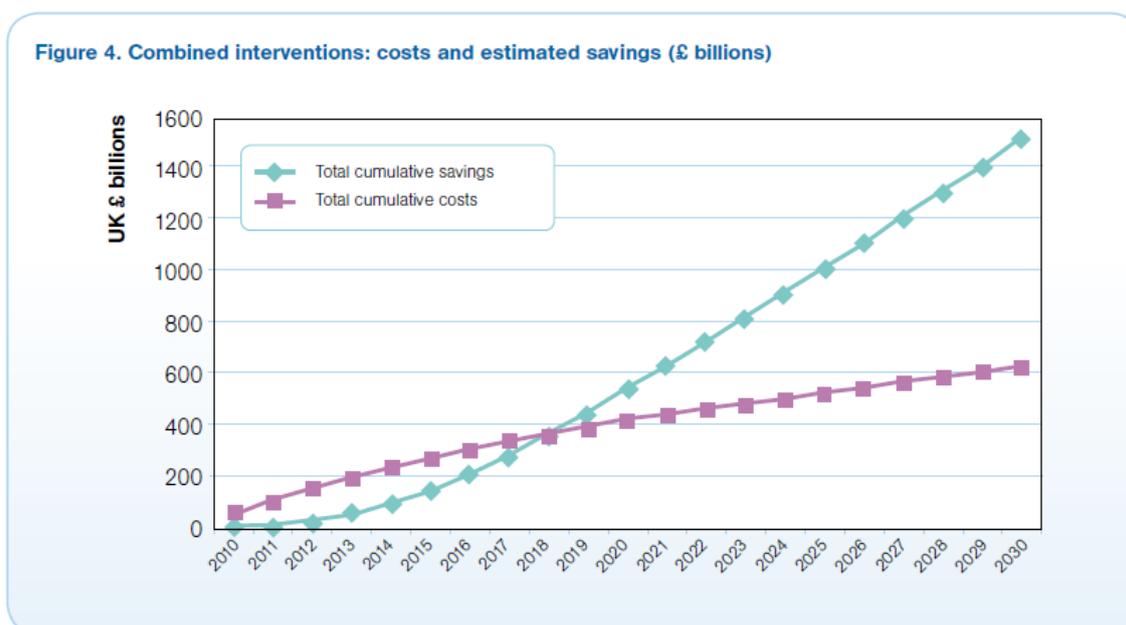
Australian data on the cumulative impacts of multiple high quality interventions, although there is some indication that the extent and access of universal service systems (measured through preschool attendance and the intensity and quality of the maternal and child health service) impacts child development outcomes (measured by the AEDI), with emerging evidence that links jurisdictional differences in service systems with AEDI scores (Brinkman et al., 2012). There is also emerging UK evidence that if early interventions are not followed up, so that the positive impacts are reinforced or emerging risks responded to, the impact of the early investments may be diminished or lost (National Audit Office (NAO), 2013, p. 25).

Lee, Aos, and Miller's analysis begins to develop a portfolio of programs for child welfare based on efficacy and cost-effectiveness and examining their collective impact. They identify the four programs with the highest cost returns (Two preventions: Chicago Child Parents Centres and Nurse Family Partnerships, and two interventions: Homebuilders and Parent-Child Interaction Therapy) and calculate (based on a fairly conservative estimation of program eligibility) that with five years effective implementation of these programs, net benefits of \$405 million would be yielded over the lifetimes of the children involved. This represents a benefit to cost ratio of 4.31 to 1. Most of these benefits would return to the participant, but the analysis also notes that the benefit to taxpayers would be \$34 million, a benefit to cost ratio of 1.26 to 1 (Lee, Aos & Miller, 2008, p. 12).

Similarly, in the UK, Action for Children and the New Economics Foundation have estimated the cost to the UK economy of continuing (and rising) dysfunction in society and calculated the cost for introducing and running a suite of evidence-based targeted and universal interventions to address levels of dysfunction emerging through childhood. Utilising conservative effect size data and delivery costs, the analysis estimates that with an investment of £620 billion over 20 years, a saving of £1.5 trillion could be anticipated (equating to a net saving of £880 billion) (Figure 15). Savings would begin to outweigh investment within eight years. Interestingly, it is investment in targeted interventions that would yield the quickest return – breaking even in five years, compared to twelve years for universal interventions (Aked, Steuer, Lawlor & Spratt, 2009).

The advantage of such modelling, even though it requires some hypothetical scenarios and assumptions, is in looking at programs not in isolation but as part of a collective service system. In this regard it seems that by using a rigorous process which identifies and selects a well-targeted, evidence-based suite of programs and approaches, individuals and society are more likely to see a positive return.

Figure 15: Long-term impact of systems reform to improve universal and targeted interventions



2.7. The social benefits of prevention and early intervention

Traditional cost-benefit analyses offer evidence for the economic case of investing in prevention and early intervention. Most attempt to include the costs and benefits to society in terms of public revenue and expenditure – such as costs associated with the welfare and criminal justice systems and revenues from increased productivity and earnings. For instance, the Perry Preschool Program cost-benefit analysis includes reduced costs to society from less remedial schooling and reduced crime rates, and monetises the non-pecuniary benefit of the effects on the potential victims of crime (Wise et al., 2005, 39-40).

Social return on investment (SROI) attempts to take such analysis a step further, by putting a financial value on social outcomes that are less tangible, such as improved family relationships. It does this by using financial proxies to estimate a value for such outcomes and then establishing a social value ratio, similar to a benefit to cost ratio but reflecting the benefit to society (for more details, see UK Cabinet Office, 2009, pp. 45-52). It has been used in a small number of childhood prevention and early intervention scenarios: analyses in the UK have reported a social value of between £7.60-£9.20 for every £1 invested in targeted children’s services and £4.60 for a mixed universal and targeted children’s service (Aked et al., 2009).

All such analyses fundamentally require a monetisation of social costs and benefits, thus making a (sometimes invalid) assumption that such benefits can be quantified and compared (Wise et al., 2005, 23-24). However, whether social outcomes can be monetised or not, there is an ethical argument per se for prevention and early intervention in society, perhaps regardless of cost. In the most basic form this concerns individual child protection

and welfare, and the basic rights of the child. In this regard, prevention and early intervention is clearly more socially desirable than late (or non-) intervention.

Beyond child protection, a case has been made to consider prevention and early intervention as a means of maximising human capital, nurturing positive growth and development, and enhancing individual wellbeing over the life course. Positive individual outcomes such as this (as well as absence of negative outcomes) are thought likely to reap social benefits, such as greater social inclusion, a breakdown of inequality and cycles of disadvantage, and in reducing levels of social dysfunction (for example, see Allen & Smith, 2008, chapter 1).

Research does tend to support the view of a social return from prevention and early intervention during childhood. Looking purely at research into the benefits of early childhood development, Van der Gaag (2002) summarises a wide range of benefits to society from improving childhood education, health, and social capital, and decreasing inequalities in these areas. This includes greater social cohesion, reduced poverty and crime, improved democratic processes, higher productivity and sustainable economic growth, increased adoption of new technologies, enhanced social values and increased social justice, and better societal health. Such findings have fed into the National Early Childhood Development strategy in Australia (Council of Australian Governments [COAG], 2009). This concludes that “national effort to improve child outcomes will in turn contribute to increased social inclusion, human capital and productivity in Australia” (COAG, 2009, p. 4), thus encapsulating the notion that economic, human and social benefits are a likely outcome of prevention and early intervention.

Beyond the clear financial and social benefits of prevention, there is also an ethical argument to be made for investments that optimise children’s life chances and that actively seek to prevent their chances of experiencing abuse, neglect, ill-health, poor achievement, psychological distress and diminished opportunity.

2.8. Best returns on investment

There is compelling evidence that investment in the early years, particularly in the 0-3 period, has the strongest return on investment, compared to later years. This is succinctly and effectively represented by the ‘Heckman Curve’ (Figure 16, from Heckman, 2008). The Heckman Curve shows the return to a marginal increase in investment at different stages of the life cycle, utilising a model that takes into account the fact that the 0-3 period is an especially sensitive phase for the development of cognitive skills and emotional development, which are pre-requisites for further and future development (Heckman, 2008, p. 22). As such, “skill begets skill and early skill facilitates later skill acquisition, [and] early investment raises the productivity of later investment” (p. 2).

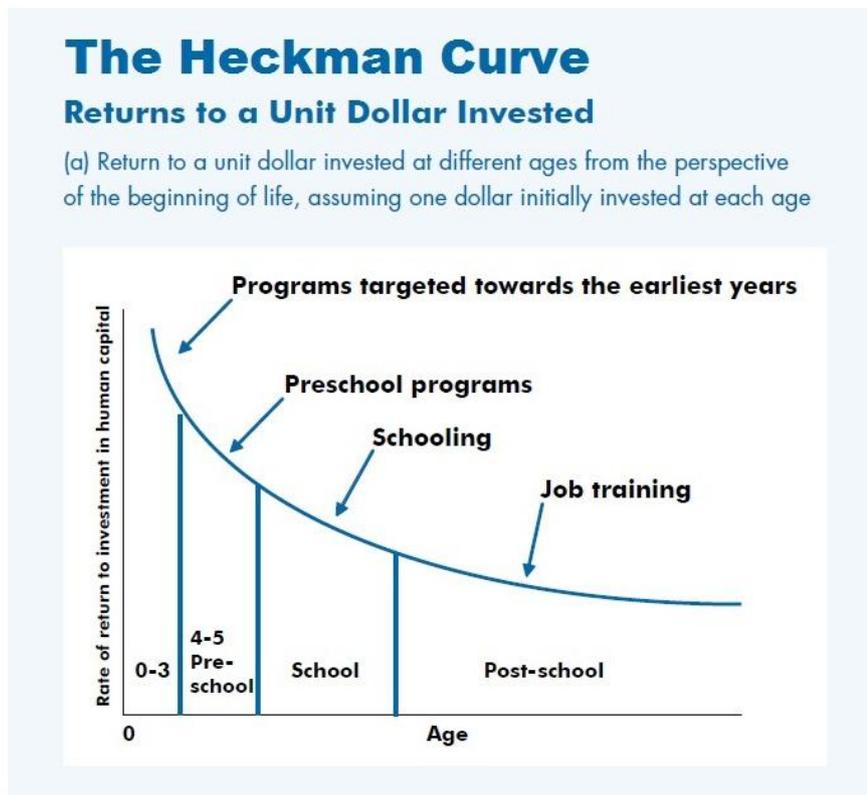
Heckman argues for the equity and efficiency of targeting the 0-3 period:

the traditional equity-efficiency trade-off that plagues most policies is absent. Early interventions promote economic efficiency and reduce lifetime inequality. Remedial interventions for disadvantaged adolescents who do not receive a strong initial foundation of skills face an equity-efficiency trade-off. They are

difficult to justify on the grounds of economic efficiency and generally have low rates of return (Heckman, 2008, p. 22)

It must be noted, however, that Heckman's equation and modelling is based on proven, evidence-based interventions. In order to see the rate of return Heckman projects, the programs delivered in the early years must be evidence based.

Figure 16: The Heckman Curve

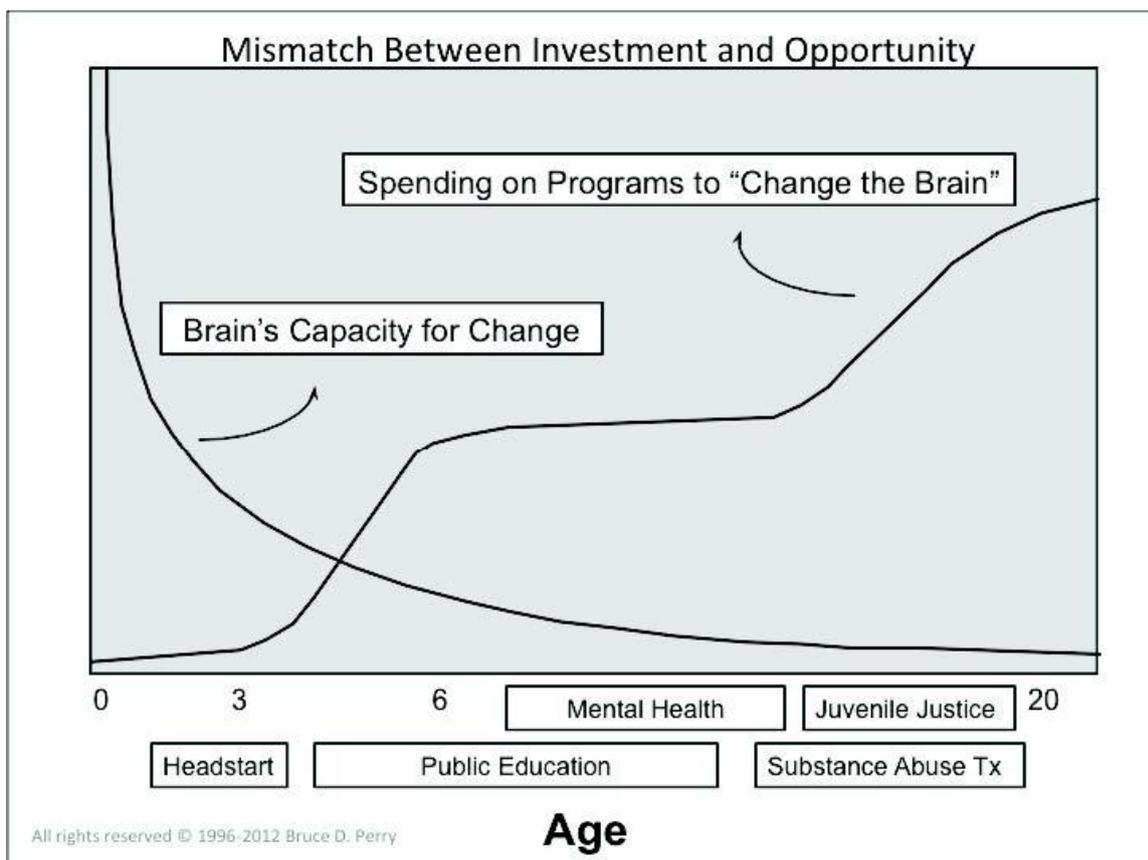


Doyle, Harmony, Heckman and Tremblay (2009, p. 3) argue "intervening in the zero-to-three period, when children are at their most receptive stage of development, has the potential to permanently alter their development trajectories and protect them against risk factors present in their early environment". Grounded in science of early brain development, this argument suggests that sub-optimal investment in the 0-3 period reduces the efficacy of later investments.

Such widely supported and compelling evidence is a driving force behind emergent policies in early childhood development. The World Health Organization (2014) notes that "improved early childhood development not only means better health, but a more productive labour force, reduced criminal justice costs, and reductions in other strains on the social safety net". In Australia, the National Early Childhood Development Strategy notes that "there is good evidence that many programs aimed at alleviating disadvantage during the early years of life are both effective for improving child outcomes and often yield higher returns on investment than remedial interventions later in life" (COAG, 2009, p. 6).

However, as many commentators and researchers note, current expenditure in the early years in Australia (and other countries) is lower per capita than that in middle to late childhood and early adulthood (Figure 17). For instance, recent figures from Victoria show that funding is skewed towards the school years, jumping from around \$2,000 per child between 0-4 years to \$12,000 per child once they reach five years of age. It is also noted that Australian expenditure in early childhood is well below the conservative estimate of one per cent of GDP recommended by UNICEF, and below that of many other OECD countries (ranked 28 out of 45) (Department of Education and Early Childhood Development, Victoria (DEECD), 2014, p. 25).

Figure 17: Mismatch in public spending and early brain development (Perry, 1996 in Perry & Jackson, 2014)



Conversely, while the evidence for investments in the early years is compelling, this does not mean that later intervention cannot also be cost effective (Segal et al., 2013, pp. 626-633). Segal et al. analysed the effectiveness of 24 intensive family support interventions for at-risk children (not solely targeted at young children). They found 22 of the programs were effective in diverting children from the child protection system and argued that even small reductions in the number of children in out-of-home care can make these types of interventions highly cost effective. They argue "the idea that 'unless we as a society intervene early it is too late' simply is not borne out by the evidence – rather it is 'never too late'" (Segal et al., 2013, p. 633).

2.9. The relative cost effectiveness of universal and targeted services

There is an ongoing debate regarding the relative cost effectiveness of universal and targeted services (Moore, 2008). Universal services tend to involve lower costs per-person but greater costs overall. They have the benefits of accessibility, being non-stigmatising, focusing on prevention and reaching the majority of children in need and therefore lifting wellbeing and outcomes at a population level. Targeted services often involve substantially higher costs per-person, with potentially lower costs overall (although often the administrative costs of determining eligibility make this approach more expensive). They may be the most appropriate response to emerging or established problems, but they may not reach all those who require them and are often difficult and stigmatising to access. Further, while targeted interventions can shift the 'tail' end of the population distribution, because there are far greater numbers of children experiencing developmental difficulties across the rest of the population, universal interventions are much more likely to deliver large-scale, population-level change.

Heckman argues for the prioritisation of young children experiencing disadvantage, given the higher rate of return and the need to compensate for poorer rates of parental investment (although he defines disadvantage as poor parenting rather than simply economic or social disadvantage). For example, cost-benefit analysis of Nurse Family Partnerships shows a much higher benefit to cost ratio where it has been delivered to high risk families (5.70 : 1) compared with low risk (1.26 : 1), with higher risk families being the group for which the program could make more of a difference. That is to say, while "monetary payoffs may still be positive for universal programs, the rate of return may be higher when programs are targeted toward the groups that are likely to benefit from them most" (Kilburn & Karoly, 2008, p. 17). Similar findings are noted in the cost-effectiveness assessments of Nurse Family Partnerships by Segal et al. (2013), with greater cost effectiveness of the programs that were engaged with higher risk families.

However, families with the greatest levels of need or the greatest potential to benefit from targeted interventions are often the least likely to access them and the most difficult to retain in an intervention long enough to receive the 'dose' needed to change outcomes. Our systems are not consistently effective in identifying needs and vulnerability does not only cluster in specific geographic areas. Moreover, analysis from the UK draws on long-term modelling to argue that both universal and targeted investment is necessary to secure long-term change (AFC & NEF, 2008, p. 22). They argue for effective targeted investment to break the cycle of entrenched disadvantage and trauma, but suggest that to sustain the impact of targeted investments, high quality universal systems are essential:

Without investment in the universal services, we are unable to 'lock in' the gains made by investment in targeted services. We will have improved outcomes and life chances for today's most vulnerable and at-risk children but we will not have succeeded in preventing the same problems (i.e., poverty, inequality) from having an adverse effect on their younger siblings or their own children. Without pro-actively addressing the structural framework of service provision to better provide the conditions for higher material, psychological and social wellbeing from an early age, the improvements in outcomes that we will have created from

our investment in targeted interventions over the next 10 years will not be maintained post 2020” (AFC & NEF, 2008, p. 22).

2.10. The potential for proportionate universalism to reduce costs

The appeal of the proportionate universalism (Marmot, 2010) is that it combines the strengths of both universal and targeted approaches. However, in order to be effective, proportionate universalism requires universal systems that are primed and capable of accurately identifying needs, and early intervention and tertiary services (of the right duration and intensity) need to be available. Sayal (2006) outlines a common pathway to need identification and service response for children with emerging emotional and behavioural difficulties:

- **Parental perception of problems.** Following parental awareness of child symptoms, parental perception of problems is the key initial step in the help-seeking process.
- **Use of primary care services.** Although children with mental health problems or disorders are regular attenders within primary care and most parents acknowledge that it is appropriate to discuss concerns about psychosocial issues in this setting, few children are presented for treatment of mental health symptoms even if their parents have such concerns.
- **Recognition within primary care.** Subsequently, less than half of children with disorders are recognised in primary care.
- **Referral to or use of specialist health services.** Amongst recognised children, about half are referred to specialist services (Sayal, 2006 in Moore, 2008, p. 3).

In this pathway, the potential for additional and unnecessary costs is significant: if parents had knowledge of evidence-based child development and parenting practice information, their ability to recognise and respond to emerging issues would be strengthened; if primary care services were better able to identify potential issues, engage with parents and provide appropriate support and referral (including in areas outside their direct area of expertise); and if alternative, community-based early intervention was available, the pressure on expensive one-on-one consultation with specialists would be reduced.

It is clear that continuing with existing models of delivery is fundamentally unsustainable, and will continue to accrue enormous costs:

Targeted policies and services to meet the special needs of children with chronic problems, or who face difficult circumstances, will always be required. However, such services will continue to consume an ever-increasing proportion of public expenditure on social and other human services unless there is a substantial repositioning of policy from its current focus on remedial and treatment services towards increased investment in universal prevention for all children, particularly in the early years (Richardson & Prior, in Moore, 2008, p. 10).

2.11. Challenges of moving from rhetoric to practice

The National Audit Office (NAO) in the UK suggests that the failure to continue to consolidate the positive messages and impacts of early interventions, or to continue to monitor and respond to risk, may limit the effectiveness of both universal and targeted early interventions. For instance, there are indications that the UK's investment in a universal preschool entitlement is not yet carrying through to improved academic performance at age seven, and that Sure Start parenting programs that improved parenting behaviours for children aged three are not resulting in improved cognitive skills at age seven (NAO, 2013a, p. 25).

The universal preschool entitlement and Sure Start are two important initiatives to systematise a prevention and early intervention approach (in a context that is similar to Australia), and the emerging evidence about their impact and effectiveness provides an important compass for Australia. These early indications of blunted impacts suggests that fragmented, point-in-time and short-term interventions that are not bolstered by subsequent and ongoing support may not be adequate to achieve the level of impact desired by the prevention and early intervention agenda. They suggest that a coherent, cross-agency and systemic approach, which provides ongoing attention to preventing and intervening early in the kinds problems that result in poor outcomes for children, may be necessary.

The NAO outline a number of the challenges involved in translating the rhetoric of 'prevention and early intervention' into practice (NAO, 2013).

- Fundamental change is unlikely to occur without a commitment to reprioritising funding (there has been no shift in spending priorities in the UK, although Scotland has committed to reorienting their budget to 9 per cent of total expenditure on prevention and early intervention).
- There is insufficient data on what interventions are most effective, on how to implement and deliver them to scale, and monitor their ongoing effectiveness.
- It may not be possible to substantially reduce all (or possibly even most) of existing 'negative' spending on remedial actions, especially in the short-term.
- There is not enough robust data on cost effectiveness, and information on activity and unit costs across most departments and public sector bodies is patchy and incomplete.
- The lack of good evidence on cashable savings in early action programmes hampers the attempt to reach a 'net' overall figure for potential reductions.
- There are uncertainties about whether and where the benefits of early action will materialise. There are also practical difficulties of reducing existing acute services. These factors undermine the confidence of public bodies that investing in early action will provide them with cashable savings.

- There are inconsistencies across departments about identifying which spending should count as early action. This compounds the traditional difficulties that the public sector has in attributing costs to activities, outputs and outcomes.

The following research from RAND (Box 2) outlines a helpful framework for conceptualising cost in policy formulation.

Box 2: Decision-making frameworks for policy-makers (RAND, 2008, p. 4).

Decision making frameworks for policy-makers

A RAND analysis of early childhood policy argued that the “fundamental insight from economics is that efficient early childhood policy would include a spectrum of services rather than one ‘best’ approach, [while] economic theory also provides some guidance about how to choose an optimal level of each type of service or program given the total budget available for all services” (RAND, 2008, p. 4).

Need based. In this scenario, policymakers implement policies that focus on outcomes that are particularly bad in the community. For example, if data suggest that child abuse and neglect are higher in a given community than in most other peer communities, then that community might decide to focus on a home visiting program that specifically addresses this issue.

Outcome based. Policymakers may simply prioritise particular outcomes, based on such considerations as the values their constituents have rather than using the comparative rankings of communities on indicators. For instance, the legislature might choose improving the wellbeing of children in the foster care system as its signature issue and, as a result, focus on implementing programs that target children in foster care.

Effectiveness based. This rule would lead to a policy that chooses the one approach that provides the greatest impact on outcomes for a given level of funding. Thus, based on this rule, the community would select the one early childhood program that provides the greatest dollar benefits for the number of children that can be served with the available funds.

Cost-saving based. This decision making rule requires that programs or strategies produce enough savings to pay back their costs in the long run. In contrast to the effectiveness-based approach, in this case, a program might have the biggest effect on outcomes of all the programs, but, if it did not pay for itself in the long run, it would still not be chosen.

Marginal net benefit based. In this case, policymakers would fund programs or approaches up to the point at which the net benefits to the next person served are equal across programs. This decision making rule would generally result in funding multiple programs up to the levels at which the marginal net benefits were equal.

3. Understanding risk and protective factors

3.1. Overview

This section provides an overview of key risk and protective factors for child development and wellbeing and a review of the factors associated with the escalation of risk for a child or young person, with the intention of identifying optimal intervention points across the life course. It also outlines the processes through which risk and protective factors potentially impact children and young people's development and outcomes, and highlights the importance of understanding the complex interrelationships that 'activate' particular risk and protective pathways. The evidence shows:

- Risk and protective factors influence the course of development through their cumulative impact across time (Loxley et al., 2004).
- Some risk and protective factors have general impacts across multiple outcomes while others have more specific, defined pathways or apply more strongly to a particular demographic marker.
- A range of risk and protective factors can exist at proximal (individual and family) and distal (community and society) levels (Loxley et al., 2004).
- Processes can be implemented to modify the effects of risk factors through targeted preventive interventions (O'Connell et al, 2009).
- The more risk factors that are present, and the longer they persist over time, the greater the subsequent developmental impact.
- As noted previously, parents, play and home environments are critical to child development and health and wellbeing outcomes. Parenting is so influential that it can mitigate the impact of social and economic disadvantage or, conversely, it can cancel out the benefits of other protective factors.
- Recent research has identified a consistent set of strongly supported protective factors that mediate the impact of significant risk factors and adverse life events for young people.

There is a core set of protective factors at individual, family and community levels that are strongly predictive of positive outcomes for young people. For instance, at the individual level, relational skills, self-regulation skills, problem-solving skills and involvement in positive activities can protect even highly vulnerable people from negative trajectories, especially when accompanied by strong parenting competencies, positive peers and caring adults, as well as positive community environment, school environment and economic opportunities (ACYF, 2013).

Conversely, there is a core set of individual, family and community stressors and circumstances that are consistently predictive of a wide range of adverse outcomes for young people. The absence of positive attachment and warm family relationships, poor parenting behaviours such as harsh and inconsistent discipline and limited cognitive

stimulation, the presence of contributors to toxic stress, such as parental mental illness, family violence or substance abuse, and community factors such as unsafe neighbourhoods and schools, social isolation and poverty.

It is clear that many of these factors are malleable. There are a range of preventive interventions that have strong evidence to show they strengthen protective factors and reduce both the likelihood and severity of negative outcomes. There are also established approaches to identifying needs early and significantly moderating their impact and altering children's trajectories. One of the key messages of the risk and protective factor literature is that the antenatal period and children's first three years are crucial to building strong foundations and establishing the competencies that lead to the development of essential relational, self-regulation and problem-solving skills. This is also a critical window of opportunity for engaging with parents, given their openness to change, their contact with the universal child and family health system, and the impact of a mother's health and family circumstances on foetal health.

3.2. An overview of risk and protective factors

This section provides an overview of key risk and protective factors for child development and wellbeing and a review of the factors associated with the escalation of risk for a child or young person, with the intention of identifying optimal intervention points across the life course. It also outlines the processes through which risk and protective factors potentially impact children and young people's development and outcomes, and highlights the importance of understanding that the complex interrelationships that 'activate' particular risk and protective pathways.

This report conceptualises child and youth wellbeing holistically and focuses on the conditions and strategies that promote positive development across domains of wellbeing. As such, the focus of this section is not solely on risk factors for specific negative outcomes, such as child abuse and neglect, mental illness, obesity or youth substance abuse. The report aims to draw together common threads across these outcomes in order to identify the protective factors that promote positive early development and life trajectories and the risk factors that have been demonstrated to lead to heightened risk of a range of poor outcomes – including those that have the greatest impact on government service systems and budgets.

In line with prevention science, this report draws from the experimental, longitudinal and epidemiological literatures to identify the risk and protective factors that are potentially modifiable through preventive intervention (O'Connell et al., 2009, p. 83). It is important to note that risk and protective factors are predictive rather than directly causal. They outline circumstances that have been shown to increase the likelihood of particular outcomes, but not all children experiencing these circumstances will necessarily develop difficulties.

3.3. Defining risk and protective factors

A risk factor is defined as a measurable contributor to later negative developmental outcomes (Loxley et al., 2004, p. 72). This definition reflects a life-stage approach, as developmental outcomes of one life stage impact and shape later outcomes: for example,

poor cognitive development in early childhood is a risk factor for early disengagement from school, while antisocial behaviour in adolescence is a risk factor for more serious antisocial behaviour in adulthood. It also reflects a focus on factors that are modifiable or subject to change through intervention.

The definition of protective factors used here avoids the common convention of describing them as the reverse of risk factors. A number of studies have shown that some risk and protective factors are part of a continuum (children's perception of their closeness to their parents is a predictor of both positive and negative outcomes), while others may have impacts in only one direction (only negative or only positive impacts) (O'Connell et al., 2009, p. 82). This report utilises the convention of Loxley et al. (2004) and conceptualises protective factors as characteristics that buffer, mediate or moderate the influence of risk factors, thereby reducing the likelihood that risk factors will lead to later problem outcomes (Loxley et al., 2004). On this definition, where low levels of protective factors independently cause outcomes they are described as risk factors.

3.4. Levels of evidence

The level of evidence for specific and direct causal pathways between risks and outcomes varies. There is promising evidence for some specific risks for some specific outcomes (ACYF, 2013, p. 17), but the literature largely demonstrates the limitations of trying to detect and measure direct causal pathways. An ecological model demonstrates why the processes through which risk and protective factors combine, are activated and result in particular outcomes for particular children are complex and not always predictable.

The literature on risk and protective factors has advanced through two particular pathways: one body that traces the risk and protective factors associated with specific disorders or outcomes (risk factors for depression or substance misuse, for example) and another that explores the multiple disorders or outcomes that are associated with the exposure to a particular risk factor (the implications of exposure to poverty or maternal mental illness, for example). Within these literatures, there are different levels of evidence in identifying the causal contribution of specific risk and protective factors to specific outcomes. Experimental, longitudinal and epidemiological studies are used to identify factors that have evidence of independent impact on outcomes. That is, where the risk factor can be identified as a predictor of outcomes, after controlling for other known risk factors. Researchers have also identified a number of protective factors by studying the characteristics of children who have avoided adversity after being exposed to difficult childhood experiences such as parental mental illness or extreme poverty (Catalano & Hawkins, 1996).

It appears that some risk and protective factors have general impacts across multiple outcomes, while others have more specific, defined pathways or apply more strongly to a particular demographic marker (some risk or protective factors might be a stronger predictor of outcomes for a particular gender or age cohort, for instance) (O'Connell, 2009). The precise mechanisms of the associations between particular risk factors and particular outcomes is not always clear, however, and there are methodological challenges in dealing with confounding variables and the complex interrelationships between risk and protective factors.

Some risk or protective factors might have clear and direct impacts (for example, maternal alcohol consumption and infants born with Foetal Alcohol Syndrome), while others may be more remote (such as community norms around alcohol consumption). Loxley et al. argue that arcane arguments about causation may not be useful, and suggest that probabilistic relationships between early indicators and subsequent problems may be adequate for designing preventive interventions (Loxley et al., 2004, p. 72). Loxley cites Najman, who argues "... we might usefully think of causes that are closer to (and more distant from) a health [or other] outcome. Rather than conceptualising the causes of disease in binary terms (something is or is not a cause), we can more usefully think of causal pathways with some causes distant from the outcome, e.g. poverty, others at an intermediate point, e.g. cigarette smoking, and others more proximate, e.g. cellular abnormalities" (Najman in Loxley et al., 2004, p. 85).

While there is emerging evidence about causal pathways between specific risk factors and specific child development or wellbeing outcomes, it is also clear that:

risk factors influence the course of development through their cumulative impact across time. This means that there is no single risk factor that lies at the heart of developmental problems. Rather, these problems can be regarded as having complex causes, or multi-determination. The more risk factors that persist over longer periods of time, the greater the subsequent developmental impact (Loxley et al., 2004, p. 72).

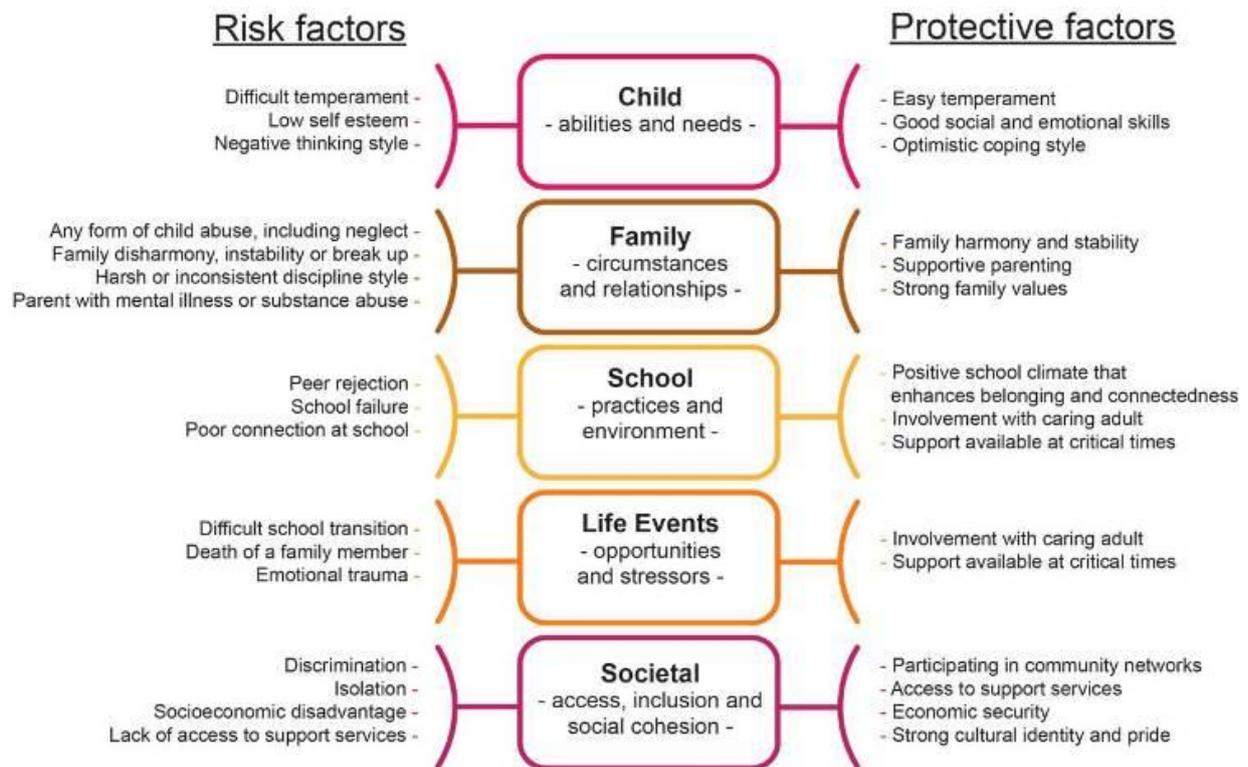
3.5. An ecological approach

Risk and protective factors for child wellbeing are generally framed in terms of an ecological understanding of child development (outlined in section 2.10). A range of risk and protective can exist at proximal (individual and family) and distal (community and societal) levels:

- individual characteristics, including genetic, psychosocial and behavioural factors;
- family and relationships, including attachment relationships with parents, parenting behaviours, peer relationships and social inclusion/exclusion;
- neighbourhood and community, including availability of health services, school community, community safety, local social norms; and
- macro-social factors, including political economy, the cumulative effects of historical factors, social institutions, culture (Loxley et al., 2004, p. 62).

The KidsMatter Framework (Figure 18), for example, outlines a range of risk and protective factors for positive social and emotional wellbeing for primary school children (KidsMatter, 2012, p. 12), from the level of the child's abilities and needs through to social access, inclusion and cohesion.

Figure 18: Risk and protective factors for social and emotional wellbeing in primary school



3.6. Understanding the processes of risk and resilience

Understanding the processes through which risks translate into poor outcomes, and the processes through which protective factors reduce or mitigate the impact or emergence of risk, is crucial for developing effective preventive interventions. Given the inter-relatedness of risk and protective factors, interventions that take into account the multiple factors contributing to a negative outcome are likely to be more effective. Similarly, building protective factors in multiple domains creates stronger buffers against risk factors.

As prevention scientist Michael Little argues, there is appeal in models that attribute poor child outcomes to specific factors, as they appear to provide a clear direction for intervention: poverty and overcrowding are associated with behavioural issues and greater risk of infection, so reducing poverty and providing better housing ought to deliver improved health and behaviour. However, Little argues most children living in poverty, overcrowded conditions or in other stressful circumstances do not develop predicted problems:

the evidence shows that poverty does not cause childhood needs and that overcrowding does not cause behaviour problems just as stress is not the cause of streptococcus. The development of psychosocial problems is more complex than this and such risk factors are just part of the cause (Little et al., 2004, p. 6).

Risk factors work in complex ways; they have cumulative impacts. The same set of risk factors may contribute to different outcomes for different children. Risks operate in different ways at different life stages; the impact of early exposure to particular risk factors may be at later stages, and causal links between risk factors can be counterintuitive (Little et al., 2004). Little argues that while there is a strong body of research supporting the common-sense notion that poor parenting increases the likelihood of a child displaying anti-social

behaviour, it is also clear that child temperament influences parenting behaviour, so that behavioural difficulties elicit critical and hostile reactions from adults (Little et al., 2004, p. 8). Understanding the complex interrelationships between risk and protective factors is important for understanding how to build effective preventive interventions.

O'Connell et al. outline several models for understanding the process by which risk and protective factors influence each other and the development of problems over time.

Models of risk and resilience processes

Main effect: A balance of risk and protective factors, with higher levels of risks leading to higher levels of disorder and protective factors having a potentially counterbalancing effect.

Moderational model: A protective factor may moderate the pathway between a risk and disorder and lessen its impact, while a particular vulnerability may escalate the impact or likelihood of the risk leading to the disorder. For example, variables such as intelligence or positive family environments moderate the impact of stress and reduce the likelihood of developing depression.

Mediational models: A chain of events in which the risk or protective factors operate through their impact on other factors, which in turn effects overall development of disorders. For example, good parenting mediates the impact of poverty, while positive parent-child attachment influences the development of pro-social responses and emotional wellbeing (O'Connell et al., 2009, pp. 90-91).

It is likely that main effect, moderational and mediational models all go some way to explaining the process through which risk and protective factors impact developmental outcomes.

Rutter outlines five processes by which the effects of risk factors can be reduced, processes that can be targeted by preventive interventions:

- by altering the experience of the risk factor (e.g. by coping);
- by altering exposure to the risk factor (e.g. by parental monitoring of child involvement with antisocial peers);
- by averting negative chain reactions (e.g. when harsh parenting leads to child oppositional behaviour, which leads to increased conflict);
- by strengthening protective factors (e.g. self-esteem, adaptive control beliefs); and
- by turning points, which change the total context and provide new opportunities for development (e.g. moving from institutional care to a positive school environment) (Rutter in O'Connell et al., 2009).

3.7. The escalation of risk

It is clear from research to date that there are no simple pathways between risk factors and developmental outcomes. Rather, risk factors have a cumulative impact and outcomes have complex causes involving influences and interactions between multiple risk and protective factors. It is clear, however, that the more risk factors that are present and the longer they persist over time, the greater the subsequent developmental impact (see, for example Vassallo et al., 2002).

O’Connell et al. note that risk factors also tend to be correlated with each other and negatively correlated with protective factors, so that some children and young people are more likely to have multiple risk factors, and those children and young people are much less likely to have protective factors (2009, p. 86). They reference a large study of high school students in which those who were in the highest quintile on a cumulative measure of risk factors were likely to be in the lowest quintile on the measure of protective factors (Pollard, Hawkins, & Arthur, 1999 in O’Connell, 2009).

The presence of risk factors across domains of wellbeing and ecological categories also appears associated with poorer outcomes. O’Connell references another study that demonstrated that although no single risk factor had a strong relation to either disorder or positive development, the accumulation of risk factors across family, parent, peers, and community domains had a substantial effect in predicting multiple problem outcomes (Sameroff, Gutman, & Peck, 2003).

The ACE study provides a very direct illustration of the cumulative impact of adverse childhood events and later health and wellbeing outcomes. It demonstrates clear relationships between illness and health risk behaviours in adulthood and exposure to childhood emotional, physical or sexual abuse and household dysfunction (including substance abuse, mental illness, violence or criminal behaviour). The number and breadth of exposures to negative experiences in childhood is directly correlated with poor health outcomes.

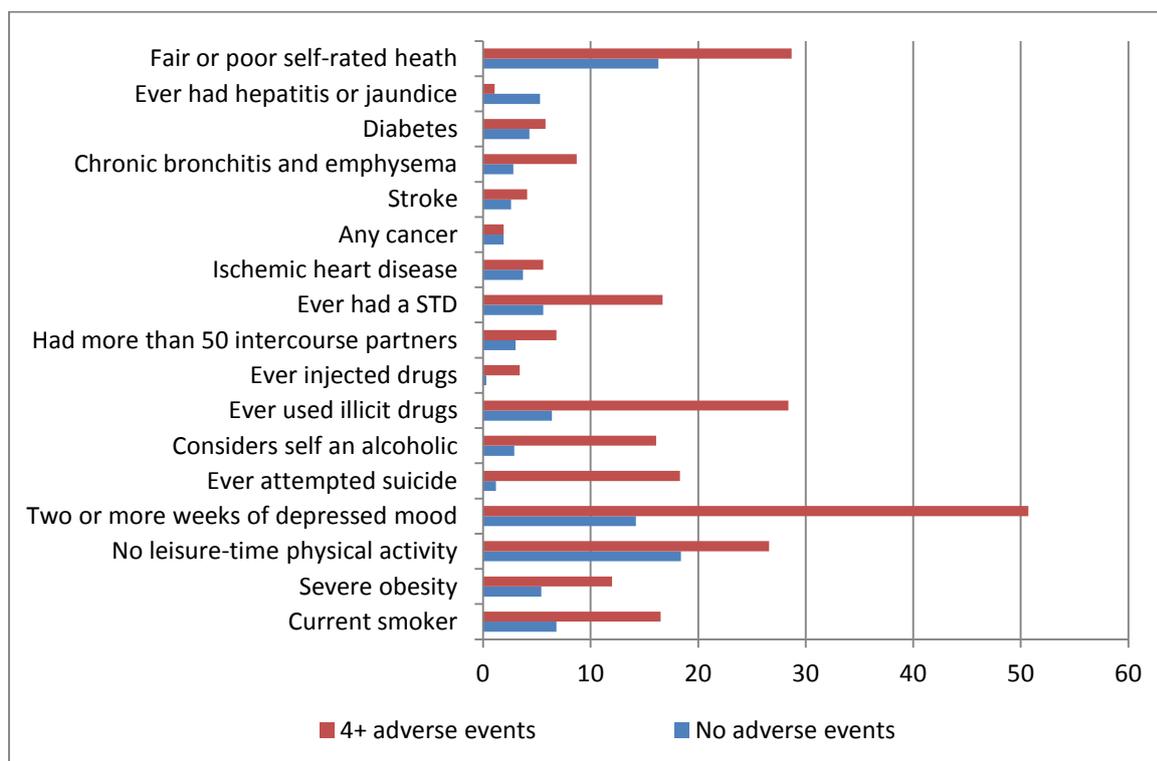
Table 7 shows the number of categories of childhood exposure to adverse events and the percentage of people with health risks in adulthood. There is a steep gradient evident: of those who experienced no adverse childhood events, 56 per cent have no health risk factors and only one per cent have more than four risk factors. Conversely, of those who experienced more than four adverse events, only 14 per cent have no health risk factors and seven per cent have at least four risk factors (Felitti et al., 1998, p. 253).

Table 7: Relationship between number of categories of childhood exposure and number of risk factors for the leading causes of death (Felitti et al., 1998, p. 253).

	per cent with number of risk factors				
	0	1	2	3	4+
0 adverse events	56	29	10	4	1
1 adverse event	42	33	16	6	2
2 adverse events	31	33	20	10	4
3 adverse events	24	33	20	13	7
4+ adverse events	14	26	28	17	7

Graph 1 demonstrates that this gradient applies across a broad range of risky health behaviours, including smoking, severe obesity, physical inactivity, depressed mood, suicide attempts, alcoholism, drug use, injected drug use, high numbers of sexual partners and a history of sexually transmitted disease (Felitti et al., 1998, pp. 252-255). Areas of particularly heightened risk are depression (4.6x more likely), suicide attempts (18.3x more likely), alcoholism (7.4x more likely), and injecting drugs (10.3x more likely) (Felitti et al., 1998, pp. 252-255). These factors clearly create heightened risks for the intergenerational transmission of disadvantage and trauma.

Graph 1: Number of adverse events and prevalence of health risk factors (Felitti et al., 1998, pp. 252-255).



Community level disadvantage and toxic stress are also factors that heighten the impact of risk factors.

The snowballing impact of community-level factors on the escalation of risk.

One heuristic used to describe the cumulative effect of early risk factors is to use the analogy of a snowball (Toumbourou & Catalano, 2005). According to this view, snowball risk trajectory processes start early in life, with adversity in the early years leading to subsequent risk factors that tend to 'adhere' and accumulate as a consequence of earlier experiences (Loxley et al., 2004, p. 72). Social and economic mobility patterns in our society have increased socio-economic differentials and led to a situation whereby children experiencing snowball risk trajectories tend to be disproportionately clustered within disadvantaged geographic communities and schools (Toumbourou et al., 2007).

Neighbourhood-level factors can have direct and indirect impacts on child wellbeing, such that children do not necessarily have to have a high number of individual or family level risk factors to be put at risk by unhealthy community. In this context,

the cumulative effect of risk is more analogous to a snowstorm. According to this view, a child can withstand extreme weather for a brief period but over time the chances of illness through exposure increase. For example, a healthy child may withstand drug use in the peer group and community for a period but, over time, if this behaviour is common the chances of the child becoming involved in drug use increase. Both parents who are unavailable and bad experiences with teachers may increase the chances of the child becoming interested in drug use (Loxley et al., 2004, p. 73).

The snowstorm risk process occurs in communities that have high levels of child development hazards such as injury risks, community disorganisation, and marketing by vested interests for substances, and unhealthy foods (Toumbourou & Catalano, 2005).

Parent and family-level risk factors

A number of major risk factors for child maltreatment are connected to the age, socio-economic status and habits of parents. Sethi et al. (2013) note strong associations between parental mental ill health, substance abuse, parenting stress, poor parenting practice, intimate partner violence, family conflict and poor family solidarity and child maltreatment and a range of other negative outcomes for children.

Available Australian data show family violence, mental health and substance abuse are consistently the most common presenting issues in child protection notifications and substantiations across jurisdictions (Wood, 2008, 130; (Dawe & Harnett, 2007a);(Queensland Child Protection Commission of Inquiry (QCPCI), 2013)). There are extremely high rates of co-morbidity and the majority of children involved with child protection experience multiple risk-factors. An analysis of child protection substantiations in Queensland showed nearly half (44 per cent) of substantiated households had more than one of the five risk factors (family violence, mental health problems, substance abuse, intergenerational abuse and criminal history) (QCPCI, 2013, p. 47). Similarly, an analysis of Victorian children entering out of home care (OOHC) found that 0.3 per cent had 1–3 risk factors, 13 per cent had 4–6 risk factors, 49 per cent had 7–10 risk factors, and 39 per cent had 11 or more risk factors (Bromfield, Sutherland, & Parker, 2012). Aboriginal and Torres Strait Islander families were most likely to experience multiple risk factors (over 55 per cent and 63 per cent respectively) (QCPCI, 2013, p. 47).

As Bromfield et al. (2012) note, families with multiple and complex problems represent the primary client group of contemporary child protection services. They continue, “if families are overwhelmed with multiple and complex problems, a referral to another service that provides material aid may not be optional but a necessary priority. Practitioners may need to then follow through and assist a parent to navigate access to other services. It is only when parents are able to meet the survival and safety and security needs of their family that they will be ready to attend any form of parenting intervention”. The extent of co-morbidity, and the evidence of complex, interlocking and potentially mutually reinforcing factors, indicates the need for holistic and comprehensive interventions that respond to parental emotional

distress, family functioning and child health and wellbeing, rather than singularly focusing on treatment of the presenting issues (Dawe, 2007, p. 48). Parenting styles and positive parenting practices are unlikely to gain traction in situations where parents are themselves dealing with multiple and complex risk factors.

There is evidence that prevention and early intervention services targeted at parents experiencing mental illness, substance abuse and/or family violence, transmits significant benefit to their children. (Appleyard, Berlin, Rosanbalm, & Dodge, 2011), found the mediated pathway from maternal history of sexual abuse to substance use problems to offspring victimisation was significant (standardised mediated path $[ab] = .07$, 95 per cent CI $[.02, .14]$; effect size = .26), as was the mediated pathway from maternal history of physical abuse to substance use problems to offspring victimisation (standardized mediated path $[ab] = .05$, 95 per cent CI $[.01, .11]$; effect size = .19.). They note this finding has specific implications for child maltreatment prevention, "including the importance of assessment and early intervention for maternal history of maltreatment and substance use problems, targeting women with maltreatment histories for substance use services, and integrating child welfare and parenting programs with substance use treatment" (Appleyard et al., 2011, p. 1).

Prevention efforts to support parents in their own social, emotional and mental wellbeing have significant effects for protection of children from harm. Jaffee et al. (2013) identify a number of factors that can help families to break the "intergenerational cycle of abuse". In multivariate analyses, the authors found supportive and trusting relationships with intimate partners, high levels of maternal warmth toward children, and low levels of partner violence between adults distinguished families in which mothers but not children experienced maltreatment from families where both mothers and children experienced maltreatment. They recommend targeting intervention efforts towards women with histories of abuse and neglect, noting that

fostering safe, stable, nurturing relationships between mothers and their partners and between mothers and their children appears to be a key factor in breaking the cycle of abuse from one generation to the next. Thus, prevention studies ... should not only support parents in engaging in warm, sensitive parenting, but should also evaluate the effects of fostering open communication and trust between mothers and their partners on breaking the cycle of violence (Jaffee et al., 2013, p. S4).

Toxic stress and trauma

Toxic stress and trauma risk processes occur when children and young people have intense negative experiences (such as child abuse or neglect and sustained peer bullying) that are maintained over time. The extended arousal of the nervous system and the release of stress hormones such as cortisol can result in permanent damage to the development of the brain, and stress and immunity systems (Middlebrooks & Audage, 2008).

Toxic stress is thus a risk factor for cognitive and physical disability, poor educational outcomes, mental health problems, and physical health problems due to greater infections and chronic health problems. Toxic stress risk processes have more severe effects in the early years when the brain and biological systems are rapidly developing and hence more vulnerable to being permanently damaged (CDC, 2010). Because the development of biological stress response systems is influenced by early experiences, early exposure to toxic stress can 'biologically embed' lifetime vulnerabilities in immune and stress response systems that increase chronic disease and other adverse outcomes (Shonkoff et al., 2009).

Understanding the biological and psychological impact of stress in childhood and adolescence (Shonkoff, 2010)

Positive stress is characterized by moderate, short-lived increases in heart rate, blood pressure, serum glucose, and circulating levels of stress hormones such as cortisol and inflammatory cytokines such as interleukin-6. Precipitants include the challenges of dealing with frustration, adjusting to a new child-care setting, and other normative experiences. The essential characteristic of positive stress is that it is an important aspect of healthy development that is experienced in the context of stable and supportive relationships that facilitate adaptive responses that restore the stress response system to baseline.

Tolerable stress refers to a physiological state that could potentially disrupt brain architecture (e.g., through cortisol-induced damage of neural circuits in the hippocampus) but is buffered by supportive relationships that facilitate adaptive coping. Precipitants include the death or serious illness of a family member, parental divorce, homelessness, a natural disaster, or community violence. The defining characteristic of tolerable stress is the support provided by invested adults that helps restore the body's stress-response systems to baseline, thereby preventing neuronal disruptions that could lead to long-term consequences such as posttraumatic stress disorder.

Toxic stress refers to strong, frequent, and/or prolonged activation of the body's stress-response systems in the absence of the buffering protection of stable adult support. Major risk factors include extreme poverty, recurrent physical and/or emotional abuse, chronic neglect, severe maternal depression, parental substance abuse, and family violence. The defining characteristic of toxic stress is that it disrupts brain architecture, adversely affects other organs, and leads to stress management systems that establish relatively lower thresholds for responsiveness that persist throughout life, thereby increasing the risk of stress-related disease or disorder as well as cognitive impairment well into the adult years.

3.8. Protective factors for on-track development

Much of the risk and protective factor literature is oriented around risks for specific negative outcomes (such as, for depression, substance abuse or child maltreatment) rather than for positive development and wellbeing more broadly. However, there are a number of core risk and protective factors that are present across a multiple studies and multiple negative outcomes, making it clear that there is a consistent set of factors that either promote or hinder child development and establish positive life trajectories.

As this report has already established, the early years are a crucial window of opportunity for intervention, and this is echoed throughout the risk and protection factor literature. Risk and protective factors established during this period have long-lasting impacts, and can set up developmental cascades that promote positive or negative trajectories (Masten & Cicchetti, 2010).

Figure 19, from the UK's Chief Medical Officer, provides a strong synthesis of the key child, parenting, family and community factors that impact how children develop, and the negative impacts of the key risk factors.

A recent meta-analysis also found a consistent set of strongly supported protective factors that mediated the impact of significant risk factors and adverse life events for young people who were experiencing homelessness, child abuse, teenage pregnancy, or transition from OOHC (ACYF, 2013).

What emerges from both of these sources, and the studies they draw on, is the crucial impact of:

- children and young people's social and emotional wellbeing and their ability to forge and maintain positive relationships;
- parenting (or caring) practices that foster positive parent-child relationships, that provide security and involve appropriate boundaries and support for development; and
- connection to community, including a sense of belonging at school, positive community cohesion and access to help and support.

Protective factors with strong levels of evidence (ACYF, 2013)

Individual

Relational skills: Relational skills encompass two main components: 1) a youth's ability to form positive bonds and connections (e.g., social competence, being caring, forming positive attachments and prosocial relationships); and 2) interpersonal skills such as communication skills, conflict resolution skills, and self-efficacy in conflict situations.

Self-regulation skills: Self-regulation skills refer to a youth's ability to manage or control emotions and behaviours. This skill set can include self-mastery, anger management, character, long-term self-control, and emotional intelligence.

Problem-solving skills: Includes general problem-solving skills, self-efficacy in conflict situations, higher daily living scores, decision-making skills, planning skills, adaptive functioning skills and task-oriented coping skills.

Involvement in positive activities: Refers to engagement in and/or achievement in school, extra-curricular activities, employment, training, or apprenticeships.

Family and relationships

Parenting competencies: Parenting competencies refers to two broad categories of parenting: 1) parenting skills (e.g., parental monitoring and discipline, prenatal care, setting clear standards and developmentally appropriate limits) and 2) positive parent-child interactions (e.g., close relationship between parent and child, sensitive parenting, support, caring).

Positive peers: Refers to friendships with peers, support from friends, or positive peer norms.

Caring adult(s): This factor most often refers to caring adults beyond the nuclear family, such as mentors, home visitors (especially for pregnant and parenting teens), older extended family members, or individuals in the community.

Communities

Positive community environment: Positive community environment refers to neighbourhood advantage or quality, religious service attendance, living in a safe and higher quality environment, a caring community, social cohesion, and positive community norms.

Positive school environment: A positive school environment primarily is defined as the existence of supportive programming in schools.

Economic opportunities: Refers to household income and socioeconomic status; a youth's self-perceived resources; employment, apprenticeship, further education; and placement in a foster care setting (from a poor setting).

Figure 19: Overview of risk and protective factors for health and developmental outcomes (Lemer, Hargreaves, Cheung and Strelitz, 2013, p. 2:18)

Child Characteristics	Parents & parenting style	Family factors & life events	Community factors
<ul style="list-style-type: none"> ▪ Low birth weight ▪ Disability/delayed development ▪ Chronic illness ▪ Early behavioural difficulties (difficult temperament, disruptive behaviour, impulsivity) ▪ Poor social skills ▪ Poor attachment 	<ul style="list-style-type: none"> ▪ Single parent ▪ Young maternal age ▪ Drug and alcohol abuse ▪ Harsh or inconsistent discipline ▪ Lack of stimulation of child ▪ Lack of warmth and affection ▪ Rejection of child ▪ Abuse or neglect 	<ul style="list-style-type: none"> ▪ Family instability ▪ Marital disharmony/divorce ▪ Large family size/rapid successive births ▪ Absence of father ▪ Very low level of parental education 	<ul style="list-style-type: none"> ▪ Socioeconomic disadvantage ▪ Poor housing conditions
<ul style="list-style-type: none"> ▪ Social skills ▪ Easy temperament ▪ At least average intelligence ▪ Attachment to family ▪ Independence ▪ Good problem solving skills 	<ul style="list-style-type: none"> ▪ Competent, stable care ▪ Breast feeding ▪ Positive attention from parents ▪ Supportive relationships with other adults ▪ Religious faith 	<ul style="list-style-type: none"> ▪ Family harmony ▪ Positive relationships with extended family ▪ Small family size ▪ Spacing of siblings by more than two years 	<ul style="list-style-type: none"> ▪ Positive social networks (e.g. peers, teachers, neighbours) ▪ Access to positive opportunities (e.g. education) ▪ Participation in community activities (i.e. church)

ADVERSE CHILD HEALTH OUTCOMES ASSOCIATED WITH RISK FACTORS

Physical health outcomes	Behavioural outcomes	Learning/school	Emotional/mental health
<ul style="list-style-type: none"> ▪ Failure to thrive ▪ Child abuse and neglect ▪ Poor physical health 	<ul style="list-style-type: none"> ▪ Aggression ▪ Attention difficulties ▪ Deviant peer group ▪ Risk taking – substance abuse 	<ul style="list-style-type: none"> ▪ Poor cognitive development ▪ Poor speech and language development ▪ Poor reading skills/illiteracy ▪ School failure/early school 	<ul style="list-style-type: none"> ▪ Poor attachment ▪ Anxiety ▪ Depression ▪ Alienation ▪ Suicidal ideation or suicide

3.9. Risk and protective factors by life stage

There are a number of individual, family, life events and community-level risk and protective factors that appear to apply across the life course (Figure 18), although, consistent with previous sections of this report, the antenatal to three period has a heightened importance.

This section outlines the evidence on the key risk and protective processes that have the greatest impact at each life stage, with reference to the developmental processes at work at each of the life stages. Table 8 contains a comprehensive list of the dominant risk and protective factors for each life stage. The table synthesises evidence from a range of meta-analyses, including an extensive analysis of strategies for preventing mental, emotional and behavioural disorders in young people from the US National Research Council and Institute of Medicine (O'Connell et al., 2009), a review of risk and protective factors for substance misuse from the National Drug Research Institute and Centre for Adolescent health (Loxley et al., 2004), and a World Health Organization review of preventing child maltreatment (Sethi et al., 2013). The table includes risk and protective factors that have reliable evidence linking them to the onset or prevention of depression and anxiety, substance misuse and child maltreatment.

Table 8: Key risk and protective factors for positive childhood development across the life course

Protective factors

Risk factors

Community	Family	Individual		Individual	Family	Community			
<ul style="list-style-type: none"> - Access to health and social care services - Screening for health and wellbeing issues 	<ul style="list-style-type: none"> - social support and connections 	<ul style="list-style-type: none"> - parental mental health and wellbeing - maternal nutrition 	Antenatal	<ul style="list-style-type: none"> - preterm birth - genetic factors 	<ul style="list-style-type: none"> - maternal stress during pregnancy - prenatal alcohol exposure 	<ul style="list-style-type: none"> - severe social and economic disadvantage 			
			Infancy				<ul style="list-style-type: none"> - low birth weight - difficult to settle and soothe - unresponsive parent/carer - insecure attachment - toxic stress - abuse and neglect 	<ul style="list-style-type: none"> - harsh parenting - inconsistent discipline - low parental aspirations for child - sole parent - young parents - parental stress - parental anger-hyper-reactivity 	<ul style="list-style-type: none"> - severe social and economic disadvantage
			Preschool				<ul style="list-style-type: none"> - adequate birth weight - easy temperament, good settling and sleep - breastfeeding 	<ul style="list-style-type: none"> - difficult temperament - insecure attachment - hostile to peers or socially inhibited - poor early achievement and poor language and communication skills - abuse and neglect 	
<ul style="list-style-type: none"> - Access to health and social care services - Screening for health and wellbeing issues 	<ul style="list-style-type: none"> - Reliable and reciprocal interactions - secure attachment to caregiver - Material wellbeing - Higher parental education - Cognitive stimulation in the home 	<ul style="list-style-type: none"> - Adequate birth weight - easy temperament, good settling and sleep - breastfeeding 		<ul style="list-style-type: none"> - low birth weight - difficult to settle and soothe - unresponsive parent/carer - insecure attachment - toxic stress - abuse and neglect 	<ul style="list-style-type: none"> - harsh parenting - inconsistent discipline - low parental aspirations for child - sole parent - young parents - parental stress - parental anger-hyper-reactivity 	<ul style="list-style-type: none"> - severe social and economic disadvantage 			
<ul style="list-style-type: none"> - Access to health and social care services - stable attachment to child care provider - low ratio of caregivers to children in care settings 	<ul style="list-style-type: none"> - social connections - material wellbeing - nurturing relationship with parents/carers - ability to provide adequate nutrition, housing, healthcare - cognitive stimulation in the home 	<ul style="list-style-type: none"> - self-regulation and emotional wellbeing - early mastery, intrinsic motivation - planning and problem solving - communication and learning skills - preschool attendance - appropriate peer 		<ul style="list-style-type: none"> - difficult temperament - insecure attachment - hostile to peers or socially inhibited - poor early achievement and poor language and communication skills - abuse and neglect 	<ul style="list-style-type: none"> - harsh parenting - inconsistent discipline - low parental aspirations for child - parental conflict and stress - early family separation 		<ul style="list-style-type: none"> - severe social and economic disadvantage - community stressful events, interpersonal conflict - low social cohesion 		

		relations				
<ul style="list-style-type: none"> - Positive teacher experiences and perceived teacher support -effective classroom management - parent engagement in learning and schooling - school policies to reduce bullying - high academic standards - strategies to promote achievement at school and achievement of goals - participation in extracurricular activities 	<ul style="list-style-type: none"> - time in emotionally responsive interactions with parents -consistent discipline - language-based rather than physically based discipline - extended family support and positive relationships with adult/s outside the family - parental resources, including positive personal efficacy, adaptive coping - positive communication with parents 	<ul style="list-style-type: none"> - learning to read, write and do mathematics -attending school and behaving appropriately - getting along with peers and making friends - preference for pro-social solutions to interpersonal problems - self-esteem, self – efficacy 	Primary & middle	<ul style="list-style-type: none"> - significant behavioural difficulties and conduct disorder -poor school achievement - negative cognitions about self - disengagement, involuntary and emotion-focused coping - poor social skills, including impulsive, aggressive behaviour, withdrawal or poor social problem solving skills - abuse and neglect - loss/traumatic events - bullying - depressive symptoms - poor health - untreated childhood anxiety/stress 	<ul style="list-style-type: none"> - parental depression -lack of parental warmth, high hostility and harsh discipline -overly permissive parenting -favourable attitudes to drugs and alcohol -low parental aspirations -parent-child conflict -family conflict -parental substance misuse 	<ul style="list-style-type: none"> - severe social and economic disadvantage -early school failure -peer rejection and poor quality peer relationships -stressful life events -positive peer/community attitudes to alcohol or drugs -low involvement in community activities -community violence and disorganisation
<ul style="list-style-type: none"> -Integration of family, school and community efforts -socio-economic status 	<ul style="list-style-type: none"> - parental warmth, encouragement and assistance - cohesion and care within the family 	<ul style="list-style-type: none"> - constitutional resilience - pro-social attributes, self-efficacy and self- 	Adolescent & youth	<ul style="list-style-type: none"> - difficult temperament, inflexibility - low positive mood, withdrawal 	<ul style="list-style-type: none"> - parental depression - parent-child conflict - parental rejection, 	<ul style="list-style-type: none"> - severe social and economic disadvantage - peer rejection and poor quality

<ul style="list-style-type: none"> -positive school experience -safe schools -safe communities -service access -positive social norms 	<ul style="list-style-type: none"> - positive communication - close relationship with adults outside the family - non-blaming parenting - skills valued by others - appropriate structure, limits, rules, monitoring, predictability - balance of autonomy and monitoring - opportunities to belong 	<p>esteem</p> <ul style="list-style-type: none"> - strategies to respond to stress, flexible, persistent - healthy physical development, good health habits - academic or other achievement - communication and language skills - sense of adult status, making independent decisions - developing financial independence - depression and anxiety 		<ul style="list-style-type: none"> - negative thoughts, low self-worth, perceived incompetence - insecure attachment - disengagement and involuntary and emotional coping - poor social skills - poor problem solving skills - extreme need for approval and support 	<p>lack of warmth, high hostility, harsh discipline</p> <ul style="list-style-type: none"> - child abuse or neglect - family conflict - inadequate supervision and monitoring, inconsistent discipline - parental drug and alcohol use 	<p>relationships</p> <ul style="list-style-type: none"> - low commitment to school - stressful events - community norms favourable to drug/alcohol use - positive peer attitudes to alcohol or drugs - availability of drugs and alcohol - deviant peer groups
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4. Priority intervention points for child and youth wellbeing

4.1. Overview

Central to the development of a prevention and early interventions system to support positive child outcomes is the consideration of the cumulative evidence about:

- what universal platforms are required to provide the right foundations to promote positive outcomes; and
- when and how to intervene, for whom and with what service or program, in order to prevent negative trajectories.

The evidence presented in the preceding chapters builds a compelling case for prevention and early intervention in general. It also clearly identifies risk and protective factors by life stage that should be leveraged or used as part of early identification systems to foster positive outcomes and prevent the accumulation of risk. This section builds on that conclusion to provide more detailed consideration of the evidence supporting the 'what' and 'when' of intervention – the priority pathways or intervention points and the programs and services proven to be most effective.

Key considerations include:

- The child development science and, in particular, early and adolescent brain development;
- The economic and social impacts of investments in prevention and early intervention; particularly in the first five years;
- The benefits for population health outcomes of a proportionate universalism approach;
- The integrated and enmeshed nature of risk or protective factors at individual, family and community levels, which together build positive physical and mental health and social and emotional wellbeing and establish positive trajectories, or which place children at significantly greater risk of poorer outcomes; and
- The recognition that different risk and protective pathways may 'activate' at particular life stages, at significant transition points or following key life events.

This evidence, together with the evidence based on effective interventions described in this section and in Appendices A to F, points towards priority pathways for preventive intervention. There are effective and important preventive interventions in multiple domains of wellbeing and across the life course. However, the best investments are made in three key preventative areas:

- In the antenatal to age five period, particularly through investment in universal services that provide holistic health, learning and parenting support, along with early

needs-identification of potential risk factors and comprehensive support for families with established risks and low protective factors to prevent escalating negative trajectories (such as employing proportionate universalism to respond to early signs of vulnerability and disadvantage);

- in parenting - both universal, systems approaches and targeted interventions at different life stages to engage parents, to foster nurturing and skilled parenting from prior to birth and again throughout key life transition points; to develop positive social norms and constructive, preventative help-seeking behaviours; and to respond early to prevent risk factors escalating across the life course; and
- in universal and targeted mental health programs to support development of social and emotional wellbeing, fostering resilience and leveraging the strengths of individual, family and community contexts to prevent serious problems in adulthood stemming from multiple risk factors or emerging challenges of changing circumstances.

Detailed evidence for interventions across each life stage is contained in this section. In summary, listed below are those interventions or pathways which have:

- reasonably high levels of evidence to support efficacy;
- address the key or multiple risk and protective factors identified in Section 4, Table 8; and
- leverage the child development science of brain development and early intervention or preventative influence.

Table 9: Priority intervention pathways for each life stage

Life stage	Priority intervention pathways
Antenatal	High quality antenatal care, breastfeeding preparation, smoking cessation, maternal mental health, maternal alcohol use
Infancy and early childhood	Access to health and social care, parenting skill development, home learning environment, promoting breastfeeding, social connections and support, nutrition, physical activity and obesity prevention
Preschool	Early education, parenting skill development, behavioural issues and social and emotional wellbeing, speech and language development home learning environment, transition to school
Primary years	Parenting skill development, school-based nutrition, physical activity and obesity prevention, engagement in learning, school-based social and emotional wellbeing promotion, participation in sport and community activities, parent engagement in learning and schooling,
Middle years	Parenting skill development, promoting engagement with school and preventing disengagement, learning support, behavioural issues, school-based health and wellbeing, preventing substance misuse, transition to high school

Adolescence and youth

Preventing disengagement from school, mental health promotion, access to health services, sexual health promotion, preventing risky behaviours, young parenthood, preventing substance misuse, community connectedness and participation, crime prevention, restorative justice, suicide prevention, career pathways and transition

4.2. Interventions in context

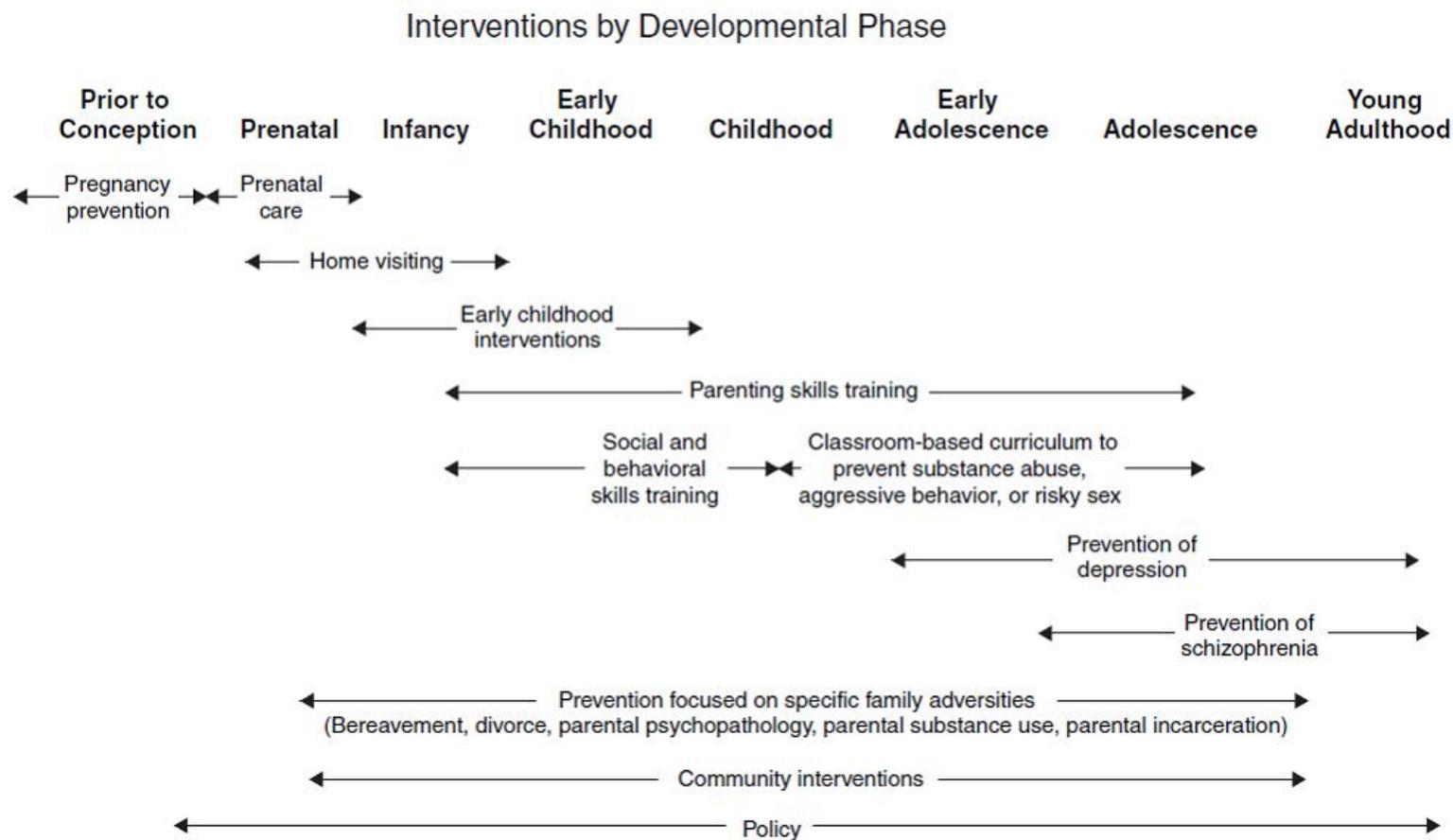
While this section and the supporting Appendices necessarily focus on specific programs, the need to implement interventions within an effective preventive system in order to be most effective is emphasised. To be genuinely effective, a program must also be part of an effective system and implemented for the right people at the right time in the life course – that is, the ‘what’ of services needs to be based on programs and services proven to work; the ‘how’ and the ‘who/when’ is based on sound needs identification, assessment, referral and appropriate targeting (see Section 7 for detailed evidence and discussion).

Further still, the application of programs and the implementation of needs assessment and referral should leverage the benefits of prevention and early intervention approaches, using a system of proportionate universalism, and building on the strengths of the local community context - layers of the child’s lived experienced in an ecological model. There will be some overarching policy settings which, for example, promote good health and wellbeing for children and adults throughout the life course, and strategies at community, family and individual level which promote protective factors (for example, resilience) and prevent poor physical and mental health and wellbeing outcomes. There will also be intervention points or ‘trigger’ points for assessment and early needs identification.

A suite of preventative and early interventions therefore could be mapped across the life course in a tiered manner as illustrated, by way of example, in Figure 20. Such a suite would leverage the natural development phases and transition points or ‘triggers’ of the life course (becoming pregnant, mothers returning to work, entry into early learning, starting school, transition to high school, and so on).

However, reliance solely on existing systemic or naturally occurring triggers and proactive help-seeking behaviours on the part of parents for accessing services will be insufficient for achieving population-level impacts and ensuring services are provided before risks escalate. For example, the absence of intervention triggers for non-working parents of young children 0-3 years creates a significant service gap when the science would dictate preventative intervention would have most impact. Similarly, while risk factors can accumulate for youth and around transitions such as leaving school, intervention in the middle years (pre- or early adolescence, 9-14 years) may be the best period for developing social and emotional wellbeing and coping skills to remain resilient through changes in circumstance of puberty and young adulthood.

Figure 20: Sequencing of preventive interventions (O’Connell, Boat and Warner, 2009, p. 155)



4.3. Priority preventive pathways

Early years

As this report has established, interventions focused on the early years (antenatal to age five) are the most effective for establishing positive development pathways and preventing a host of negative downstream outcomes. Early years interventions yield the highest returns on investment and have the strongest evidence to support their effectiveness. The impact of early years investments carry through to adolescence, transition to workforce participation and, potentially, through to the next generation of children. The interventions with the strongest evidence in the early years are high quality early learning, sustained nurse home visiting and parenting education, with promising evidence for interventions focused on improving the home learning environment.

However, the 0-5 period is where families have the least amount of regular contact with the service system. After maternal and child health visits during the first year, further contact with the service system is sporadic for many families. The strongest universal platform for this age cohort is early education and care (ECEC), but ECEC services in Australia do not consistently provide integrated learning, health and parenting support (although there are a number of examples of good practice and emerging evidence of their effectiveness).

Australia is also behind the best-performing OECD countries in terms of the proportion of children accessing early education and care (especially for three year olds). A number of community organisations (funded by state and federal governments) provide a range of 'soft entry' and targeted early years services (of varying levels of evidence and effectiveness), but the pathways into these services are not always clear. These 'soft entry' services do not always act as a conduit to more intensive support when needed and access to services and support has been described as a 'postcode lottery'.

There is a strong and compelling case for the creation and systematisation of a comprehensive and holistic universal child and family service platform. A platform that encompasses outcomes-driven parenting, learning and health programs and practices, accessed through 'gateways' such as child and maternal health services, early education and care settings, children's centres and parent and community capacity building programs. This type of platform provides a clear access point to support, helps normalise help-seeking and the access of support, and provides the opportunity to more comprehensively capitalise on families' contacts with the service system. These presently under-utilised and often under resourced 'gateways' all provide 'soft' engagement for families in the context of genuine relationships, and have the potential to provide links and referral pathways to formal supports.

Key priorities in the early years are:

- Implementation of a comprehensive and coordinated universal platform of services for all infants and toddlers (antenatal-5 years) comprising integrated health, learning and parenting support delivered through child and maternal health services, playgroups, sustained nurse home visiting and access to quality early childhood

education and care (for example, through children's centres or local early years service maps).

- Expansion of evidence-based programs to support the development of foundational cognitive and literacy skills in the early years, as a key foundation for future educational achievement, employment, and economic and social participation.

The most effective universal service platforms for the antenatal to five period are outlined in the following section, but they combine open and accessible early years services with an explicit responsibility for assertive outreach for the families most likely to disengage from services.

Strategies that will improve early childhood learning and development would also include parenting and family support for groups identified as most vulnerable through the AEDI, such as those living in remote areas, those living in socio-economically disadvantaged communities and Indigenous children. Implementation models and options are discussed in Part 2 of this report.

Parenting

Parenting behaviours are a key driver of improved outcomes for children across multiple domains and all age cohorts. The evidence demonstrates that positive parenting is a protective factor for a range of negative outcomes (including child behavioural problems, poor language development, mental illness, obesity, disengagement from school, substance misuse, antisocial behaviour) and across all age cohorts. There is also consistent evidence that parenting behaviour is modifiable and that parenting education and parent-child therapeutic approaches are effective in improving outcomes, particularly when they take into account, and have the capacity to respond to, the contextual factors that impact the ability of parents to parent effectively.

Given this evidence, there is a strong rationale for the provision of universal parenting information and education and the provision of targeted parenting programs, utilising existing universal platforms (especially schools) to normalise access to parenting support.

Research clearly shows that what parents do matters and that influencing what parents do at home, providing resources and experiences to support child development, together with access to group-based programs, will aid child health and wellbeing outcomes. However, a more holistic approach to supporting parenting is required. Some individual parental programs have been proven to work but are not always holistic and joined up to influence child development in the broadest possible way.

Further, AEDI data shows that it's not just 'poor' parents who need guidance to support good child development outcomes. Universal approaches are needed to reach all parents. An increase in the valuing of parenting and the social norms to support good parenting - establishing norms which respect and enable parents as first teachers - will both aid child development and provide the necessary foundations, for example, for further enabling early education and health, education and family services staff to engage parents. Well-designed social marketing strategies including communications and other significant program elements is recommended in order to:

- support the development of a shared understanding of child development and its importance in the early years
- increase the support for parents and the valuing of their role as first teachers
- influence parents in-home activities that impact readiness
- develop a shared understanding of quality early education and the value of participation in centre-based activities and address the current alternative norms of 'child care' and 'day care' (as a support for working parents, not as a child development tool). This would be combined with a repositioning of early childhood education settings and investments in workforce, programs and services to enable this service platform to provide more preventative and holistic child development services (as discussed previously).

A detailed examination of the evidence supporting particular interventions for parenting is contained in the summary tables to follow and in the Appendices. Discussion of systems and implementation issues, including case study examples, is contained in Section 7. Proven strategies and promising programs include:

- Preventative promotional approaches (social marketing programs) to influence parental beliefs, role construction and behaviours which can yield up to ten per cent impact based on overseas experiences
- Holistic, sustained home visiting programs from prenatal to two years which engage parents and children in development activities and influence factors known to positively impact school readiness and transitions and respond to vulnerabilities within the family.
- Universal access to parenting programs that focus on positive early attachment and early learning, and more normalised access to parenting support.
- Strategies that promote school readiness, for example, activities for 0-4 year olds and parents integrated into the school.
- Non-stigmatising access to parenting interventions for children with emerging behavioural issues or for children at risk of conduct disorder and other more severe disorders. School-based programs or referral pathways should be considered.
- Examples of NGO collaborations, the development of supported (facilitated) playgroups, school-based child and family centres (state and commonwealth funded) and extended school models have shown promise in engaging parents and other community members. Australian child and family centres and extended school models are still under development, however, and evaluations are pending (see the following section for further discussion).
- Strengthening family and school relationships to improve parent engagement in their children's learning. Parent engagement in learning is a strong predictor of improved academic and social and emotional wellbeing outcomes in primary school and

through to adolescence. There is a coherent set of parenting behaviours that have been demonstrated to lead to improved learning outcomes, even after controlling for socio-economic status (OECD, 2012). Family-school relationships are under-utilised as a platform for communicating and fostering these key messages and behaviours.

- Child-family interventions (such as Multisystemic Therapy (Littell, 2009; MST Services, 2014; NICE, 2013, p. 11)) for adolescents experiencing or at risk of disengagement from school or substance misuse.

Social and emotional wellbeing and mental health

Key protective factors across the life course include the development of personal attributes (such as self-efficacy, self-esteem, planning and problem solving abilities, the ability to adapt and cope, positive communication and language abilities) and interpersonal and relational skills (such as a preference for pro-social solutions to interpersonal issues, positive peer relationships, social problem solving skills, empathy). The foundations for skills and abilities are established in the early years, through nurturing and responsive interactions with parents and carers that help children to develop emotional regulation and positive interactions with others.

There is strong evidence to support interventions that consolidate and build on these skills to enable children and adolescents to respond and adapt to emerging challenges. Blank et al. (2008) identify three core components of social and emotional wellbeing that are modifiable through preventive intervention:

- Emotional wellbeing, including happiness and confidence, and the opposite of depression/anxiety;
- Psychological wellbeing, including resilience, mastery, confidence, autonomy, attentiveness/involvement, and the capacity to manage others and to problem solve; and
- Social wellbeing, including good relationships with others, and the opposite of conduct disorder, delinquency, interpersonal violence and bullying (Blank et al., 2008, p. 5).

Given it is clear that “many serious problems we see in adulthood (depression, substance abuse, family violence, criminality) have their origins in pathways that begin much earlier in life, often with childhood behaviour and emotional problems” (J. Bayer et al., 2009, p. 696), the rationale for investment in school based prevention and early intervention for social and emotional wellbeing is strong.

Research has shown that programs which build individual self regulation, resilience and capability have been successful in assisting children and young people, including the most disadvantaged, to overcome adverse circumstances by building social and emotional wellbeing, ultimately leading to successful life outcomes. This is important in light of the consensus (spanning criminology, education, medicine, psychology, public health, social work and sociology) that no single pathway leads to poor outcomes such as school failure, drug use, delinquency, self harm, suicide, and violence towards others. Rather, it is the

accumulation of risk factors, or the accumulation of adversities and traumas experienced by children and families, that seem to disrupt normal developmental trajectories (Jenson & Fraser, 2011, p. 8, cited in ARACY, 2012c).

A range of preventive and early intervention strategies are needed to increase resilience in children and young people, recognising the important role that is played by families and communities in resilience building. These strategies should include increased investment in parental support and development of parenting skills tailored to key life stages and transition points and targeted to families under stress. This would include increased resources to detect, manage and support mothers with perinatal depression and other mental health challenges relating to pregnancy, and increased support to address parental mental health issues more broadly.

The investment in an early years system of care (such as sustained nurse home visiting) and in improved support for parenting (universal and targeted, discussed above) would include a focus on mental health. The early years are the foundational years for building social and emotional wellbeing. Self-regulation, a key task in the early years, develops one's ability to manage energy states, emotions, behaviours and attention in ways that are socially acceptable and help achieve positive goals, such as maintaining good relationships, learning, and maintaining wellbeing. It provides the cornerstone for healthy social and emotional development including the ability to deal effectively and efficiently with life stressors (evidence cited in ARACY, 2012c).

Further interventions to improve social and emotional wellbeing would include:

- Implementation of evidence-based whole-of-school interventions to promote resilience in every school.
- Expansion of initiatives to target bullying, and mentoring programs for vulnerable children and young people to build resilience and capacity.
- Expansion of parental support programs tailored to particular skills and capabilities at key life stages and transition points and targeted for families under stress such as those living with mental health or drug issues, financial pressures or family violence.
- Whole of community strategies and education to promote strong mental health outcomes, de-stigmatise mental illness and to support proactive help-seeking behaviours for early intervention.

The late primary school and early adolescent or 'middle years' offer an important opportunity to further build capacity and resilience to improve outcomes in later years. Support to children and young people in the middle years assists them to transition from childhood to adolescence, helps them to remain engaged with their schools, stay connected to friends and family and equips them with skills and capabilities to manage challenges constructively. Early intervention during these years can be particularly effective, supporting children and young people to resolve emerging issues such as peer violence or alcohol abuse before they become long-term problems (see Section 2).

In particular, community and school-based mental health promotion initiatives promoting social connectedness and providing children from low socio-economic backgrounds with access to social activities they may otherwise be excluded from, have the potential to provide children with the protective factors that may safeguard against the development of mental health problems (Davies, et al., 2007, in ARACY, 2012b).

The evidence suggests that universal systematic whole-school approaches, targeting schools, classrooms and individuals, appear to be the most effective at preventing and managing all forms of bullying behaviour (Pearce, et al., 2011; United States Department of Health and Human Services, 2012, in ARACY, 2012b).

A mentoring relationship can provide children and young people with important protective factors to support their social and emotional wellbeing, including a relationship with a caring adult, connectedness with peers and others, and individual competencies (Beltman & MacCallum, 2006). Evidence has shown that mentoring can be particularly effective for vulnerable young people, operating as a form of early intervention that can build resilience and capacity (Costello & Thomson, 2011, in ARACY, 2012c). For example, young people involved in mentoring programs are less likely to leave school early, less likely to become involved in criminal activity, and more likely to have better relationships with their teachers and family compared to their peers who are not mentored (Tierney et al., 2000, in ARACY, 2012c).

Implementation of programs to prevent or manage bullying also need to be accompanied by efforts to build each school's capacity, enabling them to put evidence into informed practice. Specific interventions which have been associated with a decrease in bullying include parent training/meetings, teacher training, improved playground supervision, disciplinary methods, cooperative group work between professionals, school assemblies, information for parents, classroom rules and management and whole-school anti-bullying policies (Pearce et al., 2011, in ARACY, 2012b).

Examples of school-based mental health promotion projects and examples of programs which have a particular focus on working with identified children and young people who may be at risk of or are experiencing anxiety and/or depression, and which address bullying, are identified in the Appendices.

4.4. Priority intervention pathways by life stage

Decision factors about which program to include in the system may involve: consideration of the size and time within which impacts are realised; the cost effectiveness of programs relative to these benefits; and the applicability and implementation in Australia and within the specific NSW context. However, there are limitations on the available evidence in Australia to provide definitive answers to the questions of optimum investment at this level. Further, the scope of this report is limited to collation of existing evidence and does not include detailed analysis beyond this, such as the cost benefit analysis required to draw such conclusions.

The content of this section is therefore driven by the preceding evidence on early intervention and risk and protective factors and the examination of the available evidence

for intervention at each life stage. As such, the review highlights the intervention pathways that have the strongest evidence for promoting positive child development, for preventing common developmental challenges and for intervening early when significant issues emerge. The priority intervention pathways for each life stage have been identified on the basis that they address the key risk and protective factors for that stage of development and where there is strong evidence that strengthening investment and service delivery quality in those pathways will improve outcomes for children and their families.

The primary focus of this evidence review is approaches that prevent (or reduce the incidence of) developmental issues or which provide early intervention when issues arise. It focuses on approaches that can be delivered universally or which can be targeted at priority populations. The review does not consider treatment options or tertiary interventions although they would be a necessary part of a comprehensive health and social care system reaching beyond the scope of prevention and early intervention. However, it follows from the previously presented evidence on effectiveness of prevention and early intervention that the re-orientation of the system towards these interventions should prevent the need for as much tertiary service provision.

Appendices A to F provide comprehensive discussion of the importance and impact of each intervention pathway, as well as a snapshot of effective programs, the outcomes they achieve, cost-benefit data (where available), and the level of evidence to support their effectiveness. This is not a comprehensive list of effective programs; rather, it is an indicative list, focusing on areas of priority intervention.

This section attempts to answer the question of 'what' should be delivered. Where possible, it identifies specific programs that have been proven to be effective and that may be suitable for implementation and scale-up in Australia. The issue of 'how' they should be delivered is equally important, and is addressed in more detail in Part 2 of the report.

While there is strong evidence to support the importance of the majority of the intervention pathways identified, there is not always strong evidence for specific programs, methods of delivery, or ways of identifying or screening for needs. Our analysis identifies where there is a strong level of high quality evidence to support the effectiveness of the pathway and/or program (multiple randomised controlled trials or quasi-experimental studies) or, where high quality evidence is available, there is a very strong theoretical rationale supported by emerging evidence.

Table 10 provides a detailed summary of the evidence supporting the identification of each pathway in each life stage.

Table 11 provides some indicative examples of evidence-based programs for each pathway in each life stage. The programs listed and the ratings provided are not the product of a systematic review and should be read as examples for illustrative purposes rather than as an exhaustive analysis. Similarly, the rating provided are a guide to the type of evidence underpinning the program, rather than a definitive ranking of their effectiveness.

Table 10: Priority intervention pathways and rationale

Antenatal	
<p>Protective factors</p> <ul style="list-style-type: none"> • Access to medical and social care • Social connections and support • Positive health and nutrition 	<p>Risk factors</p> <ul style="list-style-type: none"> • Presenting late for antenatal care • Smoking, alcohol use, substance misuse • Household stress and family violence • Parental mental health • Pre-term birth
<p>High quality antenatal care</p>	<p>Antenatal services play an important role in preventative care, as well as in the early identification of vulnerability and risk and provision of timely support and referral to address additional needs. For vulnerable families, access to services, lack of optimal care, poor communication and collaboration and a lack of continuity of care are recurrent challenges (Schmied, Cooke, Gutwein, Steinlein, & Homer, 2008, p. 7)</p>
<p>Breastfeeding preparation</p>	<p>Breastfeeding protects children from a range of later problems including reducing the risk of ear (otitis media) and lung infections, asthma, obesity, diabetes, sudden infant death syndrome, dermatitis, gastrointestinal disorders (coeliac and inflammatory bowel disease) and leukaemia, and appears to have an impact on neurodevelopmental outcomes including intelligence (Barlow and Blair, 2013, p. 6:3). It helps promote bonding and attachment, while also having health benefits for mothers (NHMRC, 2012, p. 16).</p>
<p>Smoking cessation</p>	<p>Smoking during pregnancy is associated with impaired foetal growth, low birth weight and preterm birth, as well as an increased risk of miscarriage, stillbirth, neonatal death and sudden infant death syndrome (BMA, 2004).</p>
<p>Maternal mental health</p>	<p>There is some evidence to show that maternal mental ill-health during pregnancy has independent and adverse impacts on birth outcomes (Grote et al., 2010) and on continuing depression in the postnatal period (Heron et al., 2004). A British longitudinal study found that depression in pregnancy was associated with poorer infant development and later child outcomes. For instance, they found that depression during pregnancy was strongly associated with violence in adolescence, even after controlling for the family environment, the child's later exposure to maternal depression, the mother's smoking and drinking during pregnancy, and parents' antisocial behaviour (Hay, Pawlby, Waters and Sharp, 2008). There is also emerging evidence that maternal depression can impact epigenetic pathways (Gray, 2012, p. 5.3).</p>
<p>Maternal alcohol use</p>	<p>Foetal Alcohol Syndrome Disorder (FASD) is the largest cause of non-genetic, at-birth brain damage in Australia (House of Representatives, 2012, p. 1). FASD can result in a range of impairments, including learning difficulties, a reduced capacity to remember tasks from day to day, anger management and behavioural issues, impaired speech and muscle coordination, and physical abnormalities in the heart, lungs and other organs (House of Representatives, 2012, p. 1).</p>
Infancy and early childhood	
<p>Protective factors</p> <ul style="list-style-type: none"> • Adequate birth weight • Attachment and nurturing relationship with caregivers • Material wellbeing • Adequate nutrition and breastfeeding 	<p>Risk factors</p> <ul style="list-style-type: none"> • Low birth weight • Difficult temperament • Insecure attachment and harsh responses from carers • Inadequate housing

<ul style="list-style-type: none"> • Stimulating home learning environment • Access to health and social care 	<ul style="list-style-type: none"> • Low parental aspirations for child • Parental substance misuse • Toxic stress
<p>Access to health and social care</p>	<p>There is evidence that universal health services in developed countries are not available equally and are not accessed by all women, children and families. Maternal and neonatal outcomes are poorer for women from disadvantaged, vulnerable or socially excluded groups, although national-level data is often incomplete. Schmied, Homer, et al. (2008, p. 7) note that state reviews of maternal and child health identified the inadequacy of maternity services in responding to the needs of vulnerable and disadvantaged families, finding that vulnerable families did not receive the care they needed, with overlaps in roles of service providers, lack of coordination of available services and few mechanisms to transition care from one service to another.</p>
<p>Parenting skill development</p>	<p>Parenting during the first three years is one of the most significant determinants of children’s early language acquisition, their cognitive development, their sense of self and security, their emotional regulation and their ability to form positive peer and other relationships. The introduction to parenting provides a window of opportunity to shape and influence norms and expectations about child development and the kinds of parenting behaviours associated with better development outcomes, and potentially to establish help-seeking and information-seeking practices.</p>
<p>Home learning environment</p>	<p>Longitudinal data confirms that the home learning environment exerts significant influence on young children’s cognitive and language development, with impacts on attainment at preschool and transition to school (Sylva et al., 2004). Sylva et al. show significant effects on cognitive, language and social development, with the strongest effect being on cognitive development. The home learning environment also has a stronger effect than either social class or parental education, which in previous studies have often been found to be amongst the strongest predictors of children’s cognitive development</p>
<p>Promoting breastfeeding</p>	<p>Breastfeeding protects children from a range of later problems including reducing the risk of ear (otitis media) and lung infections, asthma, obesity, diabetes, sudden infant death syndrome, dermatitis, gastrointestinal disorders (coeliac and inflammatory bowel disease) and leukaemia, and appears to have an impact on neurodevelopmental outcomes including intelligence (Barlow and Blair, 2013, p. 6:3). It helps promote bonding and attachment, while also having health benefits for mothers (NHMRC, 2012, p. 16).</p>
<p>Social connections and support</p>	<p>Enhancing social connections and developing opportunities for informal social support is an important strategy for strengthening child and family wellbeing: “families with rich social support networks have increased access to information, resources and friendship networks which assist them in their day-to-day lives and in the parenting of young children” (Ferguson, 2006; Hoffmann-Ekstein, 2007; Leonard and Onyx, 2003, Scott, 2001; Winter, 2000(Izmir, Katz, & Bruce, 2009).</p>
<p>Nutrition, physical activity and obesity</p>	<p>Evidence shows that children who are overweight or obese as early as two years of age are more likely to be obese as adults. Child obesity has been associated with a wide range of health and psychosocial problems in childhood, including respiratory disorders, high blood pressure, sleep apnoea and musculoskeletal disorders, with evidence also pointing to an elevated risk of developing type 1 or type 2 diabetes (Strelitz, 2013, p. 3:13). Obese children are also more likely than non-obese children to experience psychological or psychiatric problems, including low self-esteem, depression, conduct disorders, and reduced school performance</p>

and social functioning (Halfon, Larson and Slusser, 2013).

Preschool

Protective factors

- Self-regulation, secure attachment
- Cognitive skills, early mastery of skills, planning and problem solving ability
- Communication and language skills
- Positive peer relationships
- Material wellbeing
- Stimulating home learning environment
- Adequate nutrition
- Access to health and social care
- Access to high quality early learning

Risk factors

- Difficult temperament
- Insecure attachment
- Harsh and inconsistent discipline
- Poor peer relationships
- Toxic stress
- Obesity
- Parental substance misuse
- Low parental aspirations

Early education

Participating in early education is one of the strongest predictors of children’s academic outcomes, with Melhuish et al. arguing that “high quality early childhood education and care will shift the population curve for child outcomes, and this is the only type of early intervention for which evidence is currently available for shifting the population curve through enhancing the development of all children in the relevant population, rather than lifting the ‘tail’ of the population through targeted intervention (Melhuish, Belsky, & Leyland, 2012, p. 10). There is consensus among researchers that high quality early learning environments improve cognitive and wellbeing outcomes for children (Centre for Community Child Health, 2003b; Ghate and Hazel, 2002; Shonkoff and Phillips, 2000). The landmark British study, *Effective Provision of Pre-School Education*, demonstrated the robust link between participation in preschool and early literacy and numeracy, as well as the link between the quality of the educational environment and impact on children’s learning (Sylva, Melhuish, Sammons, Siraj-Blatchford and Taggart, 2004; Burger, 2010).

Parenting skill development

Parenting has a significant effect on a child’s development and long-term life opportunities. There is strong evidence that the single most important factor influencing a child’s intellectual and social development is the quality of parenting and care they receive and the quality of the home environment that this creates (Paterson, 2011). There is consistent evidence that poor parenting behaviours are associated with a range of adverse cognitive, emotional and physical health outcomes (and eventual mortality) including: language acquisition, behavioural and conduct disorders, antisocial and risk-taking behaviour, substance abuse, criminality, emotional detachment, mental health issues, cardiovascular health problems, obesity and type II diabetes (McCain, Mustard and Shankar, 2007; Allen and Duncan-Smith, 2008; Boivin and Hertzman, 2012).

Behavioural issues and social and emotional wellbeing

In Australia, it is estimated that 14 per cent of young people with clinically significant mental health issues, including children as young as 4 (Table x) (Sawyer et al., 2000, p. 10). Additionally, around 19.3 per cent of boys aged 6-12 meet the diagnostic criteria for ADHD, 4.8 per cent develop conduct disorder and 3.7 per cent experience depressive disorder (Sawyer et al., 2000, p. 20). Parenting interventions are also effective for children with significant behavioural difficulties, early signs of conduct disorder and early signs of mental ill-health.

Speech and language

The early years establish the cognitive and language skills that set the foundation for future development. Preston et al. argue that “the preschool years are as such

development	an optimal time for the development of early receptive and expressive language skills, and recent research suggests that the age of functional language acquisition impacts on not only later reading and language behaviour, but also the 'corresponding neurocircuitry that supports linguistic function into the school-age years' (Preston et al., 2012, in Barlow and Blair, 2013, p. 6:4).
Home learning environment	Longitudinal data confirms that the home learning environment exerts significant influence on young children's cognitive and language development, with impacts on attainment at preschool and transition to school (Sylva et al., 2004). Sylva et al. show significant effects on cognitive, language and social development, with the strongest effect being on cognitive development. The home learning environment also has a stronger effect than either social class or parental education, which in previous studies have often been found to be amongst the strongest predictors of children's cognitive development
Transition to school	Extensive national and international research over the past decade has given clear understandings of the importance of the transition to school for young children. Effective transition-to-school models use a family-focused, relational approach to facilitate positive relationships: a) opportunities for linking children and families to schools b) opportunities to foster relationships between children who will attend school together prior to school commencement and c) avenues for relationship-building between teachers in early childhood services and teachers in schools (Woodrow and Jackson, 2008).

Primary Years

<p>Protective factors</p> <ul style="list-style-type: none"> • Early academic achievement in literacy and numeracy • Positive peer relationships • Preference for pro-social solutions to interpersonal issues • Self-efficacy and self-esteem • Time in emotionally responsive interactions with parents • Consistent and language-based discipline • Relationships with adult/s outside the family • Positive communication with parents • Positive teacher relationships and perceived teacher support • Parent engagement in learning and schooling • School policies and practices to reduce bullying • Extra-curricular activities 	<p>Risk factors</p> <ul style="list-style-type: none"> • Poor academic achievement • Negative cognitions about self, disengagement, emotion-focused coping • Poor social skills and poor-quality peer relationships • Parental depression • Lack of parental warmth, high hostility, harsh discipline • Overly permissive parenting, favourable attitudes to drugs and alcohol • Low parental aspirations • Family conflict and parent-child conflict • Stressful life events • Positive peer attitudes to alcohol or drugs
Parenting skill development	Parenting has a significant effect on a child's development and long-term life opportunities. There is strong evidence that the single most important factor influencing a child's intellectual and social development is the quality of parenting and care they receive and the quality of the home environment that this creates (Paterson, 2011). There is consistent evidence that poor parenting behaviours are associated with a range of adverse cognitive, emotional and physical health outcomes (and eventual mortality) including: language acquisition, behavioural and conduct disorders, antisocial and risk-taking behaviour, substance abuse, criminality, emotional detachment, mental health issues, cardiovascular health problems, obesity and type II diabetes (McCain, Mustard and Shankar, 2007; Allen and Duncan-Smith, 2008; Boivin and Hertzman, 2012).
School-based nutrition,	Patterns of healthy eating and physical activity are established for many children before they reach school. However, there is an emerging body of literature about

physical activity and obesity prevention	interventions to change children’s nutritional and activity patterns, and the evidence that is available has identified school-based interventions as being among the most promising approaches to modifying behaviours related to diet and exercise (Waters et al., 2011). A British review of 38 studies found combined diet and physical activity school-based interventions may help prevent children becoming overweight in the long term (Brown & Summerbell, 2009). Wang et al. (2013) conducted a meta-analysis of 124 interventional studies on childhood obesity prevention programs. They conclude that there is strong evidence that school-based diet and physical activity interventions with a home component or school-based combination interventions with a home and community component prevent obesity or overweight.
Learning support	It is generally accepted that a whole-school/centre approach is required to cater for the learning needs of all students which include children with diverse learning needs, disabilities, and those who are gifted. This also includes children for whom English is a second language. In Australia, around 60% of children with a disability have learning difficulties and the greatest need these children have is for cognitive and emotional support (ABS, 2009). It has been shown that inclusion of children with additional learning needs is of the utmost priority (Vaughn & Schumm, 1995). It is known that children who do not receive the appropriate support in school may react with behaviour issues as well as academic impediments. Research suggests that working in groups rather than individualised programs can result in greater beneficial outcomes (Gillies & Ashman, 2000)
School-based social and emotional wellbeing promotion	Recent research shows the degree of emotional self-regulation achieved in childhood can predict a range of consequential life outcomes, including income and financial security, occupational prestige, physical and mental health, criminality, and gambling problems (Guyn Cooper Research Associates, 2013). However, in Australia approximately 14 per cent of children and adolescents have mental health problems and only one in four receives professional help. A large US meta-analysis of 213 school-based, universal social emotional learning (SEL) programs involving 270,034 kindergarten through high school students found, “compared to controls, SEL participants demonstrated significantly improved social and emotional skills, attitudes, behaviour, and academic performance that reflected an 11-percentile-point gain in achievement” (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011).
Participation in sport and community activities	The community environment in which children and young people live has a major influence on the quality of childhood experience and a young person’s development. For example, living in a safe, socially inclusive and cohesive neighbourhood, with access to community, recreational, arts, cultural, and sporting facilities and the opportunity to participate in community life whether through arts and cultural, sporting, social support or civic activities are all important factors contributing to positive growth and development (ARACY, 2008, in ARACY, 2012c).
School-based healthcare	Much of the literature supporting school-based health services relates specifically to the North American context. In the international literature, comprehensive school-based health services are those that consist of multidisciplinary teams, are located on school grounds and integrated with the school community (Keeton, Soleimanpour, & Brindis, 2012). Research indicates benefits, particularly for marginalised or disadvantaged students, in increasing accessibility and continuity of health care directly on the school grounds (Keeton et al., 2012). A comparison study based on self-report data from elementary schools in the US found, independent of insurance status, a school-based health centre (SBHC) significantly increased accessibility to and use of health services (Kaplan et al., 1999).

Parent engagement in learning and schooling	There is strong international evidence that parent engagement in learning and schooling contributes positively to student attainment (Emerson et al., 2012). Family engagement is associated with academic outcomes such as higher grades and test scores, enrolment in higher level programs and advanced classes, higher successful completion of classes, higher graduation rates and a greater likelihood of commencing post-secondary education, as well as wellbeing outcomes, including engagement with peers, improved behaviour, better transition to school, greater sense of self-efficacy, motivation and enjoyment of learning (Emerson et al., 2012).
Bullying	Children and young people who are bullied often suffer immediate harm and distress as well as longer term impacts on their social, physical and mental health (Pearce, et al., 2011, in (ARACY, 2012a). Bullying can be manifested in different forms including verbal, physical, or social threats that are intended to harm an individual or group. The evidence suggests that universal systematic whole-school approaches, targeting schools, classrooms and individuals, appear to be the most effective at preventing and managing all forms of bullying behaviour (Pearce, Cross, Monks, Waters, & Falconer, 2011)United States Department of Health and Human Services, 2012, in ARACY, 2012a).

Middle Years

Protective factors	<ul style="list-style-type: none"> • Early academic achievement in literacy and numeracy • Positive peer relationships • Preference for pro-social solutions to interpersonal issues • Self-efficacy and self-esteem • Time in emotionally responsive interactions with parents • Consistent and language-based discipline • Relationships with adult/s outside the family • Positive communication with parents • Positive teacher relationships and perceived teacher support • Parent engagement in learning and schooling • School policies and practices to reduce bullying • Extra-curricular activities 	<ul style="list-style-type: none"> • Parental depression • Lack of parental warmth, high hostility, harsh discipline • Overly permissive parenting, favourable attitudes to drugs and alcohol • Low parental aspirations • Family conflict and parent-child conflict • Stressful life events • Positive peer attitudes to alcohol or drugs
Parenting skill development	Parenting has a significant effect on a child's development and long-term life opportunities. There is strong evidence that the single most important factor influencing a child's intellectual and social development is the quality of parenting and care they receive and the quality of the home environment that this creates (Paterson, 2011). There is consistent evidence that poor parenting behaviours are associated with a range of adverse cognitive, emotional and physical health outcomes (and eventual mortality) including: language acquisition, behavioural and conduct disorders, antisocial and risk-taking behaviour, substance abuse, criminality, emotional detachment, mental health issues, cardiovascular health problems, obesity and type II diabetes (McCain, Mustard & Shankar, 2007; Allen & Duncan-Smith, 2008; Boivin and Hertzman, 2012).	
Promoting engagement with school and preventing	Achievement is strongly correlated to staying on at school and there is a 20-percentage point gap between the highest and lowest socioeconomic status (SES) quartiles in attainment of Year 12 (FYA, 2012, p. 14). About 10 per cent of 15-24 year-old Australians are not in education, training or work (NEET) and this group	

disengagement	largely comprises disadvantaged groups. Lack of engagement with school is a likely predictor of NEET status in Australia. For young people who are the most disadvantaged, being in NEET persists, with only 1.3 per cent of those from the highest SES quartile being in NEET in both 2009 and 2010, compared with 7.3 per cent of those in the lowest SES quartile. Young people aged 18-24 who were NEET in 2010 were more likely to be homeless, and had lower levels of wellbeing and civic engagement when compared with those who were engaged in employment, education or training (FYA, 2012, p. 17).
Learning support	Basic literacy skills are essential to support educational attainment and future life outcomes (OECD, 2012). Literacy skills lay the foundations for future educational achievement, success in employment, and effective economic and social participation in the community (DEST, 2005, in ARACY, 2012c). The most effective interventions and initiatives to promote and support literacy are those that target the early years. However, these should be supplemented, where needed, with targeted programs to support older children who are experiencing difficulties.
Behavioural issues	Recent research shows the degree of emotional self-regulation achieved in childhood can predict a range of consequential life outcomes, including income and financial security, occupational prestige, physical and mental health, criminality, and gambling problems (Guyn Cooper Research Associates, 2013). However, in Australia approximately 14 per cent of children and adolescents have mental health problems and only one in four receives professional help. A large US meta-analysis of 213 school-based, universal social emotional learning (SEL) programs involving 270,034 kindergarten through high school students found, "compared to controls, SEL participants demonstrated significantly improved social and emotional skills, attitudes, behaviour, and academic performance that reflected an 11-percentile-point gain in achievement" (Durlak et al., 2011).
School-based health and wellbeing	The impact of school-based approaches to promoting wellbeing has been established. Whole school interventions, including curriculum approaches, that aim to promote prosocial behaviours and skills are well supported. A recent Cochrane review found evidence that both universal and targeted interventions designed to prevent or respond to early signs of depression are effective. Their meta-analysis demonstrated that depression prevention programmes reduce clinically significant depressive episodes and depression scores post-intervention and at three to nine month follow-up in both targeted and universal interventions (Merry et al., 2011).
Preventing substance misuse	The prevention of substance misuse is one of the areas in which public health interventions have been most effective. There has been a decline in the proportions of young people who report using an illicit substance (from 30 per cent of 12-15 year-olds in 1996 to 11 per cent in 2008), and the prevalence of cigarette smoking has also declined among young people over recent decades. However, smoking and alcohol consumption rates remain higher in Indigenous young people and among young people in socioeconomically disadvantaged areas (Australian Institute of Health and Welfare, 2012, p. 65), and smoking, alcohol and illicit substance related harms continue to have negative impacts on the wellbeing of young people, and pose particular risks for infants (including but not only children born to teenage parents).
Transition to high school	Research indicates most children adapt well to this transition with little disruption to their wellbeing or learning (Evangelou et al., 2008). A successful transition is one where students achieve social adjustment, institutional adjustment and curriculum interest and continuity (Evangelou et al., 2008). However, for a

significant minority of students, the transition process has been associated with subsequent disengagement from learning, and a 'dip' in academic performance (Evangelou et al., 2008). Disengagement risks include: increased non-attendance/truancy, lower motivation, poorer concentration, and lower enjoyment, and in some instances school failure, non-compliance and inappropriate behaviour (Howard & Johnson, 2004 in Evangelou et al, 2008). Evangelou et al. (2008) found low socioeconomic status was associated with poor school transition.

Adolescence and youth

<p>Protective factors</p> <ul style="list-style-type: none"> • Sociability, intelligence and academic achievement • Communication skills • Self-efficacy, self-esteem • Strategies to deal with stress; an enduring set of values • Good health habits, good health risk-management skills • Future orientation; achievement motivation • Parental warmth, encouragement and assistance • Cohesion and care within the family • Positive communication with parents • Talent or hobby valued by others • Physical and psychological safety • Appropriate structure (limits, rules, monitoring, predictability) • Positive school experience • Safe schools • Supportive communities (service access, safety, shared values) • Positive social norms (expectations, values) 	<p>Risk factors</p> <ul style="list-style-type: none"> • Low positive mood, withdrawal, poor concentration • Negative cognitions such as low global self-worth, perceived incompetence, negative explanatory and inferential style • Disengagement, involuntary stress response, and emotion-focused coping • Poor social skills, communication skills and problem-solving skills • Extreme need for approval and social support • Parental depression • Parent-child conflict and lack of parental warmth • Family conflict • Peer rejection; poor-quality peer relationships • Stressful events • Poor academic achievement • Community-level stressful events such as conflict • Community and social norms favourable toward alcohol use • Accessibility/availability of alcohol
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<p>Preventing disengagement from school</p>	<p>Achievement is strongly correlated with staying on at school and there is a 20-percentage point gap between the highest and lowest socioeconomic status (SES) quartiles in attainment of Year 12 (FYA, 2012, p. 14). About 10 per cent of 15-24 year-old Australians are not in education, training or work (NEET) and this group largely comprises disadvantaged groups. Lack of engagement with school is a likely predictor of NEET status in Australia. For young people who are the most disadvantaged, being in NEET persists, with only 1.3 per cent of those from the highest SES quartile being in NEET in both 2009 and 2010, compared with 7.3 per cent of those in the lowest SES quartile. Young people aged 18-24 who were NEET in 2010 were more likely to be homeless, and had lower levels of wellbeing and civic engagement when compared with those who were engaged in employment, education or training (FYA, 2012, p. 17).</p>
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<p>Mental health promotion</p>	<p>As Garber et al. explain, "Adolescent-onset depression is strongly associated with chronic and recurrent depression in adulthood, which is a leading cause of morbidity and mortality ... The serious developmental consequences of adolescent depression and the associated treatment challenges once it has developed underscore the need for programs aimed at prevention" (Garber et al., 2009, p. 2215). In the Dunedin Multidisciplinary Health and Development Study cohort, half of the adults with a psychiatric disorder at age 26 had a psychiatric disorder before age 15, and three-quarters by age 18 (Kim-Cohen, 2003). Approximately</p>
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	<p>one in four to five young Australians are likely to suffer from a mental health problem, most commonly substance abuse or dependency, depression, anxiety and eating disorders, with McGorry, Parker and Purcell noting high rates of disability are associated with mental disorders among young people, including impaired work productivity, absenteeism, educational failure and poor family functioning. McGorry, Parker and Purcell note for young people aged 15-24 years, mental disorders are the single greatest cause of years of healthy life lost.</p>
Access to health services	<p>Access to health services during this period is an important means to support adolescents through these issues and changes, particularly as they begin to take greater responsibility and control over their own health and health care. Receipt of health care services ideally helps adolescents adopt and/or maintain healthy habits and behaviours (such as exercise, good nutrition), avoid risky or damaging behaviours (e.g. smoking), manage chronic conditions, and prevent disease. The experience also offers a means for adolescents to build up skills and management processes for accessing health care and interacting with health care providers into the future (Park et al., 2013).</p>
Sexual health promotion	<p>Previous Australian surveys have shown that adolescents are becoming sexually active earlier and there are high rates of risky behaviour. In 2002, it is reported that a quarter of Year 10 students and more than half of Year 12 students had had sex; only two-thirds of the sexually active Year 10 students and one half of the Year 12 students reported always using a condom (Smith et al., 2003). Such actions are clearly more likely to result in increased prevalence of sexually transmitted diseases (STDs) as well as teenage pregnancy. Research shows that adolescents can be more vulnerable to certain sexually transmitted diseases. Biologically, they are more susceptible to certain infections, including gonorrhoea and chlamydia. They are also more likely than many other age groups to have multiple sexual partners in a short space of time. Some have much older sexual partners, a factor linked to increased likelihood of STDs (Wildsmith et al., 2013).</p>
Preventing risky behaviours	<p>Risk-taking behaviours appear more likely to emerge during adolescence, as self-expression and identity (particularly among peers) become important aspects for individuals moving towards becoming independent young adults. Complicating this evolution is the developing brain, parts of which responsible for impulse control do not fully mature until the age of 25. While the 'reward' system of the adolescent brain is disproportionately active, the 'control' system is not fully matured, and adolescents are biased towards immediate gain over long-term gain (Teen Mental Health, 2009). Risky behaviours associated with adolescence include smoking, alcohol use, use of illicit substances, risky sexual behaviour, aggressive or violent behaviour, truancy, dangerous driving, and engagement in illegal activities such as trespassing or vandalism (Raising Children Network, 2012).</p>
Young parenthood	<p>The occurrence of parenthood in adolescence and youth is associated with a number of risk factors, such as socio-economic disadvantage, educational disengagement, drug use, and antisocial behaviour. Parenthood during this stage can serve to further entrench disadvantage by, for instance, limiting the parent's ability to engage in education and employment, and can perpetuate a cycle of disadvantage for the parent and the child. Additionally, young parents are said to often face significant social stigma and challenges in dealing with service institutions (Price-Robertson, 2010).</p>
Preventing substance misuse	<p>The prevention of substance misuse is one of the areas in which public health interventions have been most effective. There has been a decline in the proportions of young people who report using an illicit substance (from 30 per cent of 12-15 year-olds in 1996 to 11 per cent in 2008), and the prevalence of cigarette smoking has also declined among young people over recent decades.</p>

	<p>However, smoking and alcohol consumption rates remain higher in Indigenous young people and among young people in socioeconomically disadvantaged areas (Australian Institute of Health and Welfare, 2012, p. 65), and smoking, alcohol and illicit substance related harms continue to have negative impacts on the wellbeing of young people, and pose particular risks for infants (including but not only children born to teenage parents).</p>
<p>Community connectedness and participation</p>	<p>Empirical evidence on the benefits of community participation and connectedness is more difficult to come by, partly because it is a complex concept to define and from which to deduce direct outcomes. There is also some evidence of a link between adolescent wellbeing and community participation whereby those who are more likely to have positive indicators of wellbeing (e.g. academic performance, school engagement) are more likely to engage in community activities in the first place (Brennan, Barnett & Baugh, 2007). However, self-reported measures from participants who have engaged in community participation activities do suggest perceived benefits for many participants, including empowerment in terms of self-improvement, pride in achievements, and feeling independent, trusted and responsible (Ackermann et al., 2003).</p>
<p>Crime prevention</p>	<p>Crime prevention is an area in which there has been considerable social policy and program effort, since this has “the potential to provide significant gains for communities, families and young people, including young offenders” (DEECD, 2013). Risk factors are known to emerge early in life – such as aggressive behaviour and child maltreatment – and a range of prevention and early intervention ‘life course’ programs that begin in early childhood and follow individuals into adolescence have been developed. Adolescence itself is the period in which serious problems related to criminality may begin to emerge, and interventions that are targeted at individual needs and are based on principles of participation and social inclusion have been found to be most effective.</p>
<p>Restorative justice</p>	<p>Research demonstrates that traditional and ‘tough’ approaches to addressing juvenile crime, including incarceration, are ineffective. There are several reasons for this, including reinforcement of criminal behaviour within the criminal justice system and failure to address the underlying issues that have led to and are linked to the offending behaviour (Murphy et al., 2010, in ARACY, 2012c).</p>
<p>Suicide prevention</p>	<p>Approximately one in four deaths in the 15–24 year old age group in Australia is attributable to suicide (ABS, 2010). Suicide attempts and self-harm are more common amongst people under 24 years old (Slade et al., 2009). There has been a dramatic increase in suicide of Aboriginal youth over the last three decades (Hanssens, 2012).</p>
<p>Career pathways and transition</p>	<p>Around one in ten Australians between 15-24 years old are not in education, employment, or training. Outcomes for such individuals are more likely to include homelessness, lower levels of wellbeing, and higher civic disengagement (Foundation for Young Australians, 2012, pp. 16-17). Studies show that periods of unemployment during this stage can be significant and long term, reducing longer term wage rates and earnings over the life course, and increasing the likelihood of further and longer spells of unemployment (Mroz & Savage, 2001).</p>

Table 11: Priority intervention pathways and examples of evidence-based programs

Table key: Overview of the type of research supporting the intervention

Well supported	Supported	Promising	Practice-level evidence
<ul style="list-style-type: none"> Multiple RCTs, longitudinal studies 	<ul style="list-style-type: none"> Some RCT-level evidence, quasi-experimental studies, multiple mixed-method studies 	<ul style="list-style-type: none"> Strong theoretical rationale, multiple mixed-method studies, strong qualitative evidence, emerging data 	<ul style="list-style-type: none"> Evidence about good practice but no specific programs identified

Priority intervention pathway	Examples of evidence-based programs with good levels of evidence	Levels of evidence
Antenatal		
High quality antenatal care	Midwife-led antenatal care (universal and targeted)	Supported
	Group antenatal care (universal and targeted)	Supported
	Sustained nurse home visiting (targeted)	Well supported
Breastfeeding preparation		Practice level evidence
Smoking cessation		Practice level evidence
Maternal mental health		Practice level evidence
Maternal alcohol use	Motivational interviewing (targeted)	Supported
	Health promotion (universal)	Well supported
Infancy and early childhood		
Access to health and social care	Children's centres (universal and targeted)	Promising
	Supported playgroups (targeted)	Promising
	Sustained nurse home visiting (targeted)	Well supported
Parenting skill development	Social marketing (universal)	Promising
	Information about child development and parenting (universal)	Promising
	Group parenting programs (i.e. NEWPIN, Incredible Years, Triple P) (universal and targeted)	Well supported
	Promoting attachment and responsiveness (i.e. Promoting First Relationships, Circle of Security) (targeted)	Supported
Home learning environment	Parents as Teachers (targeted)	Well supported
	Better Beginnings (universal)	Promising
Promoting breastfeeding		Practice-level evidence
Social connections and support	Playgroups (universal)	Practice-level evidence
Nutrition, physical activity and obesity prevention		Practice-level evidence

Priority intervention pathway	Examples of evidence-based programs with good levels of evidence	Levels of evidence
Preschool		
Early education	High/Scope Perry Preschool (targeted)	Well supported
	Abecedarian preschool (targeted)	Well supported
	ECEC settings meeting National Quality Framework (NQF) standards (universal)	Well supported
Parenting skill development	Social marketing (universal)	Promising
	Information about child development and parenting (universal)	Promising
	Group parenting programs (i.e. Triple P, Incredible Years, NEWPIN) (targeted)	Well supported
	Parent-Child Interaction Therapy (targeted)	Well supported
Behavioural issues and social and emotional wellbeing	Group parenting programs (Incredible Years) (targeted)	Well supported
Speech and language development	Smalltalk	Promising
	Hanen Program	Promising
Home learning environment	HIPPY	Supported
Transition to school		Practice-level evidence
Primary school		
Parenting skill development	Social marketing (universal)	Promising
	Information about child development and parenting (universal)	Promising
	Group parenting programs (i.e. Triple P, Incredible Years, NEWPIN) (targeted)	Well supported
	Parent-Child Interaction Therapy (targeted)	Well supported
School-based nutrition, physical activity and obesity prevention	Switch-play (universal)	Promising
	School breakfasts (universal and targeted)	
Engagement in learning	Class-wide peer tutoring	Well supported
	Reading recovery	Well supported
School-based social and emotional wellbeing promotion	Aussie Optimism Program (universal)	Supported
	PATHS (universal)	Well supported
	Incredible Years Teacher Classroom Management (Universal)	Supported
	The Good Behaviour Game	Well supported
	I Can Problem Solve	Supported
Participation in sport and community activities	Advance (universal)	Promising
	Cadets (WA) (universal)	Promising
	Community sport (universal)	Supported
School-based healthcare		Practice-level evidence
Parent engagement in learning and schooling	Families and Schools Together (targeted)	Well supported
Bullying	Friendly Schools Family Friendly Project (universal)	Well supported
	Lions Quest Skills for Adolescence (universal)	Well supported
Middle Years		

Priority intervention pathway	Examples of evidence-based programs with good levels of evidence	Levels of evidence
Parenting skill development	Group parenting programs (i.e. Triple P) (universal)	Well supported
Promoting engagement with school and preventing disengagement	Big Brother/Big Sister (universal)	Promising
	Cararra (targeted)	Well supported
	Multi-component initiatives (targeted)	Practice-level evidence
	Multisystemic therapy (targeted)	Well supported
School-based health and wellbeing	Aussie Optimism Program (universal)	Well supported
	Lions Quest Skills for Adolescence (universal)	Well supported
	Life Skills Training (universal)	Well supported
	Adolescents Coping with Emotions (universal)	Well supported
Preventing substance misuse	Lions Quest Skills for Adolescence (universal)	Well supported
	Gatehouse Project (universal)	Promising
	Smoking cessation for youth (universal)	Promising
Transition to high school		Practice-level evidence
Adolescence and youth		
Preventing disengagement from school	Cararra (targeted)	Supported
	Check and Connect (targeted)	Well supported
Access to health services		Practice-level evidence
Sexual health promotion	Safer Choices	Supported
	Contraception availability	Practice-level evidence
Preventing risky behaviours		Practice-level evidence
Young parenthood	Sustained nurse home visiting	
Preventing substance misuse	Lions Quest Skills for Adolescence (universal)	Well supported
	Gatehouse Project (universal)	Promising
	Smoking cessation for youth (universal)	Promising
Community connectedness and participation	Advance	Promising
	Cadets (WA)	Promising
	Community sport	Well supported
Crime prevention	Multi-systemic therapy (targeted)	Well supported
	Functional Family Therapy (targeted)	Well supported
Career pathways and transition		Practice-level evidence

4.5. Effective approaches for working with Aboriginal families

The targeting of services and the diversity of needs of particular target groups are critical design considerations for effective systems. An effective system must take into account the specific needs and effective approaches to working with cohorts such as people with a disability; migrants and refugees; culturally and linguistically diverse families; and Aboriginal and Torres Strait Islander families. Some evidence relating to the development of service delivery models proven to be more effective for Aboriginal families and the specifics of programs which may be more effective in influencing Aboriginal child health and wellbeing outcomes are provided in this subsection. This serves to support better systems for this subgroup and to demonstrate the importance of considering the specific needs and nuances of each identified target group.

There are clear and consistent messages about effective service delivery strategies when working with Aboriginal and Torres Strait Islander families and communities. For example,

figure 21 below presents the key themes stemming from SNAICC’s (2004) work on effective parenting programs, while the Closing the Gap Clearinghouse’s summary of ‘what works’ is presented in Figure 22.

Figure 21: Key themes synthesised in SNAICC’s (2004) work on effective parenting programs

Key theme	Features
Community ownership	<ul style="list-style-type: none"> • Program models that are culturally sensitive and appropriate are community based, owned and controlled. Indigenous community members input into the design and delivery of programs (ownership). • Use of Indigenous staff as facilitators or as partners in facilitating programs, and facilitators who are trusted by the community and who maintain confidentiality.
Cultural appropriateness	<ul style="list-style-type: none"> • Training in cultural awareness and sensitivity for non-Indigenous staff. Programs for Indigenous families acknowledge and respect Indigenous culture and values. • Differences in the parenting and child rearing practices of Indigenous and non-Indigenous families in the main areas of child rearing such as sleeping, feeding, learning, discipline, playing, care and mobility are considered when delivering parenting programs or giving parenting information. • A whole-of-family approach.
Focus on strengths and building capacity	<ul style="list-style-type: none"> • Strength-based models looking at acknowledging strengths rather than deficits, looking at difficulties as setbacks rather than as failures, that build confidence and empower. • Parenting support and enhancement programs deal with issues of grief and loss and emotional healing in order to help Indigenous parents develop personal strengths and resilience.
Flexible and responsive delivery	<ul style="list-style-type: none"> • Use of Aboriginal venues where participants feel safe and comfortable, including existing venues and services where parents already gather to enhance parenting (supported playgroups, Multifunctional Aboriginal Childcare Service (MACS) centres, kindergartens, health services, schools). • Programs which address historical issues and current factors and which have ongoing impact on Indigenous parents’ ability to parent effectively. • Outreach programs – home visiting to enhance parenting capacity on a one to one basis. • The provision of transport and food to encourage participation.
Program quality	<ul style="list-style-type: none"> • Programs which foster the relationship and attachment between parent and child. • Programs before and after birth which foster the mother/father/child relationship as well as the more practical caring skills. • Programs which are more holistic and ongoing e.g. antenatal, postnatal, birth support, early attachment and relationship support, ongoing child development information and support at key transition points.

Figure 22: What works and what does not in overcoming Indigenous disadvantage: Key learning and gaps in the evidence (Closing the Gap Clearinghouse, 2011).

What works

- Community involvement and engagement.
- Adequate resourcing and planned and comprehensive interventions.
- Respect for language and culture.
- Working together through partnerships, networks and shared leadership.
- Development of social capital.
- Recognising underlying social determinants.
- Commitment to doing projects with, not for, Indigenous people.
- Creative collaboration that builds bridges between public agencies and the community and coordination between communities, non-government and government to prevent duplication of effort.
- Understanding that issues are complex and contextual.

What doesn't work

- 'One size fits all' approaches.
- Lack of collaboration and poor access to services.
- External authorities imposing change and reporting requirements.
- Interventions without local Indigenous community control and culturally appropriate adaptation.
- Short-term services.
- Once-off funding.
- The provision of services in isolation.

In spite of the widespread recognition of these important service design principles, program evaluations consistently identify significant challenges in translating the principles into practice, and as a result many programs have tended not to achieve results of the magnitude desired. Evaluations of one evidence-based parenting program delivered in urban and remote areas of the Northern Territory reported significant difficulties in engaging and retaining families, even when the program content and delivery had been adapted for Aboriginal parents. Furthermore, the effect size on Indigenous children's outcomes was smaller than the impact on non-Indigenous children (Robinson et al., 2009; Turner, Richards & Sanders 2007). This indicates that program design and implementation are core issues in implementing interventions for Aboriginal and Torres Strait Islander children.

Evidence-based programs that are 'manualised' and implemented with a high degree of fidelity have significant potential to ensure outcomes are consistently achieved, as well as offering proven return-on-investment. There are a number of early childhood and parenting interventions with strong evidence of effectiveness (Wade, Macvean, Falkiner, Devine, & Mildon 2012; Communities That Care (CTC), 2012), however, there is a significantly shorter list of programs with evidence that they have been effectively adapted for Aboriginal and Torres Strait Islander children and families. In part, this reflects an under-investment in

rigorous program evaluation, the challenges involved in conducting research in this area, and systemic issues involved in translating evidence into practice. However, there are also underlying issues that appear to dampen the effectiveness of 'manualised' programs and their capacity to lead to sustained change.

In order to effectively facilitate behaviour change, program content must first resonate with the beliefs and expectations families and communities hold about child development, health and wellbeing, and the role of parents. An intervention's 'cultural fit' reflects its capacity to recognise and promote strengths and encourage change (Robertson & Zubrick, 2012). Without investing in co-design and quality implementation, and ensuring that programs communicate the core messages of child development science in ways that resonate with the expectations and beliefs of Aboriginal parents, families and communities, their impact may be limited.

Examples of programs with emerging evidence

- **Best Start:** the program is targeted at Aboriginal and Torres Strait Islander families and offers a range of family-friendly services in nutrition and health education, early language and numeracy, playgroups and integration into pre-primary school programs. The evaluation found positive impacts on health, social and learning outcomes, and the development of parenting skills; the governance model was also identified as an effective example of coordinated service delivery (WA Commissioner for Children and Young People, 2012).
- **Brighter Futures:** delivers targeted early intervention services to families with children under nine years of age. The program offers three core services to families: quality children's services, parenting programs and structured home visiting, including case management. Overall families have reported positive experiences in the program, with the majority of families expressing that their needs were being met by the program. It was found that compared to Aboriginal families not participating in the program, child protection reports to the Helpline were significantly reduced and the numbers of days in out-of-home-care (OOHC) were fewer (Stirling, Munro, Watson, Barr & Burke, 2012).
- **Bulundidi Guduga:** An adaptation of the MECSH/right@home program for Aboriginal families and children, currently undergoing a clinical trial, delivered through the universal maternal and child health system and in collaboration with the local Aboriginal community.
- **Families as First Teachers (FaFT):** designed by and for Aboriginal and Torres Strait Islander parents, FaFT provides early learning programs, home visits, family workshops and individual consultations to Indigenous families to strengthen their knowledge of child development. The program has received strong qualitative feedback. Quantitative data is more limited, but one survey showed a 96 per cent retention rate for children transitioning to preschool and program data indicating that around 60 per cent of families attend regularly (Silburn, n.d.).

- **Family Wellbeing Project:** this program is not targeted specifically at parents of young children, but through a focus on empowerment and personal development the program aims to enhance problem solving skills and strengthen healthy behaviour and family wellbeing. Strong qualitative feedback has identified an enhanced capacity to exert control over factors shaping their health and wellbeing, and the development of attitudes and skills to help parents to cope better with day-to-day life challenges (Tsey et al., 2010).
- **Let's Start:** Let's Start Parent-Child Program is a therapeutic parenting program that helps support the social and emotional needs of children as they begin the transition to school. Let's Start brings together expertise about child development, early learning, and parenting to support the emotional wellbeing of parents and children. It is respectful of kinship, culture, and Aboriginal family values, and care is taken to adapt Let's Start to meet local needs. The Let's Start evaluation identified a significant reduction in problem behaviour and parental distress (Robinson et al, 2009; Robinson et al, 2012).
- **Mobile Preschool Program:** the program provided training and resources to enable local Aboriginal staff to offer, ideally, around 10-15 hours of preschool education in remote communities, with support from a visiting early childhood educator. A full evaluation is forthcoming, but early findings show some improvement in child motor skills, cognitive progress and perceived readiness for school through the intervention. Implementation fidelity was identified as a key issue in measuring the program's impact on child outcomes (Nutton et al., 2011).
- **The Mums & Babies program** at the Townsville Aboriginal and Islander Health Service introduced a cross-disciplinary team approach, more coordinated services and provided transport, resulting in a substantial increase in client numbers, a decrease in the number of women receiving an inadequate level of care, an increase in birth weight and a significant reduction in perinatal death (Victorian Government of Human Services, 2007).
- **The Strong Women, Strong Babies, Strong Culture Program** is delivered by respected community-based Aboriginal women. The intervention provides pregnant Aboriginal women with maternal education, advice on nutrition, smoking and alcohol use, antenatal care, testing and treatment for sexually-transmitted diseases, and advice on medical care. An evaluation identified significant increases in mean birth weight, reduction in low birth weight, an increase in antenatal clinic attendances (MacKerras, 2001; Victorian Government of Human Services, 2007).

Part 2: Systems Design to Support Prevention and Early Intervention



5. Features of a prevention-focused service system

5.1. Overview

This section provides a discussion of system-level factors that can contribute to and enable effective prevention and early intervention. It highlights system design approaches, current system reform directions and approaches in Australia and internationally, and key considerations for implementation. The intention for Part 2 was to identify the underpinning components or elements of service systems that, together and in combination with evidence-based practice, can support more effective prevention and early intervention.

Key conclusions that emerge from this analysis include:

- The central importance of establishing the infrastructure for an 'intelligent system', especially by measuring common outcomes, improving collection and use of data (including cost-benefit analysis), developing data analysis capacity and embedding a data-driven approach at all levels of the system.
- The benefit of a shared and consistent practice model and guide to identifying areas of strength and need, grounded in an ecological approach to child and family wellbeing and informing practice across universal, secondary and tertiary sectors.
- Governance approaches that strike a balance between tailoring to local needs and local decision-making with the important role of central leadership in maintaining momentum – recognising that the right balance is likely to differ between areas (due to different starting points and capacity) and across time (at different stages of implementation).
- An approach that recognises and builds on existing good practice and builds the mechanisms that enable a focus on continuous quality improvement rather than a pre-determined ideal end-state – aiming for iterative rather than transformational change.
- Governance models that contain authority and capability to address system barriers at the local level.
- Utilising implementation science approaches that engage with explicit and implicit elements of the system, including building capacity and adopting common principles and processes.
- The importance of building the capacity of systems, organisations and practitioners to implement evidence-based interventions at scale.

The evidence provides strong theoretical underpinnings and directions for systems reform. The balance of evidence would suggest that there is no single model or 'silver bullet', and that instead any system should establish the capacity for continual measurement and improvement. The 'ideal system' is not a rigid or static model but is an agile and responsive system comprised of cultures, structures and processes that are flexible and responsive. It is

underpinned by robust accountability and governance mechanisms and thereby enables adaptation and problem-solving.



5.2. Availability of evidence and key messages from the literature

While there is strong and consistent evidence about the challenges and limitations, failures and excessive costs of current service systems, the converse is not true; there is a significant lack of robust evidence about optimal service design and only a limited number of models with hard evidence of effectiveness. There have been a number of process evaluations of systems reforms and service delivery models, generating substantial literature on barriers and facilitators of effective implementation initiatives like integrated service delivery and multi-agency working. Findings about the impact of these processes on child and family outcomes are much more equivocal. In the absence of consistent collection of outcomes data (at program and at system levels), it is difficult to generate definitive conclusions about which systems structures deliver the best outcomes.

Similarly, while there is a growing body of specific programs that have strong evidence of effectiveness, there is not yet evidence about the best ways to combine these elements to optimise child wellbeing outcomes. The impact of sequencing evidence-based programs is largely unknown (for instance, combining sustained nurse home visiting with high quality early learning) and the specific mix of services needed for particular combinations of risk are difficult to determine definitively:

[T]here has been more research on the *efficacy* of specific treatments than on the *effectiveness* of these treatments when delivered in usual settings of care; in the presence of comorbid conditions, social stressors and varying degrees of social support; and when administered by service providers without specialised education in their use (Institute of Medicine in Friedman, 2006, p. 2).

However, there is consistent evidence about the factors that promote child wellbeing and the types of service delivery and approaches to working with families that achieve better outcomes. There is a growing body of evidence about ways of improving access to services for the 'hard to engage' and increasingly strong (and, in some instances, exceptionally robust) knowledge about effective programs or content. Friedman summarises the core messages that emerge from this research:

- development of a set of values and principles to serve as a foundation for systems and services;
- a strong emphasis on individualised and family-driven care;
- service responses designed to meet the needs of children and their families rather than to meet the convenience of funders, systems, and providers;
- a strong focus on culturally competent systems and services; and
- a balance between the focus on deficits and a focus on strengths (Friedman, 2006).

This evidence provides a very strong theoretical underpinning and clear direction for systems reforms. The balance of evidence would suggest that there is no single model or 'silver bullet' for transformational change.

Given this, the aim must be an agile and responsive system that measures and monitors effectiveness, has inbuilt mechanisms for grappling with systems-level barriers to effective practice and outcomes, and mindsets and processes that enable a continuous quality improvement approach. As a New Zealand analysis of family support systems argues, given that system barriers are easy to catalogue and yet hard to resolve:

a national strategy which has the needs of families at its centre requires an adroit combination of inter-agency, cross-sector and government/non-government understanding, commitment and collaboration. It requires agencies to have shared ways of thinking about situations, and shared principles of operation that provide consistency and coherence in the way services respond to families. It requires common planning and assessment tools and information flows to enable more holistic responses and maintenance of context across different services and across time (Family Services National Advisory Council, 2004).

This analysis focuses on four key directions:

- the use of shared approaches to measuring outcomes to provide accountability and embed the measurement of effectiveness and building of evidence at all levels of the system;
- local approaches to needs assessment, service planning, commissioning and resourcing;

- building 'evidence ready' systems and using evidence to guide investment decisions and service provision; and
- shared ways of working, including common practice frameworks, guidance about identifying areas of strength and need, the articulation of intervention threshold and care pathways, and the use of case management strategies to match services and support to child and family needs.

5.3. Rationale for a systems approach

The review of evidence-based programs, outlined in the previous section and in the appendices, demonstrates that there is a strong and growing collection of programs that have consistent and positive impacts on child wellbeing outcomes. However, the majority of these evidence-based programs have modest rather than transformational impacts and there is good reason to believe that a single one-off intervention will not, on its own, be sufficient to achieve and sustain population-level improvements in child and youth outcomes or to completely protect vulnerable children from poorer outcomes and harmful trajectories.

Further, the greatest challenges for the implementation and effectiveness of evidence-based prevention and early intervention programs are the questions of how to deliver them to scale (across entire systems), how to ensure adequate reach and access, and how to attract and retain the families most likely to benefit from the intervention but least likely to participate. Programs alone are not the answer. It is necessary to better leverage existing universal services and to get proven practices embedded in children's services systems (Little, 2010), in order to ensure effective support is accessed by those who will benefit most, and with the dose, intensity and coherence required to achieve significant and sustained change.

The challenge and the opportunity is to shift the way systems work rather than to simply deliver new programs. Little argues that the challenge of embedding evidence-based prevention within children's systems is one of achieving lasting impact at scale:

- Lasting impact that endures over time, and with successive populations;
- Impact measured through changes in children's health and development that matter to families and public systems; and
- At scale, with impact at population level (Little, 2012).

Evidence-based programs that are delivered in isolation and not as part of a coherent system that sustains positive outcomes will not shift population-level outcomes; and systems that are perfectly structured to deliver integrated, collaborative, person-centred and efficient processes will not improve child and family outcomes if the content of what the system delivers is not effective (Little, 2012; Friedman, 2006; (Bickman, Noser, & Summerfelt, 1999).

However, changing the ways that systems work – both in terms of what they deliver and how they deliver it - has proven enormously challenging. This is partly because systems and system dynamics are poorly understood. Systems are a combination of:

- explicit and identifiable processes and structures: agencies and organisations; regulatory processes such as policies, regulations and roles and responsibilities; power and control structures; and funding and accountability arrangements; and
- less explicit and often hard to identify normative elements: the attitudes, values, beliefs, expectations, and tacit assumptions that drive behaviours and provide the background of what is considered the 'status quo' (Foster-Fishman, Nowell, & Yang, 2007, p. 205).

Foster-Fishman, Nowell and Yang argue that the explicit and implicit elements of the system work together to shape everyday behaviours and give rise to entrenched patterns of action: these "elements are highly interdependent with each other; they both emerge from and maintain each other by working in conjunction to build meaning and clarity for system members. Together, they explain the system's purpose, define the roles for system members, and build structures for system operations" (2007, 205). Foster-Fishman proposes the taxonomy in Table 12 as a way of identifying system components, emphasising that the relationships between these components are complex and mutually reinforcing.

Table 12: Aspects of systems (Foster-Fishman & Watson, 2012)

System aspect	Description
Mindsets	Attitudes, values, and beliefs that shape behaviour
Components	Range, quality, effectiveness, and location of services
Connections	Relationships and connections across different system components and actors
Policies	Policies, practices, procedures, and daily routines that shape system behaviour
Resources	Human, financial, and social resources that are used within the system
Power	How decisions are made and who participates

The influence of implicit and explicit system dynamics on everyday behaviour explains why systems change initiatives often flounder. A change in one part of the system (such as a policy change) tends to have limited impact if it does not also engage with and leverage the other aspects.

6. Analysis of existing systems

6.1. Overview

Reviews of child and family service systems, in Australia and internationally, repeatedly identify a common set of systemic issues. These are succinctly summarised in a Victorian analysis:

- **A fragmented and poorly-coordinated system**, where specific service sectors largely focus on particular issues or groups of vulnerable people without a whole-of-system view.
- **A program focus instead of a client focus**, where the onus is on people to make sense of services, navigate from door to door and 'fit' a program to qualify for support.
- **Services which fail to consider the family circumstances of clients**, in particular the existence and experience of children.
- **A traditional welfare approach that focuses on crisis support** and stabilisation, and that may encourage dependency.
- **A focus on solving problems after they occur**, rather than anticipating and intervening to prevent them arising (DHS, 2013).

The challenge of existing children's services is illustrated by Figures 23 and 24, developed by the Centre for Community Child Health (CCCH) to illustrate the importance of place-based approaches (see also the service journey maps (ACT Government, 2014, pp. 13-14)).

Although there is strong understanding and support for an ecological model of child and family wellbeing across professions and service sectors, 'siloes' service delivery has proven difficult to change and fragmentation, lack of coordination and access, and short-term, single-issue service responses continue to be cited repeatedly as the key issues of Australian service systems. There has been a great deal of rhetoric about the benefits of collaborative and integrated service delivery for over fifteen years, but as valentine and Hilferty note, while there are examples of effective practice and numerous best practice guides, "repeated inquiries into child protection services have highlighted implementation failures, and a disconnection between policy intent and policy effects" (valentine and Hilferty, 2011, p. i).

The persistence with which these specific barriers and challenges to collaboration are identified "indicates that they are systemic, rather than idiosyncratic" (2009, p. 14) and "require policy responses rather than change at the individual agency level" (valentine and Hilferty, 2011, p. ii). Because the collaboration agenda has tended to be driven at agency-level, it has been reliant on the efforts of individual practitioners, dependent on relationships between individuals and not consistently aligned with the way services are commissioned, funding and accountability mechanisms, organisational and professional cultures and other system-level factors.

Figure 23: Model of existing service pathways (DEECD in Goldfeld, 2013)

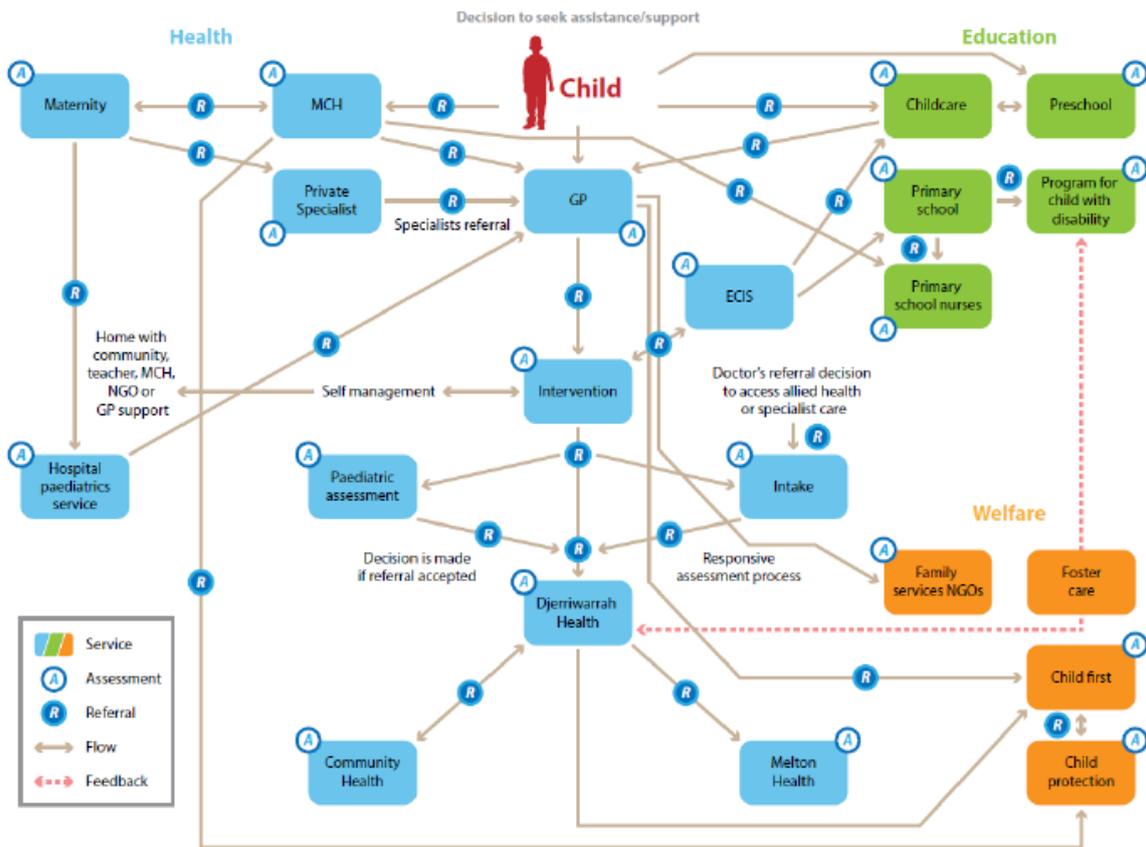
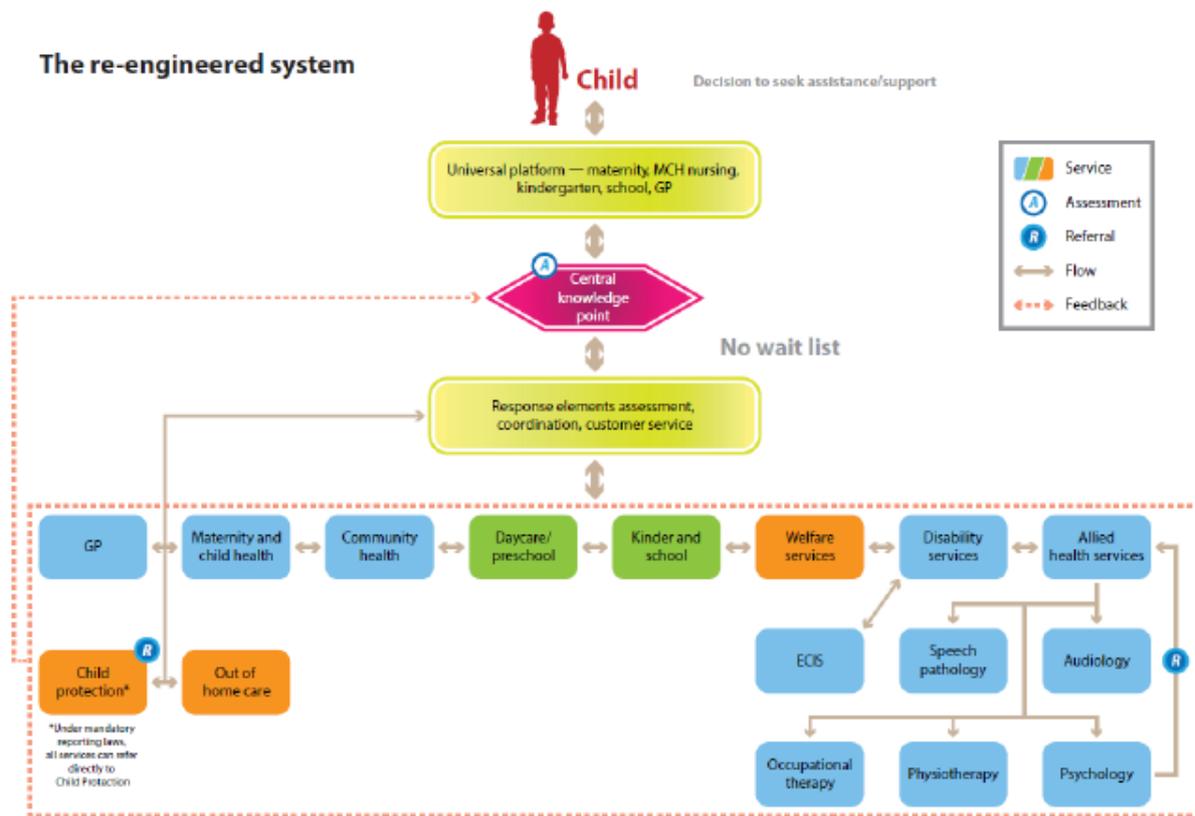


Figure 24: Model of a re-engineered system (DEECD in Goldfeld, 2013)



Key issues of current service systems

- The service system is having difficulty providing support to all families who are eligible – there are waiting lists for many services.
- Services cannot meet all the needs of families that they serve - no single service is capable of meeting the complex needs of many families.
- Families have difficulty finding out about and accessing the services they need – there is no single source of information about relevant services.
- Services are not well integrated with one another and are therefore unable to provide cohesive support to families.
- Services have difficulty tailoring their services to meet the diverse needs and circumstances of families.
- Services are typically focused and/or funded on the basis of outputs rather than outcomes, and therefore tend to persist with service delivery methods that may not be optimally effective.
- Services are typically treatment-oriented rather than prevention or promotion focused, and therefore cannot respond promptly to emerging child and family needs.
- The service system does not maintain continuous contact with families of young children during the early years.
- Most specialist intervention services are already underfunded, and it is looking increasingly unlikely that they can ever be fully funded in their present forms (Moore, 2012).

6.2. Drivers of engagement and features of effective services

There is a consistent body of literature about the reasons families engage with services and the barriers they face in seeking assistance and staying engaged. This research is summarised well by Watson (2005, pp. 1-2) in a review for the NSW Department of Community Services about effective strategies for improving engagement and retention of vulnerable and at-risk families:

High refusal rate: Families at highest risk for child maltreatment as well as other parenting difficulties are those least likely to take up primary health services (Sanders & Cann, 2002). In the United Kingdom, Naughton and Heath (2001) compared the records of 'cause for concern' and 'well-functioning' families. Nonattendance at services was the strongest predictor of presence on the child protection register. In the United States, less skilled parents were less likely to attend services (Katz et al., 2001; Daro et al., 2003). It has been suggested that this under-representation may initially be a result of existing policies

and programs failing to identify all children and families who might benefit from services (Shonkoff & Phillips, 2001; Kovacs, 2003) or that families are not aware that services are available (Kovacs, 2003). Nevertheless, even where vulnerable families are identified and made aware of services, a higher proportion refuse the offer of services, or fail to complete the programs offered. Estimates of drop-out rates for therapeutic services range from 35 per cent to 70 per cent (Kazdin, 2000; Mueller & Pekarik, 2000) with higher rates among families receiving involuntary or court-ordered services (Rooney, 1992, cited in Dawson & Berry, 2002).

High attrition rate: Some families enrol but do not complete the program. In examining attrition rates in her review of home visiting programs, Gomby (1999) cites figures that range between 20 per cent and 67 per cent of all families leaving before the two-year completion of home visiting programs. The same program can have different attrition rates in different areas, for instance, 38 per cent compared with 64 per cent in the same year for different areas in the Hawaii Healthy Start program. The Comprehensive Child Development Program which relies on home visiting and a brokerage model of services shows that only 56 per cent were engaged in the program after three years (St. Pierre et al., 1994). Even when children were targeted more directly and free early childhood education was included, there were still substantial drop-out rates. Although research has shown clear gains for parents and children if they attend Child-Parent Centres (Reynolds, Ou & Suh-Ru, 2004), in Walker's (1995) study of these centres, 47 per cent dropped out in the first year of the program. The centre-based component of the High/Scope Perry Preschool program reflected a lower, but still substantial, drop-out rate of 31 per cent (Weikart & Schweinhart, 1992).

Barriers to accessing service: Barriers to accessing services may exist at a broader level than individual case worker technique or effort. Families may not have heard of a service nor programs that are available. Diminished access is also related to:

- practical factors such as cost, transport, child care, eligibility rules or program scheduling;
- cultural factors such as language, citizenship and status;
- personal factors related to mental and cognitive functioning of individual parents; and
- the stigma associated with labelling (Shonkoff & Phillips, 2001).

There is clear evidence that how services are delivered is as important as what is delivered, and a growing body of literature on service delivery approaches that associated with improved outcomes. A review of effective processes and strategies identified the following elements that are repeatedly identified across the research literature (Moore et al., 2010, pp. 4-5):

- Services that are relationship-based, involve partnerships between professionals and parents, target goals that parents see as important, provide parents with choices regarding strategies, build parental competencies, are non-stigmatising, demonstrate cultural awareness and sensitivity, and maintain continuity of care.

- Providing practical support to address families' most pressing needs.
- Coordinating services to address the barriers that parents face in accessing services as well as the background factors that have led to the families having difficulties in caring for their children.

In addition, Moore identifies the consistently strong evidence that the quality of the relationship between the practitioner and client (whether early childhood worker and parent or child protection caseworker and parent) determines the effectiveness of the intervention – regardless of the level of evidence for the particular intervention being delivered. For instance, Berlin et al. conclude that "... the most critical dimension of early interventions is the relationship between the program and the participants. The benefits of program services will not be fully realised unless the participant is genuinely engaged (Berlin et al, in Moore, 2010, 20). Similarly Kalmanson and Seligman suggest that 'the success of all interventions will rest on the quality of provider-family relationships, even when the relationship itself is not the focus of the intervention' (Kelmanson and Seligman in Moore, 2010, p. 20).

These factors are echoed in the core service principles proposed for the Child Aware Approaches model (Box 3) (Hunter & Price-Roberts, 2014). It is the importance of relationships and holistic approaches to wellbeing that provide the rationale for person-centred models of care, for example, the Person-Centred Nursing model, which articulates the system structures and individual competencies that enable a person-centred approach (Figure 25).

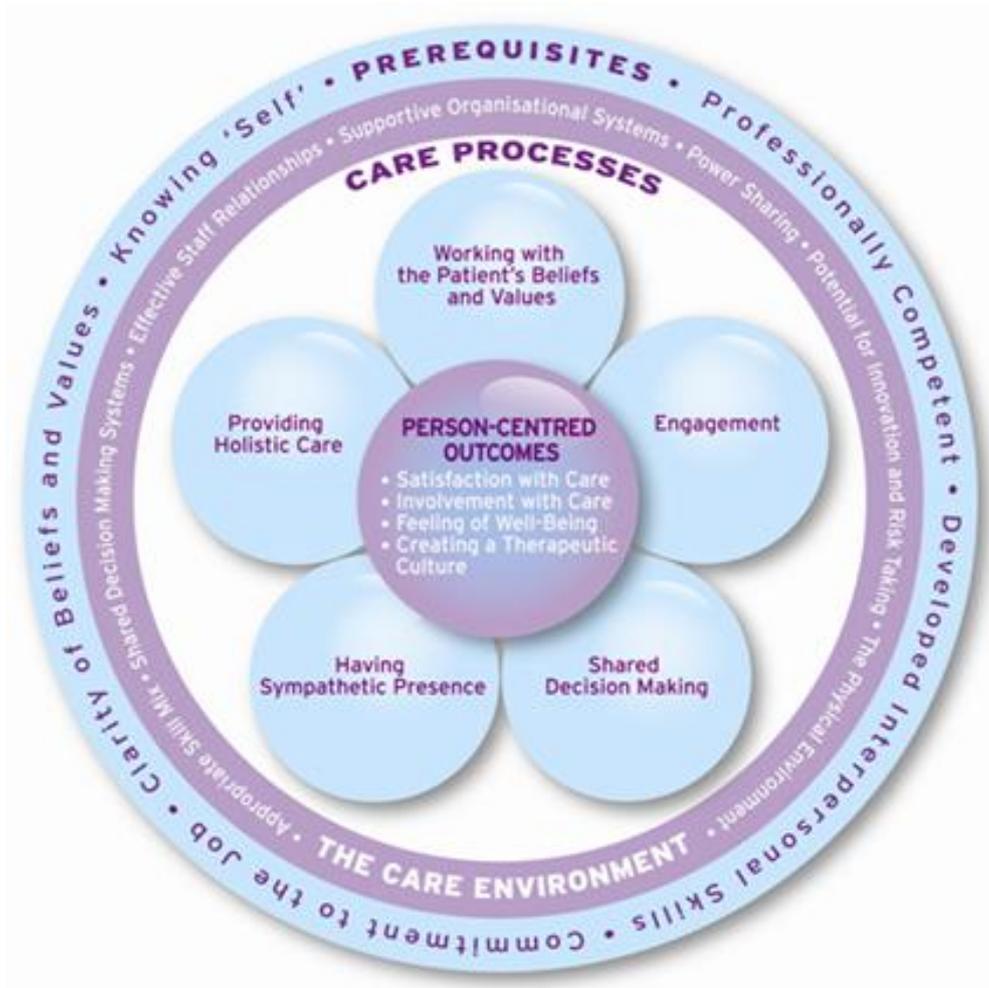
Moore et al. suggest that

there appears to be a number of primary or threshold factors associated with enhanced early intervention outcomes. These include: shared decision-making between parent and professional; positive relationship between the parent and professional; non-stigmatising presentation of intervention; cultural awareness and sensitivity; flexible settings/hours; and provision of crisis help prior to other intervention aims (2010, p. 5).

Without these factors, early intervention and prevention initiatives are compromised. However, although these principles and approaches are widely understood and embraced, and there are many examples of good practice, barriers to this way of working are cited repeatedly. These barriers are complex system-level factors involving both explicit and implicit elements.

The ambition of systems reform initiatives must be to develop structures and processes that both permit and incentivise the ways of working that evidence repeatedly identifies as critical to achieving improved outcomes.

Figure 25: Person Centred Nursing Model (McCance, 2011)



Principles of Child Aware Approaches

Family-sensitive

Principle 1. Identify and respond to the needs of adults who are parents.

Principle 2. Acknowledge and build on family strengths while responding to family stressors and risk factors for child abuse and neglect.

Child-inclusive

Principle 3. Understand and apply knowledge of children's needs at each stage of their physical, cognitive, emotional and social development.

Principle 4. Recognise and be sensitive to each child's unique perspective and experience.

Principle 5. Include children as active participants in decisions that affect them.

Principle 6. Promote child-safe environments.

Strengths-based

Principle 7. Enable parents by promoting their parenting role as a motivator for positive change.

Principle 8. Build children's resilience by addressing their vulnerabilities and promoting effective, consistent caregiving.

Collaborative

Principle 9. Develop and maintain connections between adult-focused services and child- and family-focused services.

Culturally competent

Principle 10. Understand cultural influences on family and parenting practices and respond in a culturally sensitive way.

(Hunter and Price-Robertson, 2014, p. 11)

7. Models and approaches to collaboration and integration

7.1. Overview

There are varying levels of evidence to support service delivery models that promote or enable prevention and early intervention and more person-centred, holistic approaches to service delivery. Several models are supported by efficacy and effectiveness trials and have measured outcomes for children and families (such as Systems of Care and Communities that Care). There have been a number of process evaluations of government-led systems change initiatives as well as 'place based' initiatives more broadly, although these have not consistently included measurement of outcomes for children, young people and families (partly due to significant methodological challenges) (Moore et al., 2014).

This section summarises a number of models and approaches that have evidence of effectiveness, including network models (structured community-level collaboration networks), centre-based models (integrated service hubs) and system change initiatives (government-led reforms to the organisation and delivery of child and family services). Each of these examples represents an attempt to develop a more proportionate universalism approach and to provide a platform for prevention and early intervention. This is not an exhaustive list of effective models or approaches; rather, it identifies a number of indicative examples where there is evidence to demonstrate impact (or otherwise) on outcomes.

The primary finding from across a number of studies of all of these models is the central importance of the implementation process, change management and continuous quality improvement. The Centre for Community Child Health's work on effective place-based approaches to service delivery similarly emphasises the importance of partnership-building processes, especially in terms of a shared vision, common goals and clear leadership (Moore et al., 2014).

Underpinning the impact of effective systems is a common set of structures:

- the use of an outcomes framework to provide accountability and embed the measurement of effectiveness and building of evidence at all levels of the system;
- local approaches to needs assessment, service planning and resourcing;
- building 'evidence ready' systems and using evidence to guide investment decisions and service provision; and
- systems and structures that enable and promote shared ways of working, including common practice frameworks, guidance about identifying areas of strength and need, the articulation of intervention threshold and care pathways, and the use of case management strategies to match services and support to child and family needs.

This section provides an overview of the available evidence for 3 approaches to achieving collaboration and integration: network models, centre-based models and whole-of-system initiatives.

7.2. Network models

These models tend to reflect a 'bottom up' approach. They may be supported by government investment and often involve government decision-makers in governance structures, but strategy development and implementation are driven by a coalition of local organisations (at neighbourhood, region or Local Government Area [LGA]-level).

Systems of care

There is a large body of evidence around the systems of care approach. The uptake of this model has been strongest in health and in the US, although the underpinning principles are echoed across service systems and sectors. The framing of the systems of care model has changed over time, but its key features include individualised, family-focused, and culturally competent services and supports that are community-based and accessible, and provided in the least restrictive environment possible through a collaborative, coordinated interagency network (Stephens et al., 2004). It is a set of principles and core approaches to service delivery, rather than a structured model, and through its focus on accessible and community-based services, a prevention and early intervention ethos is embedded in the model.

Elements of the systems of care approach have been evaluated in health settings, with reasonable levels of effectiveness. Coordinated packages of support for people suffering chronic illness appear to improve outcomes (Tsai et al., 2005), with one systematic review finding that 19 out of 21 studies showed improvement in quality of care, including clinical effectiveness, lengths of stay, medication errors, and number of visits. Coordinated health care was associated with improvements in chronic diseases such as diabetes, hypertension, depression, congestive heart failure, and asthma (Hwang et al., 2013). There was much less evidence for the cost-effectiveness of this approach, with only four out of five studies finding that coordinated care delivered reduced costs (Hwang et al., 2013) and grey literature reviews showing reductions in cost, but not of the magnitude expected (Hwang et al., 2013; Vijayaraghavan, 2011).

Systems of care have also been used extensively in the US, particularly in the field of children's mental health, with increasingly strong evidence over time. However, implementation fidelity remains a significant challenge. A 1999 quasi-experimental study of the impact of a well-established system of care on child and family outcomes for youth with mental health issues found significant improvements in system-level factors, such as service access and quality, but no difference in outcomes between intervention and control groups (Bickman, Noser & Summerfield, 1999). The researchers also found no difference in outcome between young people who received treatment and those who did not, indicating that improved system access is of limited benefit if service users do not receive an effective intervention.

More recent implementations of systems of care have included much stronger implementation assistance and a greater focus on using evidence-based interventions, and the evidence of improved outcomes is much stronger. A 2008 US evaluation of a large-scale systems of care implementation, the Comprehensive Community Mental Health Services for

Children and Their Families Program, examined changes in child, youth, and caregiver outcomes over time, based on administrative data from nearly 30,000 children and youth and longitudinal data (interviews of caregivers and youth aged 11 and older conducted at intake and every 6 months up to 3 years) from nearly 10,000 parents/carers and 6500 children (Substance Abuse and Mental Health Services Administration (SAMHSA), 2010). A range of significant outcomes were identified (SAMHSA, 2010, iii-iv):

- 38.6 per cent of children and youth showed a decrease in all types of behavioural and emotional symptoms between intake and 12 months and 48.7 per cent showed improvement between intake and 24 months. Self-reported anxiety symptoms decreased for 24.2 per cent of youth from intake to 12 months, and for 30.2 per cent of youth from intake to 24 months. At 12 months, 16.5 per cent of youth experienced reduced depressive symptoms, and 23.6 per cent experienced improvement at 24 months.
- The proportion of children and youth with scores above the clinical level for functional impairment decreased steadily from 80.7 per cent at intake to 63.7 per cent at 24 months.
- The proportion of children and youth who attended school regularly (of those who attended school at all) increased from 83 per cent of children and youth to 90 per cent. Good school performance, defined as achieving an average grade of A, B, or C in the six months prior to the interview, also improved from 63.4 per cent to 75.7 per cent. The age of children and youth who were suspended or expelled in the 6 months prior to each interview decreased from 44.4 per cent to 29.5 per cent.
- Being arrested (as reported by youth aged 11 and older) in the previous six months decreased from 17.5 per cent to 8.0 per cent and the proportion of youth engaging in one or more delinquent behaviours (as reported by youth aged 11 and older) in the previous 6 months decreased from 76.6 per cent to 44.5 per cent.
- 36.2 per cent of caregivers reported decreased strain from intake to 12 months and 44.8 per cent reported decreased strain from intake to 24 months. Caregivers who were employed at intake reported missing an average of 6.2 days of work in the previous 6 months due to their child's behavioural or emotional problems. This decreased to 4.0 days at 12 months, and to 2.8 days at 24 months.

The evaluation identified cost savings through a decrease in the utilisation of inpatient services over a 24 month period (\$913 per child served over a 24-month period) and by offsetting costs in other systems, for example, through decreased arrests for youth receiving services within systems of care (\$1,228 per youth served over a 24-month period) (SAMHSA, 2010, 21-22).

There have, however, been challenges in implementing and sustaining systems of care principles, with a large-scale study of 27 communities that received federal grants to implement systems of care (with a relatively well-defined implementation process) finding that after five years, few communities had adopted all aspects of the model. This is

problematic, given evidence of correlation between fidelity of implementation and the lower symptom severity for children with behavioural and emotional issues (Stephens, Holden & Hernandez, 2004). Researchers found moderate success for involving families in service planning, identifying child strengths, expanding the service array, and in improving communication and willingness to collaborate among child-serving agencies at both service delivery and system levels (Vinson et al., 2001, 38). They found much less success for family involvement in system governance; wide-reaching system reform, such as pooled funding for services; meeting the demand for family support services, such as respite; establishing formal, cross-agency procedures and policies for care coordination; and achieving fully culturally-competent services (Vinson et al., 2001, 38).

Greater implementation fidelity was associated with the engagement of cross-sector managers/administrators in interagency governance structures and a history of collaboration and the development of capacity to lead interagency efforts (Vinson, 2001). Schwean and Rodger argue that the significant challenges for systems of care include:

- a failure to integrate decision-making at the system level;
- a lack of capacity for continuous self-appraisal at the care-unit level, leading to compromised continuous quality improvement, a lack of processes to support the adoption of effective interventions, and limited infusion of culturally competent practices; and
- under-utilisation of technology at all levels of the delivery system, creating barriers to the timely exchange of information, decision-making processes, and outcome assessments (Schwean & Rodger, 145).

They argue for the use of outcomes data and state-of-the-art technology systems that “permit the collection of information that allows for the management of a child’s needs over time, as well as the assessment of the effects of interventions” (Schwean & Rodger, 145). Similarly, Knitzer and Cooper identify five key priorities for strengthening systems of care, expanding evidence-based practices, addressing prevention and early intervention, embedding family perspectives in system and service infrastructure, strengthening accountability through data-driven processes and aligning fiscal and best treatment practices (Knitzer & Cooper, 2006), which are echoed in Stroul and Frieman’s analysis of implementation strategies for systems of care (2011).

Communities that Care

There are several models that have attempted to provide a structured approach to the implementation of aspects of the system of care approach. Communities that Care (CTC) is the model with the strongest evidence to date. CTC “provides communities with an organisational structure and methodology for facilitating the transmission of prevention science concepts and practices to community action” (Fagan et al., 2009). The CTC process involves:

- assessing community readiness to undertake collaborative prevention efforts;

- forming a diverse and representative prevention coalition;
- using community-level epidemiologic data to assess prevention needs;
- choosing evidence-based prevention policies, practices, and programs to implement, as based on the data assessment; and
- implementing the new innovations with fidelity, in a manner congruent with the programs' theory, content, and methods of delivery (Fagan et al., 2009).

The focus of CTC is community-level risk factors for substance misuse, mental illness and delinquency/antisocial behaviour.

A large-scale RCT was conducted over five years in 24 communities and involving 4000 children. Children in the intervention communities were found to experience reductions in social developmental risk factors and elevations in protective factors. By age 12 their rates of externalising behaviours were reduced and by age 13 rates of early substance use were significantly lower (Hawkins et al., 2009). An effectiveness trial in the US also found that the CTC process was effective in fostering system-level change, particularly in terms of the sustainability of community prevention coalitions and their capacity to identify and implement evidence-based interventions with fidelity. Cohorts exposed to evidence-based interventions demonstrated significant and beneficial effects for risk/protective factors, academic grades, and delinquency (Blueprints, 36). A subsequent cost-benefit analysis of the systematic use of evidence-based interventions identified through the CTC process (including a number of programs identified in the previous section, such as Lifeskills Training, Multisystemic Therapy, Nurse Family Partnership and Big Brother/Sister) achieved a \$317 million return to the government through reduced corrections costs, welfare and social services burden, drug and mental health treatment, and increased employment and tax revenue, with an ROI of 1-25:1 (Jones et al., 2008, 3). Australian implementation data is showing population-level improvements in youth reports of community social environments and reductions in problems such as alcohol and drug use and precocious sexual activity (Toumborou, n.d.).

Collective impact

Collective Impact also provides structures and processes for a shared vision and collaborative working, underpinned by a strong theory of change. The core components of Collective Impact are:

- **Common agenda:** all participants have a shared vision for change including a common understanding of the problem and a joint approach to solving it through agreed upon actions
- **Shared measurement:** collecting data and measuring results consistently across all participants ensures efforts remain aligned and participants hold each other accountable
- **Mutually reinforcing activities:** participant activities must be differentiated while still being coordinated through a mutually reinforcing plan of action

- **Continuous communication:** consistent and open communication is needed across the many players to build trust, assure mutual objectives and create common motivation
- **Backbone support:** creating and managing collective impact requires a separate organisation with staff and a specific set of skills to serve as the backbone for the entire initiative and coordinate participating organisations and agencies (Hanleybrown, Kania & Kramer, 2011, p. 1).

The key features that distinguish the Collective Impact approach from other network-based collaborations is the use of shared measurement and the role of the backbone organisation. Shared measurement ensures accountability and provides an inbuilt mechanism for measuring effectiveness (Preskill, Parkhurst & Splansky Juster, 2014), while the backbone organisation is crucial for maintaining momentum, acting as a neutral broker for problem solving and assisting with the additional administrative impost involved in collaboration. As Kania and Kramer note, the expectation that collaboration can occur without a supporting infrastructure is one of the most frequent reasons why it fails (2011). There are a number of case studies of good practice in collective impact, although very little hard data to demonstrate impact at this stage.

Communities for Children

Communities for Children (CfC) is a federally-funded NGO-led initiative which provides a collaborative and community-led approach to prevention and early intervention (focused on children aged 0-12). The CfC model is a much less structured approach with no common processes for identifying community needs or appropriate evidence-based interventions. It does involve a collaborative approach to funding and commissioning decisions and a dedicated resources for facilitating collaboration, but largely focuses on 'soft entry' services that meet specific gaps and needs in the community and does not have sufficiently advanced structures or processes for making large-scale commissioning decisions (for state-funded universal services, for instance). The strength of the model comes from its explicit resourcing of collaboration through the appointment of a collaboration broker (the Facilitating Partner) in CfC communities. An early quasi-experimental study found small but positive impacts on parenting warmth and self-efficacy and joblessness at the community level (Edwards et al., 2009, p. 16), although it is not clear if these impacts have been maintained.

A quasi-experimental study is currently underway in NSW to integrate elements of the Collective Impact model in CfCs, with the Facilitating Partner acting as the backbone organisation. The focus of the trial is to "draw on recent advances in prevention science to build a set of structured processes and resources ... to strengthen the developmental system in socially disadvantaged communities to make possible sustainable improvements in the wellbeing of children" and to test the efficacy of fostering community coalitions empowered to achieve collective impact and its transportability to new communities (Homel, Freiberg & Branch, n.d.). The 'Prevention Support System' involves: face-to-face guidance, mentoring and coaching - provided by the Collaboration Manager, local coalition leaders, and research support staff (if available) - with a comprehensive range of interactive on-line

resources and training, which includes manuals, web-based access to evaluation tools, data management systems, and information about evidence based practices (Homel, Freiberg & Branch, 2013).

Evidence2Success

Evidence2Success originated in the UK and builds on the CTC approach. It has the least amount of evidence to support it, but the most comprehensive package of supports for system-level implementation of collaborative and evidence-based service delivery. It involves a governance model for a local coalition of government and non-government representatives who develop a shared vision and strategy, processes and tools to commission evidence-based interventions in response to data on children's needs, cost-benefit data and local mapping of current spending, and implementation fidelity monitoring systems.

Implementation of Evidence2Success is underway in the UK and US, and while evidence of effectiveness is not yet available the model's theory of change is strong and the collection of outcomes data is embedded in the implementation process.

7.3. Centre-based models

The creation of integrated service hubs has been one of the most prominent prevention and early intervention strategies. These models have largely been targeted at parents of young children and involve the creation of an accessible universal service platform, often including universal services such as child health, early learning and parenting support, as well as providing a conduit to a range of targeted supports. They are a prominent feature of the Nordic universal service platform for families (Kouvonen, 2012; Scott et al., 2012; Abrahamsson, Bing & Löfström, 2009), have been implemented throughout the UK and parts of Canada (Pordes Bowers & Strelitz, 2012; Melhuish, Belsky & Leyland, 2012; Cortis et al., 2006), and increasingly in Australia (child and family centres have been built in the ACT, Tasmania, South Australia and Queensland, as well as in the 35 locations funded by Commonwealth under the Indigenous Early Childhood National Partnership Agreement, including 9 in NSW). The rationale for integrated child and family hubs is strong, and is encapsulated well in the logic model for Victorian Children's Centres (Figure 24), which details a range of core outputs and anticipated direct impacts as well as broader community-level outcomes (see also Brechman-Tousaint & Kogler, 2010; Moore, 2008; valentine, Katz & Griffiths, 2007).

There is a relative lack of robust outcomes data to support the effectiveness of integrated children's centres, in part due to methodological challenges. The strongly evaluated models do demonstrate positive outcomes, with evidence of links between the quality of the implementation and strength of the integration model and the extent to which they achieve positive change for families.

Toronto First Duty (TFD)

TFD involves a universal model integrating child care, kindergarten, family support and other services in school-based community hubs. Longitudinal studies have found a range of positive health, learning and wellbeing outcomes. Moreover, dose-response analyses show that "participation dose predicted children's physical health and well-being, language and

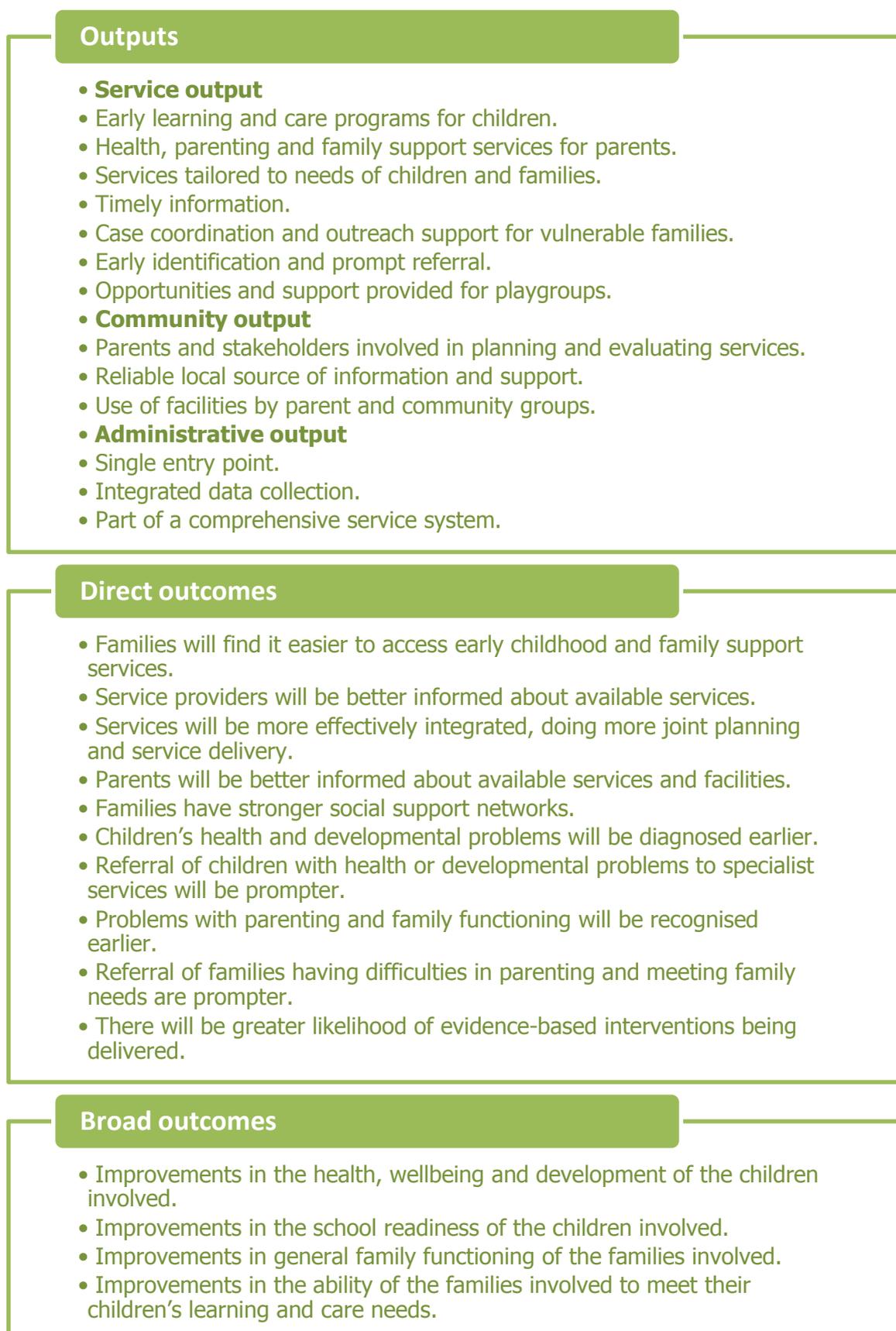
cognitive development, and communication and general knowledge, after taking into account demographic, parenting and site factors” (Patel & Corter, 2012, p. 17). Parents whose children attended TFD programs reported being more involved in their children’s early learning and feeling more confident in helping their children learn (Cortet et al., 2006 in Moore et al., 2008). TFD involves a close collaboration with university partners, which has enabled the evaluation findings and service data to be continuously fed into design and delivery improvements in an iterative fashion (Cortet & Pelletier, 2012, p. 8).

Sure Start Children’s Centres

Children’s Centres are a universal service with a tailored approach to supporting disadvantaged children. There are approximately 3,500 centres across the UK. They are intended to “improve outcomes for young children and their families, with a particular focus on the most disadvantaged families, in order to reduce inequalities in child development and school readiness supported by improved parenting aspirations, self-esteem and parenting skills and child and family health and life chances” (Pordes Bowers & Strelitz, 2012, p. 17). Early Sure Start evaluations found evidence for experiences of individual parent empowerment, through a wide range of activities such as parenting classes, fathers’ groups, breastfeeding support, exercise and sports groups, and fun days. Parents expressed the value of Sure Start in terms of increased confidence, skills, self-esteem as parents, and friendships (Williams & Churchill, 2006). A Sure Start follow-up study at age seven found small but positive impacts for parents engaging in less harsh discipline, providing a more stimulating home learning environment, providing a less chaotic home environment, with single parent and jobless families reporting better life satisfaction. However, limited evidence was found for a range of other intended outcomes (Melhuish, 2012).

A new outcomes framework has been developed for Sure Start (Marmot, 2013) to enable consistent ongoing monitoring of the effectiveness of Sure Start Children’s Centres and there are large scale evaluations of South Australian and Tasmanian children’s centres underway, which will contribute to this evidence base.

Figure 26: Victorian Children's Services Logic Model (DEECD, 2010)



In spite of a relative dearth of robust outcomes data for children's centres, there have been many process evaluations, resulting in a strong body of literature about the design, governance, implementation and other key factors that lead to improved service quality and, it is predicted, improved outcomes. Moore's *Evaluation of Victorian's Children's Centre* provides a comprehensive analysis of these factors (Moore, 2008).

Sure Start implementation factors associated with better outcomes

Factors that characterised proficient programmes leading to better than expected child and parent outcomes were:

- Effective auditing of local needs in order to tune local services to community priorities.
- Identification and targeting those with specialist needs with appropriate treatments, as early as possible.
- Allocation and training of appropriate providers including the strategic deployment of generic and specialist staff to deliver effective services at point of need.
- Training and management of providers for proficient multi-agency teamwork.
- Training of managers/leaders in budget and project management skills.
- Sustaining service use and increasing reach figures (including accessing the 'hard to reach') (Anning et al., 2007).

Extended Schools

Utilising schools as integrated service hubs is another 'centre-based' service model with strong theoretical underpinnings and a robust theory of change, and emerging evidence of effectiveness. Extended schools have been implemented in Australia, the UK, Scotland, the US and New Zealand. The UK model involves partnerships with local health and social services, which utilise multi-disciplinary teams to identify vulnerable children and young people and to assist with need assessment (Brechman-Toussaint & Kogler, 2010, p. 18).

The UK National Evaluation found some evidence that the extended school model was associated with improved school performance, better relations with local communities and an enhanced standing of the school in its area, although improved circumstances for individuals did not always follow through to school performance data. In general, the cost-benefit analysis suggested that both the costs and benefits of the model were high but benefits balanced or outweighed costs, and accrued particularly to the families at greatest risk (Cummings et al., 2007).

A Victorian evaluation of four pilot extended schools found initial indications of improved outcomes, although analysis at three years post-implementation was considered too early to

identify significant change. However, at one school there was a dramatic drop in the proportion of developmentally vulnerable children (measured by the AEDI) and in another, a substantial increase in student motivation (as measured by the Student Attitudes to School survey) (DEECD, 2013). The study identified a range of factors that enable effective collaboration.

A New Zealand evaluation of the impact of co-locating social workers within schools found a range of positive impacts. For instance, "the level of risk fell markedly from assessment to closure. Eighteen per cent of clients at assessment were judged to be high risk and this had fallen to 4.2 per cent at closure. Similarly over a third of clients were assessed as having medium risk and this had fallen to under quarter at closure and 45.1 per cent of clients were low risk at assessment and this had increased to 75.5 per cent at closure" (MSD, 2002, 75). Positive changes were also clearly demonstrated for many children in the case studies. These changes included:

- noticeable improvement in children's educational performance and improvement in the behaviour of children in the classroom and school grounds;
- significantly improved circumstances for children who, at the beginning of the intervention, came to school hungry, not well clothed and whose health and hygiene were creating issues in classrooms and playgrounds;
- children who at referral did not have the materials required to participate fully in lessons acquired them;
- the establishment of clear homework routines at home and the development of periods when families spent recreational time together because housework and homework were completed;
- increased parent/carer confidence in being able to approach and interact with school staff regarding their children without feeling ashamed or frightened;
- parents ceasing to smack or hit children and the elimination of violence as the primary strategy for solving problems within the family;
- the establishment of clear routines for family life and the use of appropriate consequences that resulted in children being fed more regularly and getting sufficient sleep;
- positive communication strategies being used by parents/caregivers and children that ensured that all parties were heard and that their needs were met;
- the increased confidence of parents/caregivers to achieve previously unimagined levels of positive family life, work and education goals and the ability of families to problem-solve on their own; and
- parents and caregivers being better able to manage other aspects of their lives as demonstrated in their capacity to reduce debt levels and provide cleaner, healthier houses and more suitable accommodation for children (MSD, 2002, pp. 82-83).

7.4. Large-scale systems change

Systems change initiatives are generally multi-component and complex, and have not tended to be well evaluated, particularly over the long-term, where the most significant impacts can be expected to be found. Evaluations tend to be conducted during the establishment phases, which generates a strong literature on factors that support or hinder evaluation, but does not measure impact once the new arrangements are bedded down. The examples provided below highlight examples where there is emerging evidence of effectiveness (or otherwise).

Children's Trusts

Under the Every Child Matters reforms in the UK, Children's Trusts were established in 2004 to provide interagency governance, with decision making power that can determine how government services such as hospitals and health services, education facilities, police and housing agencies, voluntary groups and non-government service agencies work together to coordinate their approach to service delivery so that the integrated model of service delivery is tailored to meet local need (Brechman-Tousaint & Kogler, 2010, 15). Within each Children's Trust, a Safeguarding Children Board was established to focus on the needs of vulnerable and at risk children (Brechman-Tousaint & Kogler, 2010, 16). Children's Trusts initially produced a *Children and Young People's Plan*, a single strategic plan for all local services for children and young people, although this function has recently been subsumed by broader Joint Strategic Needs Assessment processes.

An early evaluation of the Children's Trust Pathfinders did not seek to measure outcomes, but identified a range of key implementation barriers and facilitators (Bachman et al., 2007):

- Most Trusts found that working with the grain of previously established collaborative practices was essential, and that processes such as joint training and cross-agency working groups assisted the integration process.
- Because reaching agreement on inter-agency governance arrangements across multiple services was complex and time consuming, some areas moved slowly and found an iterative and incremental change process more effective.
- Continuing success was more likely where arrangements were based on a coherent and clear long-term vision.
- Pathfinders found the *Children and Young People's Plan* a key tool for developing planning and funding arrangements.
- Joint commissioning managers undertook a number of highly skilled tasks in the course of reviewing, redesigning and procuring services. Expertise in joint commissioning and market management was developing rapidly but there was a need to increase knowledge and capacity.
- Lines of accountability and decision-making were not clearly defined in most terms of reference or constitutions for boards undertaking children's trust arrangements.

- Information sharing and compatibility of IT systems remained an ongoing challenge.

Three years after initial implementation, the national evaluation found that “Children’s Trusts enabled major changes to services in areas where local actors and organisations were motivated and empowered. In other areas the remit of children’s trusts was often too broad and vague to overcome entrenched organizational and professional divisions and interests”. Bachman et al. argue that their “study provides a case study of the uneven effects of an exceptionally broad central government policy implemented by local organisations having wide discretion” (Bachmann et al., 2009, p. 264) and suggest that “policymakers need to balance facilitation of change in areas with dynamic change agents with methods for ensuring that dormant areas and agencies are not left behind” (Bachman et al., 2009, p. 257).

A more recent review of Children’s Trusts (again focused on the collection of qualitative data regarding process and implementation factors) found indications that Trusts were continuing to drive improved integration and collaboration, but these appeared to be small-scale, iterative changes rather than the kind of transformation originally envisioned by the Every Child Matters reforms. For instance, although “partnership working had developed over recent years, there was a perception among interviewees that more could be done. Across the local authorities and partners, senior leaders’ commitment, sign-up and shared vision was strong; however, some raised concerns about how much this filtered down to the operational level” (Easton et al., 2012, p. 9). The ongoing participation and commitment of senior leaders was viewed as crucial to maintain momentum, and ongoing concern about accountability, particularly the balance of accountability between the collaborative partnership and core agencies (Easton et al., 2012, pp. 9-11). Although Children’s Trusts utilised performance indicators, changes in the indicators were not necessary attributable to the activities of the Trusts, meaning there is limited evidence about the impact of Children’s Trusts on child outcomes.

Community Planning Partnerships

Community Planning was established over a decade ago in Scotland, and is coordinated by local Community Planning Partnerships (CPPs) in each local authority area. Their remit is broader than health and social services, with membership including health, employment services, police, fire and transport services and community organisations. However, as noted in a recent comprehensive audit of CPPs, while “community planning was intended as an effective vehicle for public bodies to work together to improve local services and make best use of scarce public money and other resources” a number of significant system and structural barriers have stood in the way and they have had limited impact on collaboration, efficiency or outcomes (Audit Scotland, 2013, p. 9). The barriers and limitations of the model include:

- CPPs have not been clear enough about the key priorities for improvement in their area. Outcomes agreements have tended to be summaries of existing planned actions, covering all national outcomes, without clearly focusing on things that matter most for the local area.

- Too often, everything has seemed to be a priority, meaning that nothing has been a priority.
- CPPs have not clearly set out how local partnership working is making a distinctive and additional contribution to improving public services and improving outcomes for local people.
- Community planning has had little influence over how the significant sums of public money available, for example to councils and the National Health Service, are used.
- Governance and accountability arrangements for community planning have been weak. Individual partner organisations have not been routinely or robustly held to account for their performance as a member of the CPP. As a result, there are no consequences for not participating fully. Nor are the incentives sufficient to change behaviours outcomes (Audit Scotland, 2013, p. 6).

As a result of the audit findings, requirements for CPPs have changed and more robust accountability mechanisms have been developed. A Statement of Ambition for Community Planning outlines core principles for the new approach:

- **Understanding place:** CPPs must be effective in mobilising the knowledge and resources of all relevant local and national agencies to develop a clear and evidence-based understanding of local needs and opportunities, underpinned by robust and relevant data, and be capable of monitoring this over time to drive and of demonstrating continuous improvement.
- **Planning for outcomes:** CPPs must translate this understanding into genuine planning for places that recognises the particular needs and circumstances of different communities, and that provides clear and unambiguous joint prioritisation of outcomes and improvement actions.
- **Delivering outcomes:** the planning process must translate into hard-edged delivery of local priorities and achieve appropriate public service integration in pursuit of local priority outcomes. To achieve that, CPPs must have a clear understanding of respective partner contributions, how total resources will be targeted to deliver the priorities, and how partners will be held to account for delivery (Government of Scotland, 2012).

Getting it Right for Every Child (GIRFEC)

GIRFEC represents a systems-change approach to reorienting service systems to focus on early intervention and prevention, and prioritising the role of universal services in promoting the wellbeing of children and young people. The core value underpinning the design of the reform strategy is that “anyone providing that support puts the child or young person – and their family – at the centre” (Scottish Government, 2012, p. 3). The core components of the reform apply across child and family service systems, with notable initiatives including:

- A common approach to gaining consent and to sharing information where appropriate and consistent standards of cooperation, joint working and communication where more than one agency needs to be involved;

- An integral role for children, young people and families in assessment, planning and intervention;
- A coordinated and unified approach to identifying concerns, assessing needs, and agreeing actions and outcomes, utilising a shared practice framework;
- A Named Person for every child and young person from birth (or before) until they reach 18. The Named Person, who will be the first point of contact for the child and their family if they have any wellbeing concerns, is required to take action, help, or arrange for the right help in order to promote the child's development and wellbeing.
- A Lead Professional for children and families with more complex needs, to coordinate and monitor multi-agency activity;
- The capacity to share demographic, assessment, and planning information – including electronically – within and across agency boundaries (Scottish Government, 2012, p. 7).

While there is local flexibility in implementation, there is a core set of principles, tools and statutory requirements that shape the essential components of the model (Scottish Government, 2010, p. 8). The initial GIRFEC pilot found a range of positive developments and early signs of impact. Interviews with practitioners identified that children's needs are being identified at an earlier stage; there is a shift towards the needs of more children being met within universal services as part of early intervention; resources are being used in a more targeted way; young people and their families are now more likely to attend the planning and review meetings; and more is done to ensure that their views are heard and, where possible, taken into account (Scottish Government, 2010, p. 9). More specifically, over the first three years of implementation in the pilot region, the program appears to have had a substantial impact on child protection:

- The rate per 1000 of children 0-15 on the Child Protection Register in Highland fell from 3.0 to 1.5 over the period being analysed. Over the same period the rate for Scotland has remained fairly stable increasing slightly from 2.3 to 2.7 per 1000 (0-15 year olds).
- The rate of new child protection notifications per 1000 (0-15 years) over the same period fell from 2.5 to 0.8. Over the same period the rate of registrations for Scotland as a whole increased from 2.5 to 3.1 per 1000.
- The rate of child protection referrals fell from 11.8 per 1000 to 8.4 per 1000 in 2007 and then to 7.2 per 1000 by late 2008. Over the same period the rate of referrals for Scotland increased from 9.8 to 13.5 per 1000 (Scottish Government, 2009).

Less significant impacts were seen in other domains (three years after implementation), but the evaluation report provides a useful discussion of the outcomes data collected. While GIRFEC includes an overarching outcome framework and a set of indicators for each domain of wellbeing, there is no indication of ongoing national impact/outcome monitoring. However, the National Practice Model is grounded in the identification and monitoring of

child and family-level outcomes, and it is argued that this may form the basis for a national approach to tracking child wellbeing: “the potential exists to achieve this if there is a willingness to embed into practice the Getting it right common language, the practice model, a standard template for a Child’s Plan which provides for systematic recording of outcomes and investment in electronic sharing of information and plans” (Stradling & MacNeil, 2010, p. 14).

7.5. Analysis of what works

The strategies and initiatives with evidence of effectiveness represent a ‘new generation’ of integrated working strategies. They go beyond earlier ‘place-based’ and systems change initiatives in that they are explicitly focused on realigning system-level levers and involve formal processes, governance and/or budgetary arrangements for making investment and service delivery decisions based on evidence. There is mixed evidence for less structured ‘place-based’ approaches (valentine & Hilferty, 2009; House of Commons, 2013). For instance, the National Audit Office in the UK found limited evidence that various integration initiatives and reform efforts improved outcomes. They reviewed 181 publications related to place-based collaborative planning and delivery models and found that “only ten past evaluations had assessed impact on service-user outcomes. Seven of the ten reported a lack of robust evidence that joint or collaborative working improved outcomes” (NAO, 2012, p. 8), while “the remaining three referred to tentative evidence of some impact, but all raised methodological issues that weakened the reliability of results” (NAO, 2012, p. 16).

The modest impact of earlier multi-agency or collaboration initiatives may be due to the fact that they were working against entrenched structural barriers and were often reliant on goodwill and the commitment of individuals and organisations willing and able to work beyond their core business. These more informal approaches may work when local conditions and circumstances are conducive – where there are champions on the ground, histories of collaboration or working in the way intended by the reform process, and a shared underpinning philosophy – but if they do not alter the way the system works, they are vulnerable to key staff leaving, to a loss of momentum if new ways of working do not become part of routine business practice, and may not be sustainable in the long-term.

Newer bottom-up change models – such as Communities that Care or Collective Impact – do involve formal structure and mechanisms to structure collaborative effort and some ability to shift structural factors. They are likely to be highly effective in some communities, but there are few examples of these approaches being scaled-up across social policy sectors and at national or state levels. The UK’s efforts at national whole-of-system reform show variable patterns of impact. Roughly a third of areas appear to be highly effective adaptors of reform, another third appear to adopt and systematise some elements of the reform or in some parts of the system, while reform appears to have limited impact on the final third. Where there are histories of poor relationships between organisations, where there is limited history or experience of collaboration or disproportionate power relationships between actors in the system, a bottom-up approach is unlikely to sufficient to deliver significant change.

The UK National Audit Office highlighted the importance of a data-driven approach to new reform initiatives, the need to begin with a strong understanding of baseline costs and the importance of central-government technical expertise, especially for consistent use of robust costing methodology (NAO, 2013). Similarly, a recent review of the mechanisms that promote effective collaborative governance identified the following factors as critical:

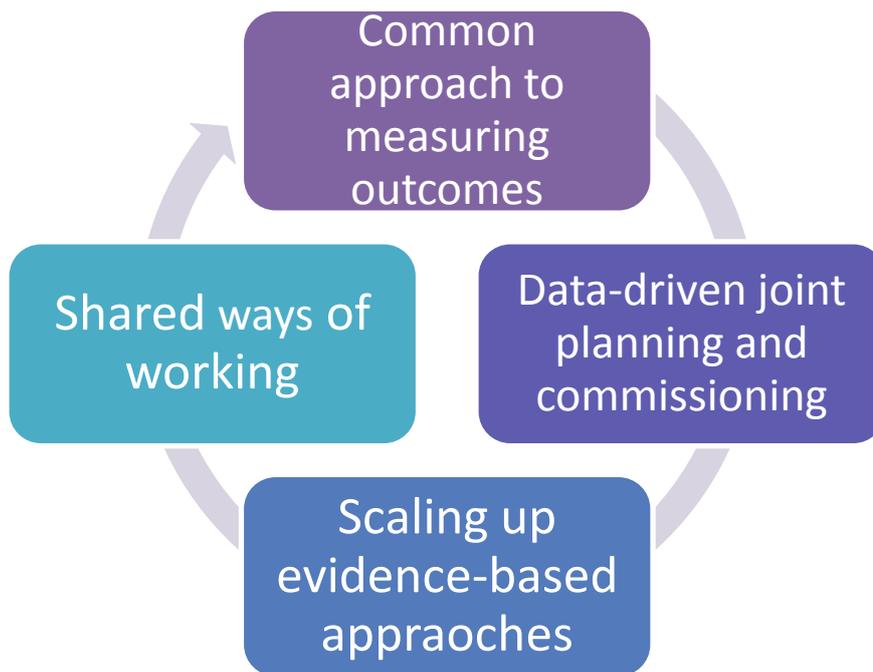
- **Using what works, developing evidence-based delivery models:** real transformation needs to take local partners beyond broad 'in principle' agreement on vision and priorities, and use evidence as the basis for new business plans and models of delivery, which can be jointly funded through new investment agreements.
- **Evaluating the effectiveness of new service models and using this to drive re-investment of resources so that successful projects can be scaled-up and sustained:** there are no 'quick fixes' to deep-seated complex problems, but tracking financial and social benefits over the medium- to long-term is vital to securing continued involvement and investment from partners.
- **Commitment to share data and information:** the delivery of integrated services will only be achieved if local public services agree to allow access to and share data about service users, recognising the need to meet their legal obligations, whilst developing a more systematic and timely approach to the use of data between partners.
- **Joint commissioning and performance frameworks:** create joint-commissioning arrangements and single-performance frameworks that span across public sector agencies to avoid silo thinking and cultures.
- **Scale is important for significant savings and outcomes:** while significant improvement in targeting and outcomes for customers can be achieved locally, delivery at a different scale is required to realise substantial savings to the taxpayer (Her Majesty's Government and Local Government Association, 2012, p. 8).

Key conclusions that emerge from these examples of effective practice include:

- The central importance of establishing the infrastructure for an 'intelligent system', especially by measuring common outcomes, improving collection and use of data (including cost-benefit analysis), developing data analysis capacity and embedding a data-driven approach at all levels of the system.
- The benefit of a shared and consistent practice model and guide to identifying areas of strength and need, grounded in an ecological approach to child and family wellbeing and informing practice across universal, secondary and tertiary sectors.
- Governance approaches that strike a balance between tailoring to local needs and local decision-making with the important role of central leadership in maintaining momentum – recognising that the right balance is likely to differ between areas (due to different starting points and capacity) and across time (at different stages of implementation).

- An approach that recognises and builds on existing good practice and builds the mechanisms that enable a focus on continuous quality improvement rather than a pre-determined ideal end-state – aiming for iterative rather than transformational change.
- Governance models that contain authority and capability to address system barriers at the local level.
- Utilising implementation science approaches that engage with explicit and implicit elements of the system, including building capacity and adopting common principles and processes.
- The importance of building the capacity of systems, organisations and practitioners to implement evidence-based interventions at scale.

The following sections provide an overview of the primary themes that emerge from this analysis: a common approach to measuring outcomes, local and data-driven planning and commissioning, scaling up evidence-based interventions and shared ways of working.



These elements are mutually reinforcing and together form the core infrastructure of an agile and responsive service system.

8. A common approach to collecting and using outcomes for data-driven decision making

8.1. Overview

High quality data is central to the effective planning of prevention and early intervention strategies, and is a key strategy for mobilising collaborative approaches to service planning and delivery. Systematic collection of outcomes data is important for accountability and can maintain focus and commitment to reform and continuous improvement processes. It also facilitates the development of shared goals; the identification of particular strengths, priorities and pressures at regional levels; and enables collective impact. Additionally, the significant lack of evidence about program effectiveness, as well as unanswered questions about the cumulative impacts of evidence-based programs, optimal service dose and intensity and more nuanced and complex questions about 'what works' for whom and in what circumstances, means that there is an urgent need for more sophisticated approach to data collection and use across the system.

The US agency for mental health and substance use argues that outcomes-based prevention relies on epidemiological data for its success (SAMHSA, 2012, p. 1), while the OECD suggests that the basic infrastructure of a public health system includes the generation and dissemination of data on health and wellbeing outcomes, service utilisation, health spending and government expenditures among different groups (Bennett, 2003, p. 63). This data is necessary to inform decisions about optimal intervention points and to generate cost-benefit analysis. However, to collect and draw meaningful conclusions about child, youth and family wellbeing, a much stronger emphasis on the collection of outcomes data is required at all levels of the system (service, region and state).

Measuring social outcomes is complex and challenging, both at agency level and at system level: child and family circumstances vary considerably, there are a varied range of factors influencing outcomes: the system is in a constant state of change; there is a culture of non-measurement across sectors, which reduces their motivation and capacity to measure outcomes; many outcomes are evidenced only in the long term; and the links between intervention and outcome and impact are not always straightforward or definitive (ARACY, 2009, p. xi).

There are a number of strategies needed to shift social policy systems to a culture of measurement (Centre for Excellence in Child and Family Wellbeing, 2011; McDonald, 2011; Child and Family Research Centre, 2008; Goldfeld et al., 2010; Quilliam & Wilson, 2011). For example, Little identifies the key information sources required for an 'intelligent system':

- Epidemiology to formulate priorities for intervention, estimate likely impact on child well-being and monitor trends.
- Systematic reviews and databases of proven models with clear standards of evidence to identify potential proven models for intervention.

- Economic analysis that predicts the costs and cashable benefits of introducing various evidence-based programmes into local systems service design methods to ensure that selected programmes are appropriately adapted for local needs and are implemented with fidelity.
- Experimental evaluation to estimate the impact of locally implemented evidence-based programmes on child outcomes, and the actual costs and cashable benefits.
- High quality dissemination to share the results of local experiments with system staff and consumers, and to inform other systems.
- Quality assurance procedures to ensure that programmes that have been proven locally, and that are taken to scale, are consistently implemented as intended (Little, 2010, p. 43).

The priority here is the establishment of a common outcomes framework and common approaches to measurement, supported by capacity building, so that the data sources Little identifies can be collected, understood and used effectively.

Box 4: Key Features of Shared Measurement (Ní Ógáin, Svistak, & de Las Casas, 2013)

Key Features of Shared Measurement

Shared outcomes: organisations using shared measurement should have consensus on the shared outcomes that their sector achieves and measure these shared outcomes using the same tools.

Consistent methodologies: organisations using a shared tool should use the same tools and consistent methods when measuring. This means having consistent research designs, similar sample sizes, similar analysis and consistent reporting of results.

Focus on measuring outcomes and impact: shared measurement should focus on measuring the difference a particular activity or organisation makes to an issue or group of people. Agreement around what is measured: there should be agreement on the key outcomes in a shared measurement framework while also allowing the flexibility for organisations to pick and choose which outcomes are most relevant to their work.

Clarity around a sector's impact: shared measurement should involve understanding how a sector works together to solve a particular social problem. This can mean mapping out a sector's theory of change or impact network.

Ability to compare: shared measurement should allow organisations to meaningfully compare their results to those of similar organisations. This helps organisations put their impact data in context and learn about what approaches are most effective.

Box 4 identifies five crucial features of shared measurement approaches. In particular, it highlights the importance of a coherent theory of change, shared objectives and outcomes, consistent approaches to measurement and mechanisms for using data to track impact and compare outcomes. A separate analysis would be required to identify optimal strategies for building a comprehensive cross-agency, state wide approach to outcomes measurement, although a number of initiatives are underway to develop community-wide approaches to shared measurement.

8.2. Examples of innovative approaches

State-level monitoring frameworks

The Victorian Child and Adolescent Monitoring System (VCAMS) is a system-wide outcomes framework that utilises a range of administrative data, in an accessible format, to monitor outcomes at the LGA-level and inform state and local planning (Centre for Excellence in Child and Family Wellbeing, 2011). It is also supported by a catalogue of evidence-based interventions that align with the outcomes measured under the framework. There is no available analysis of how VCAMS is being used. The WA Wellbeing Monitoring Framework also uses administrative data to provide population-level data on child and adolescent wellbeing across multiple domains, and is supported by guidance on appropriate evidence-based interventions. The UK Public Health Outcomes Framework is grounded in a vision for public health, desired outcomes and the indicators that enable ongoing monitoring and benchmarking (over time and between regions (Department of Health, 2012). A Children and Young People's Health Benchmarking Tool has been developed to presents a selection of indicators that are most relevant to the health and wellbeing of children and young people in an easily accessible way to support local decision making (Child and Maternal Health Intelligence Network).

Client-level data and unique identifiers (US)

A number of states in the US are developing early childhood data systems that track individual children (often in the 0-5 period) through early learning and health systems via a unique child identifier (Early Childhood Data Collaborative, 2010 and 2014; Department of Early Education and Care, 2011; Pew Charitable Trust, 2013). The more sophisticated of these models also collect service quality information, early learning attendance data, the results of validated child development assessments and are also connected to primary and high school databases.

Pennsylvania's system is used by all early learning providers (aiming for all nurse home visiting providers as well), and is designed to enable them to a number of questions about dose and response, strategies for targeting children, the combination of services that produce the best outcomes for at-risk children and program characteristics associated with improved outcomes for all children (Stedron, 2009; OMG Centre for Collaborative Learning, 2010). The development and maintenance costs are estimated at \$4.5m for feasibility assessment and development, \$0.8m for ongoing monitoring, \$0.9m for training and \$650m to conduct validating screening three times a year for approximately one million children (Stedron, 2009).

Strategic Prevention Framework and State Epidemiology Outcomes Workgroups (US)

The Substance Abuse and Mental Health Services Administration (SAMHSA) uses a Strategic Prevention Framework (SPF) to guide strategic planning and evaluation of program and community level effectiveness. The SPF requires the states and communities they fund to systematically assess their prevention needs based on epidemiological data, and to use this information to develop a strategic plan; implement evidence-based community prevention practices and policies; build their prevention capacity; and continuously monitor the impact of these strategies (SAMHSA, 2012, p. 4). State-based Epidemiology Outcome Workgroups are funded to support agencies to examine, interpret, and apply data to inform prevention planning and decision-making. The Workgroups collect, analyse and interpret epidemiological data to understand population-level patterns and outcomes; provide capacity building support to service delivery agencies; provide data to inform planning processes and investment decisions; work with communities to determine optimal prevention strategies and evidence-based interventions (SAMHSA, 2009); and provide ongoing monitoring and evaluation (SAMHSA, 2012).

Child and youth epidemiological surveys

Communities that Care and Evidence2Success both utilise youth surveys (often conducted across a number of schools in the target community) to measure wellbeing (particularly risk and protective factors for mental health, risky health behaviours and substance use), highlight priority areas for intervention and prevention and measure the impact of prevention strategies (Social Research Unit). Similarly, Victoria administers the Strengths and Difficulties Questionnaire to all children upon entry to school, with data reported at LGA level enabling the identification of target areas for prevention.

Effort to Outcomes (US)

Effort to Outcomes is an example of a software solution to tracking the contribution of individual practitioners and agencies to community-level outcomes. Used extensively in the US, it integrates with existing agency data systems and provides a community-level dashboard analysis of investment, outputs and progress towards shared community outcomes. This enables communities to track and monitor progress on these metrics to inform and improve practice and measure collective impact. It can also be used to monitor implementation fidelity for evidence-based programs. Software solutions like Effort to Outcomes are a promising strategy for drawing a line between service delivery on-the-ground and overarching regional and state-level monitoring frameworks (Social Solutions, 2014).

Mapping indicators of wellbeing

In addition to the collection of epidemiological data, the presentation of data in ways that make it accessible and usable to a broad audience is important. The production of Australian Early Development Census (AEDC) data maps at very local levels has been a significant component of the AEDC's impact. The Public Health Information Development Unit's *Social Health Atlas of Australia* maps a broad range of health and wellbeing indicators and offers

the possibility to use geospatial technologies to map multiple indicators across the lifecourse (Public Health Information Development Unit, 2012, 2015). These mapping technologies can be utilised to identify, respond to and monitor priorities for prevention and early intervention at community-level.

Victorian Government Department of Human Services Outcomes Framework

The Human Services Outcomes Framework has been developed as a common set of outcomes used across child, youth and family services; disability; and housing and homelessness services. The outcomes framework is integrated with intake, assessment and discharge processes and involves core questions across multiple wellbeing domains. It offers a consistent approach to what is measured and how it is measured across the system.

Figure 27: DHS Outcomes Framework (Department of Human Services, 2015)



9. Local and data-driven planning and commissioning

9.1. Overview

Current system design can create significant disincentives to holistic, person-centred and capacity-building service responses. Local or regional approaches to identifying community needs, pressures and priorities – and planning and funding services accordingly – have emerged as a key strategy for developing alternative structures and processes that incentivise, or even require, alignment of system elements around shared goals and outcomes. This is a key strategy for achieving a more cohesive local service platform and for reorienting spending to focus on prevention (Sandford, 2014).

These approaches involve devolved decision-making and are intended to create systemic imperatives for more coordinated service delivery by orienting planning and funding decisions around community needs rather than individual agency or other external priorities. They are also intended to break down barriers to reprioritising funding for prevention and early intervention, with better intelligence on local drivers of pressure on secondary and tertiary services enabling: more targeted investment in prevention and early intervention; a clearer picture of how investment in one area of the system can reduce pressure on other parts of the system; and more direct opportunities to realise the economic benefits of prevention and early intervention. Community-level planning processes have also developed in response to constrained budgets and increasing costs. The rationale is that savings will accrue through:

- improved outcomes for citizens – by focusing on important local outcomes, such as preventing avoidable hospital admissions or reducing reoffending;
- more cost-effective delivery – by stripping out unnecessary or unhelpful duplication, such as different bodies undertaking multiple assessments of people or families;
- improved access to resources – by combining budgets, skills, staff or data to address barriers to joint investment, for example where one body spends but another benefits, or when it takes time for benefits to accrue; and
- creating clearer incentives to deliver more cost-effectively – for example, by changing how local services get central government funding (NAO, 2011, p. 6).

Research on local and place-based approaches to decision-making has also emphasised the importance of an authorising environment in which government provides leadership, enabling structures and accountability (Centre for Community Child Health, 2012; Moore et al., 2014).

9.2. Examples of innovative planning practice

Joint Strategic Needs Assessment (JSNA) (UK)

In 2007, the UK established a statutory requirement to form local health and wellbeing boards and to conduct joint assessments of the current and future health and social care needs of the local community and strategic plans to address these (Department of Health,

2013). The JSNAs are intended to form “a systematic method for reviewing the health and wellbeing needs of a population, leading to agreed commissioning priorities that will improve the health and wellbeing outcomes and reduce inequalities” (Department of Health, 2007, 7). They are expected to draw on a range of epidemiological and qualitative data and to plan for immediate and medium-term needs. The strategy provides the framework for the local commissioning of health services, adult social care and children’s services, although it is driven by government agencies with limited formal roles for community agencies (Kaye and Melton, 2013, p. 113). Many of the functions of the health and wellbeing boards are established in legislation, although considerable flexibility for local implementation is provided.

The formalisation of coordinated planning through JSNAs is generally well-supported, although it has been argued that this approach pays insufficient attention to social determinants of health and provides insufficient guidance and direction for good practice in system change and in navigating complex regulatory and other barriers (Tomlinson, Hewitt and Blackshaw, 2013, p. 255). There has not been a robust evaluation of JSNAs, in spite of their central role in health and social care service planning in the UK, although a qualitative and case-study analysis found that the JSNA process had become “systematic, quite well resourced and, with some caveats, embedded in the multi-agency service planning landscape” (Tomlinson, Hewitt & Blackshaw, 2013, p. 256) and identified “a sense of rigour about the use of evidence and information that was often missing from previous joint planning” (Hughes , 2009, p. 20).

However, there is a need for more sophisticated approaches to be embedded in the process, particularly around understanding supply and demand and the implications of population-level data, and evidence for “what methodologies, delivered at what time to particular populations, are likely to have the greatest impact” in order to “be able to come to conclusions about the relationship between the type and volume of service supplied, the cost of that provision and the outcomes it achieved” (NW Joint Improvement Process, 2010, p. 12). New skills are needed to help shift commissioning strategies from broad based descriptors of need to documents that are much more analytical in their focus on the key drivers behind demand” (p. 12). Tomlinson, Hewitt and Blackshaw also point to a tension between the needs-based planning process and the demand-driven funding and the lack of clear support for “how to coordinate and balance ‘upstream’ public health interventions on the wider determinants of health with the day-to-day demands for health service” (2013, p. 256). Further, an analysis of implementation readiness conducted prior to the implementation of JSNAs identified a common concern about the impact of system barriers: “the biggest threat to the new duty was felt to be a perceived lack of local power to do things differently if this was what the JSNA called for ... otherwise JSNA could quickly become little more than ‘a paper exercise’ (HSMC, 2008, p. 18). It is not clear that these challenges have been resolved, although the Community Budget model does provide support for more sophisticated analysis and planning processes.

Whole Place Community Budgets (UK)

This is a ‘proof of concept’ pilot program currently underway in the UK, which in many respects builds on the JSNA process. It involves regional public service managers co-

designing service delivery platforms and funding streams, with technical expertise and support from central government (including support to change regulations and policies that inhibit effective working at local levels and strong guidance on developing robust cost-benefit analysis) (NAO, 2013, p. 10). Each partnership area is focused on identifying different ways of working, rather than new programs or projects (NAO, 2013, p. 14). The initial stage of the process includes developing a shadow budget for each place and understanding how a single budget can operate; identifying and agreeing national and local outcomes that would be delivered; developing and adopting a robust methodology for judging the costs and benefits of options identified; identifying effective local structures, governance and accountability arrangements; and devising timescales and developing a plan and a range of options for practical implementation (NAO, 2013, p. 15). The analysis process involves:

- understanding spending patterns and identifying fragmented, high-cost, reactive and acute services;
- focusing on outcomes and selecting interventions that best deliver those outcomes, rather than being limited by existing organisational responsibilities;
- developing services that are user-focused;
- shifting the balance of resources in favour of 'early action' measures targeting prevention, early intervention and early remedial treatments; and
- identifying investment from partners in new delivery models including considering whether pooling or aligning resources could help maximise provision and minimise duplication and waste as part of a new service model (NAO, 2013, p. 15).

Local areas were supported by seconded staff from central agencies as well as a technical assistance (particularly around cost-benefit assessment) from an independent NGO. A set of high quality practical resources (such as unit costings for core government services and standardised and robust processes and formulas for cost-benefit analysis) was used across all pilot sites. The National Audit Office reports that all sites identified specific outcomes to improve (such as wrap-around support for high needs families or reductions in acute health issues), rather than considering service delivery across the board. Although the estimated savings are significant, the pilots have only been underway for a year and a half and definitive results are yet to be seen (although Greater Manchester appears to be making the most progress). However, an Ernst and Young analysis estimated that if community budgets were scaled up nationally, the potential 5 year net benefit of community budgets would be £9.4bn-£20.6bn. The net one year annual benefit is £4.2bn-£7.9bn, although these estimates are highly sensitive to the ability of all areas to implement the approach with fidelity (Ernst & Young, 2013, p. 1).

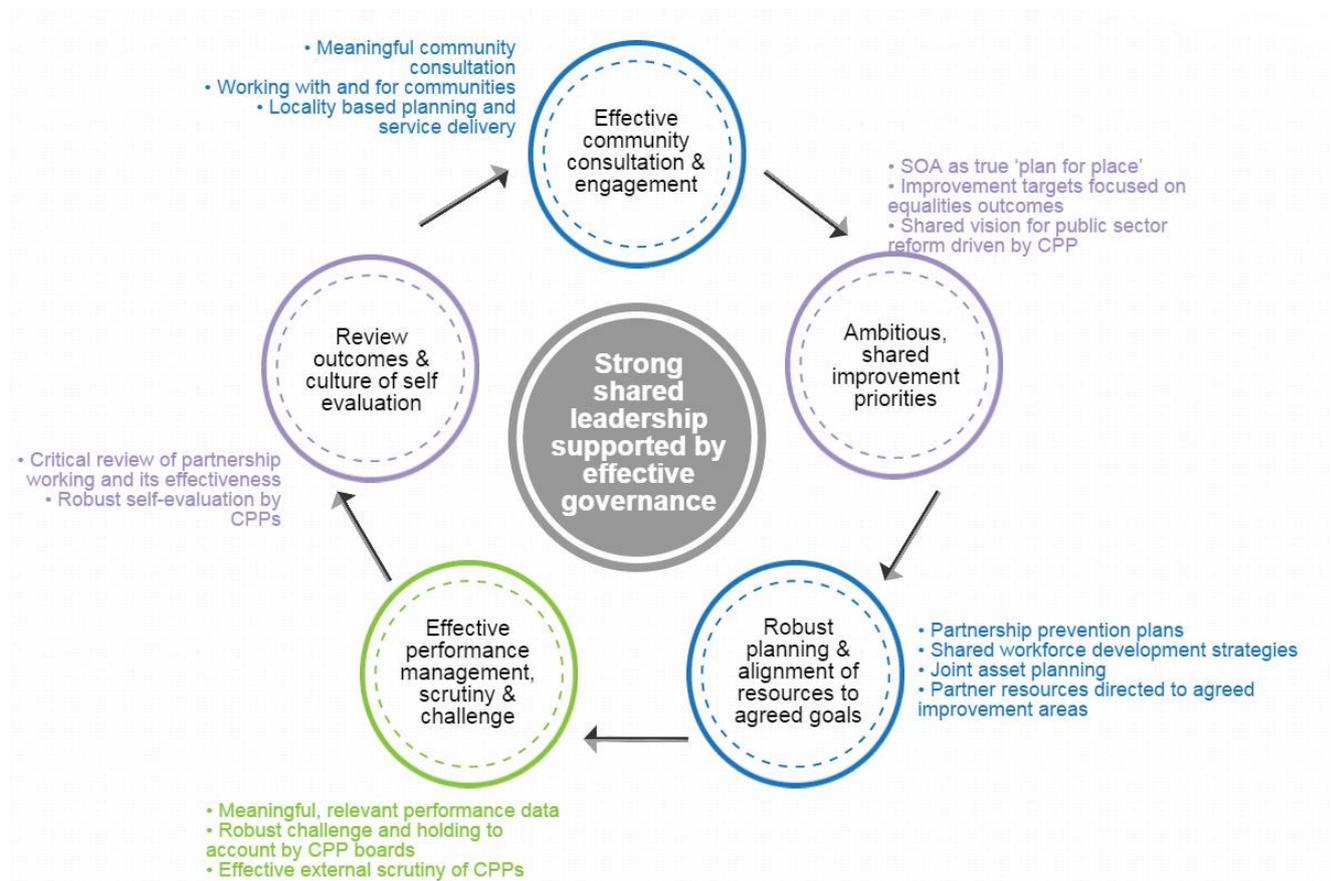
Community Planning Partnerships (CPPs) (Scotland)

Scotland's revised approach to CPPs includes

- use of an evidence-based approach, underpinned by disaggregated data, to drive improvement in meeting the differing needs of local populations;
- clear performance commitments that will lead to demonstrable improvements in people's lives;
- a focus upon reducing outcome gaps within populations and between areas – and promote early intervention and preventative approaches in reducing inequalities;
- priorities for interventions and include plans for prevention, integration and improvement to promote better partnership working and more effective use of resources (Scottish Government and COSLA, 2012).

Outcomes agreements between central government and local authorities are required to articulate strategies for shifting activities and resources towards the prevention of negative outcomes. Figure 28 outlines the new CPP model for performance and accountability.

Figure 28: A system of leadership, governance and performance that ensures continuous improvement in community planning (Audit Scotland, 2013, p. 18)



Strategic Investment Framework (NZ)

New Zealand's Ministry for Social Development is developing an outcomes-focused strategy to guide investment decisions and inform outcomes-based funding of NGOs. This strategy is being developed in response to an analysis of the limitations of existing public service funding and accountability models in New Zealand (State Services Commission, 2011a, 2011b, 2011c). The Strategic Investment Framework is still in the development phase but will focus on four overarching outcomes: reducing long-term welfare dependency, supporting vulnerable children, boosting skills and employment for young people and reducing crime committed by children and young people. It is intended that the framework will guide funding decisions across the Ministry by:

- defining the outcomes the Ministry wants to see and how the services we fund will help achieve these outcomes,
- outlining a robust process for identifying what services communities are currently receiving and what is needed,
- identifying funding priorities, including the mix of preventative and intensive services needed by communities, and
- identifying a reliable and consistent way of showing the positive difference services are making in people's lives (MSD).

The strategy will include: the priority outcomes, target locations for services, based on needs analysis, highest priority client groupings, what types of services will be bought based on evidence showing what interventions are the most effective and a funding allocation model that factors in where the highest need is (client group and location) and what service works best (MSD).

Social Sector Trials (NZ)

This pilot project in New Zealand was established to test a new approach to improving service delivery by reorganising funding and decision-making processes across the social sector, and shifting control to local levels. The pilot projects were focused on youth and on four key outcomes: reducing truancy, offending, alcohol and drug abuse and increasing participation in education, training and employment. The initiative is jointly funded by the Ministries of Social Development, Justice, Health, Education and Police. Two different governance models were utilised, with half the pilot sites being led by a local NGO and half by a 'Committed Individual' (a public servant with responsibility for delivery), although all sites were supported by a high-level central government committee. The project lead was responsible for "planning social service delivery for young people, managing relevant contracts and funding that are within the scope of the programme, overseeing resources-in-kind, developing networks, engaging with the community and influencing social services outside of their direct control (like statutory services)" (4). The evaluation did not measure outcomes for young people, but identified improvements in service cohesion and access and identified a range of barriers and facilitators for implementation (Centre for Social Research and Evaluation, 2013).

Braided and blended funding models

There are two broad approaches to braiding and blending funding models – virtual and actual. The intention of this approach is to identify and make public combined total funding for specific outcomes, parts of the service delivery spectrum and/or age cohorts within a community, and to enable pooled funding as well as clear accountability. This can facilitate decision-making about resource allocation, identify opportunities to pool budgets or reorient spending, and better link investment and outcomes. There are a range of models and approaches to braided and blended funding (Stroul et al., 2009; Panovksa, 2013; New Zealand Government, 2010).

10. Using evidence to guide commissioning and service delivery

10.1. Overview

It is clear that systems improvements are intrinsically tied to service improvements – without attention to both, the effectiveness of either is limited. However, there are many more examples of service system reforms to improve coordination and collaboration than there are systems-level efforts to deliver evidence-based interventions at scale. This is particularly the case in the family services, child development and education sectors; health tends to have more established processes for the scale-up and systematisation of evidence-based approaches.

In spite of the complexities of implementing evidence-based practice and programs, there are several key factors that influence the extent to which systems are able to scale-up evidence-based interventions: knowledge and access to information, capacity and readiness, and incentives to utilise evidence-based interventions.

Knowledge and access to information

Finding accessible and relevant information on evidence-based interventions is a significant barrier to implementing evidence-based intervention. There are a number of international databases that are streamlining access to information, including Investing for Children (UK), Home Visiting Evidence of Effectiveness (US) and the Washington Institute for Public Policy (US), as well as more research-intensive databases, such as the Cochrane and Campbell Collaborations. There are emerging Australian equivalents, including What Works for Kids (ARACY, forthcoming), Building Blocks (WA) and the Catalogue of Evidence (Vic), but there are some limitations to these models. There is a disconnect between these databases and emerging research and they tend not to be organised by outcome. They tend to focus on programs (many of which are commercialised) rather than practice-based evidence and evidence-based practices, and do not always address the question of whether the models work in Australia (that is, how well they work [effect size], for whom and in what circumstances). Australian cost-benefit data is also essential and is largely missing. The UK's National Institute for Clinical and Care Excellence (NICE) provide clear practice guidelines that are grounded in evidence about the components of good practice but are agnostic about specific programs. NICE guidance includes welfare and early years sectors, and is a useful model for consideration in an Australian context.

Capacity and readiness

Evidence-based practices, programs and systems have limited impact if they are not effectively implemented. The capacity of practitioners and organisations to work in an evidence-based way, and the extent to which systems are ready and able to support evidence-based practice, are a strong determinant of impact. Communities that Care and Evidence2Success are models that include readiness assessments and provide technical assistance to communities to help identify and implement evidence-based models. The UK's commissioning reforms included the creation of the of 'public service commissioners',

combined with providing intensive training which focused on understanding needs and how to commission appropriate interventions. The growing field of implementation science provides strong guidance for improving the effectiveness of implementation process, but is underutilised in Australia. There is very little generalist training in prevention science and implementation in Australia (such as training that teaches general skills rather than selling a particular product/model).

Incentives to utilise evidence-based interventions

Several governments are establishing explicit incentives (or requirements) to deliver evidence-based interventions. For example, the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program in the US requires all recipients of federal funding to implement one of 14 programs that meet specific and rigorous standards of evidence (including MECSH, the program Sustaining New South Wales Families and right@home are based on). They also provide technical assistance with implementation. New Zealand's Strategic Investment Framework intends to mandate specific types of services that will be funded, based on evidence, although the precise mechanism for this is unclear. Birmingham's Business Transformation incentivises evidence-based programs by returning 'cashable' savings to commissioning agencies.

10.2. Examples of innovative practice

Business Transformation Birmingham (UK)

Cited by Little as an example of a successful model for delivering evidence-based interventions at scale, the model involves the creation of incentives to implement evidence-based programs and processes through returning 'cashable' savings to the implementing agency. Little explains that first step is to identify evidence-based programs and to calculate conservatively the financial benefits that these programs will bring to the system budget using reliable cost-benefit methodologies:

The next step is to find out whether these benefits are realised. There is a huge incentive for systems people to find out because every dollar that is proven to be saved comes back to commissioners for reinvestment. In order to boost the chances of generating savings, Business Transformation ensures that individual projects are carefully planned and resourced and that staff are properly supported to implement the work efficiently. This involves a service design process that ensures high practitioner involvement, adherence to the evidence base and fidelity during implementation. Each evidence-based program, adapted for local conditions and supported by local practitioners, is then subjected to an experimental evaluation to work out if the program can be delivered as planned, what impact it has on child outcomes and, crucially, the actual amount of cashable benefits that will be generated. If the program is promising on all three fronts, then plans are made to move it to scale. Fundamental to the scaling up of programs is a process called 'benefit realisation'. The experiment provides a reasonably clear indication of the amount of cashable benefits that will come to the system as a result of

implementing widely, for example, an evidence-based parenting program (Little, 2010, p. 39).

Statewide implementation of evidence-based practice (US)

A 2007 study of 49 sites in eight US states implementing a set of five evidence-based practices in mental health settings (assertive community treatment, family psycho-education, illness management and recovery, integrated dual diagnosis treatment, and supported employment) found that implementation fidelity was linked with the quality of the implementation process. They identified that when implementation was going well, three key features were in place:

First, regulations were being aligned to be commensurate with the needs of an evidence-based system of care ... Second, states were providing leadership to the mental health system to move toward dynamic and effective treatment centred on the consumer. Third, states were providing training to frontline clinicians to implement the evidence-based practices with high fidelity, and they were linking those training efforts to quality assessments and infrastructure needs" (Isett et al., 2007).

However, they also found that implementing multiple interventions simultaneously placed great strain on practitioners and organisations and reduced the likelihood of effective implementation.

Research on the implementation and maintenance of the intervention over time found that fidelity increased significantly during the first year before levelling off, as well as highly variable patterns of fidelity between different evidence-based practices (McHugo, 2007). An eight year follow up showed inconsistent patterns in terms of the maintenance of the evidence-based programs. Of the 49 implemented programs, 39 survived at year four and 23 survived at year eight. At year eight, program sustainability was not related to any baseline characteristics. Fidelity and quality improvement, rated at year two, did not predict sustainability at year eight. Peterson et al. suggest that that external funding and supportive entities affect long-term survival, and that internal actions to promote sustainability (such as assessing fidelity, collecting and monitoring outcome data, trained new staff, supervision) are not sufficient to ensure continuation (Peterson et al., 2013, p. 8).

11. Shared practice frameworks

A “shared approach to service assessment and intervention that provides a common language and greater agreement on service thresholds and tiers of need” is an important contributor to improved outcomes for children (Siraj-Blatchford & Siraj-Blatchford, 2009).

“As a tool for practitioners, [the practice framework] provides a theoretically informed intervention logic and a set of triggers to support best practice” (Connolly, 2007).

11.1. Overview

As outlined in Section 5, implicit and explicit elements of a system combine to shape the everyday behaviour of practitioners on the ground. There is consistent evidence that where a change in infrastructure is not mirrored by a change in mindsets, system reforms fail to achieve their goals. Conversely, where mindsets have changed but are not supported or echoed in everyday business process and other infrastructure elements, reforms fail to deliver. Shared practice frameworks are an important starting point for systems change and for shifting the implicit elements of a system; the knowledge, attitudes and beliefs that influence and shape practice on the ground. They also play an important role in strengthening connections between universal and secondary services, a key objective for prevention and early intervention.

It is important to note, however, that without a parallel commitment to changing the structural elements of the system, changed mindsets are likely to have limited impact. valentine and Hilferty point to the limited success of attempts to promote the idea that ‘child protection is everyone’s business’ and to engage universal service providers in identifying and supporting vulnerable children. They argue that although the idea “has broad intuitive appeal and it would be difficult to find any sensible objections,” practitioners frequently and repeatedly fail to act on concerns and often resist the expectation they take on a broader role outside their immediate professional expertise (valentine & Hilferty, 2012, p. 22).

Similarly, a UK study of how different professions understand, assess and respond to parenting support needs revealed considerable diversity. For example, teachers lacked confidence in their assessment and support of families and expressed anxieties about ‘damaging’ their relationships with parents, while paediatricians and teachers had received the least training in parenting styles and assessment (Siraj-Blatchford & Siraj-Blatchford, 2010, p. 22).

Both implicit and explicit components of systems create barriers to holistic approaches to child and family wellbeing. This contributes to significant barriers to cross-sector approaches such as delivering health and wellbeing interventions through school; embedding parenting support in universal child and family health services; or providing integrated health, learning and parenting services through the early education and care platform.

A core set of principles that apply across agencies and sectors and define a common way of working must be grounded in the science of child and youth development (Siraj-Blatchford & Siraj-Blatchford, 2009) and the evidence that supports an ecological approach to child and family wellbeing. A scoping project for the development of a shared practice framework for Australia, which involved widespread consultation with practitioners and a national taskforce of experts from across child, youth and family service sectors, identified a number of core requirements:

- Simple, flexible, easy to use and adaptable;
- Child-centred and family-focused;
- Demonstrating a holistic response to child and family needs and taking into account both strengths and needs across different spheres and aspects of a child's life;
- Promoting collaboration between different services and sectors; and
- Useful in identifying the next steps which should occur in relation to the child or family in need (Allen Consulting Group, 2010).

There is emerging evidence to support the impact of practice frameworks on changes in practitioner attitudes, beliefs and capacity, but limited evidence to date on impact on children and families. Additionally, research consistently reports significant implementation challenges that impact the potential effectiveness of shared practice frameworks.

11.2. Examples of innovative practice

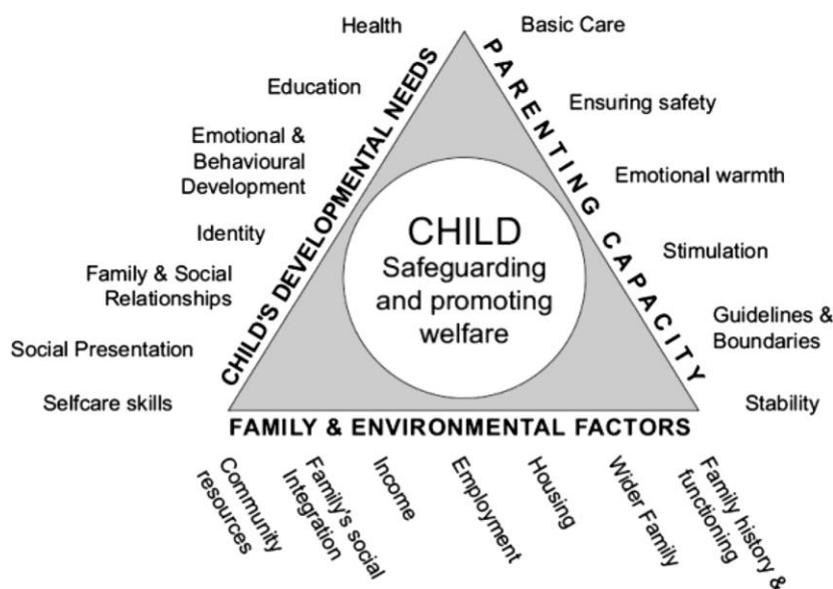
Framework for Assessing the Needs of Children and their Families (FACNF)

The UK-developed FACNF is one of the most extensively used practice frameworks in child and family welfare sectors internationally, having been modified and adopted across Europe and in Australia. The Framework aims to mobilise stakeholders around a shared model of working with families, through:

- a holistic analysis of children's welfare;
- a common understanding of the human development of children and adolescents;
- a common language for all professionals working with children and families irrespective of their service area;
- the development of coherent processes, shared information sharing systems and better matching of service responses to need; and
- parental involvement oriented towards the needs of their children and driven by reporting requirements (Léveillé & Chamberland, 2010, p. 942).

The framework identifies key indicators to consider in relation to children's developmental needs, parenting capacity and family and environmental factors (Figure 29).

Figure 29: Framework for Assessing the Needs of Children and their Families (FACNF)



A meta-evaluation of the implementation of the FACNF in various countries found tentative evidence that professionals using the framework “ultimately make better assessments of the complex situations they face, have a more holistic and child-centred point of view, and consequently plan better interventions” (Léveillé & Chamberland, 2010, p. 929), as well as indications that it enhanced collaboration between professionals.

However, the meta-evaluation also identified consistent and persistent implementation challenges which limited the potential of the Framework. At the level of practitioners, these barriers included resistance to change, concerns about confidentiality and obtaining informed consent from families, and insufficient knowledge including lack of training or competence to use the model effectively (Léveillé & Chamberland, 2010, p. 937). At a system level, staff turnover, limited organisational mandates, the time burden of completing the assessment process, technical difficulties with data systems, lack of integration with case management planning and poor linkages with other services were frequently identified as barriers (Léveillé & Chamberland, 2010).

Best Interests Framework (Victoria)

The Best Interests framework was developed alongside a range of other reforms in Victoria. It aims to articulate a “coherent approach to privileging and promoting children’s best interests across the program areas of family services, child protection and placement services. It provides a foundation from which we can establish a common language and build a shared understanding” (Department of Human Services, 2007). It is intended to guide assessment, planning and intervention, and to span secondary and tertiary services. No evaluation data is publically available.

The Common Approach

The Common Approach is a way of working, supported by a set of resources, designed to be used across agencies and professions (especially universal services), to develop a common language and shared approach to working with families – one that is holistic, strengths-based, child-focused and partnership-based. It is a framework for a conversation with a young person or family about strengths and needs, rather than a risk assessment or formal screening tool, and was designed to strengthen the ability of universal service providers to respond early to emerging issues. It outlines six core domains of wellbeing: health, mental health and emotional wellbeing, material wellbeing, relationships, learning and development and safety.

A formative evaluation found early indications that practitioners were identifying needs earlier, had a greater understanding of their role in prevention, and were more willing to initiate conversations with families about their needs (Katz, Hilferty & Newton, 2012). However, the implementation of the Common Approach encounter a number of systemic barriers and requires a comprehensive and intensive implementation process to enable it to become part of everyday practice. Other models for promoting a common approach used in Australia include the Outcomes Star and the Parent Engagement Resource (currently undergoing RCT).

Common Language

An approach developed in the UK to foster a shared understanding of child development and evidence-based practice in the UK. It helps equip children's service workers to understand "how risk factors interact in causal chains to produce impairment to children's health or development and using this knowledge to decide if and how to intervene in children's lives," and to understand evidence-based approaches:

[I]t is hypothesised that inculcating 'research-mindedness' will result in services that are more needs-led and evidence-based, so producing better outcomes for children. It is also posited that a 'common language'...will improve communication and understanding among the different players that comprise children's services, including policy-makers, practitioners, researchers and service-users (Axford et al., 2007, pp. 167-168).

Evaluations of the tools have shown positive impacts on client outcomes and service development, although intensive implementation support has been required to change practice on the ground (p. 174).

12. Identifying strengths, needs and intervention thresholds

12.1. Overview

The priority of a prevention and early intervention focused system is the early identification of potential areas of need and the ability to link children and families to appropriate, effective and timely support – and to ensure that limited resources are utilised in the most efficient manner and maximising potential impact. This section provides an overview of key issues and innovative practice in identifying needs, both within universal services as part of intake and assessment processes in secondary services, and in determining intervention thresholds on the basis of identified needs.

Assessment and screening tools and approaches are widely used across the professions and sectors that are concerned with child, youth and family wellbeing, with many agencies utilising some form of standard intake and assessment process, sometimes in combination with more specialised or diagnostic screening for particular conditions or issues. These tools and approaches are grounded in varied levels of evidence, from the use of scientifically validated instruments to the development of bespoke agency-specific processes (Axford, 2010; Merkes, 2009). They reflect the diverse conceptual and practice frameworks in use between different agencies and sectors. There are also varied levels of skill and capacity in the identification of needs and administration of formal screening tools, especially in areas of need or concern that sit outside a practitioner's core area of expertise.

Axford et al. (2006, p. 162) argue that these issues “contribute to a lack of consistency in assessment, intervention and outcomes. Children with similar needs are often dealt with differently by different agencies and connections between need and services can appear haphazard”. Without a broadly consistent understanding of different thresholds of severity and appropriate treatment or service responses, children and families receive inconsistent and inequitable access to support (Berends & Hunter, 2010). More coordinated and consistent entry and assessment processes also “simplify access to services by clients, track system outcomes to inform and enhance decision-making, and improve overall system efficiency” (Building Changes, 2012, p. 1).

While there is an extensive literature on needs identification and assessment, research has tended to focus on:

- identifying or predicting potential risk of harm, with a strong focus on intake and assessment in the child protection sector;
- the identification or diagnosis of specific risks; or
- screening in the context of a specific sector (for example, screening for postnatal depression, mental health issues, language or other developmental delays, or parenting assessments).

The focus of this section is on assessment and screening approaches that can be utilised – across service types, professions and sectors – to identify a broad range of factors that may impact child and family wellbeing. In this context, the literature on risk assessments and

diagnostic screening is useful but not definitive. The literature on holistic, cross-sector assessment and screening processes is much less developed, with a particular dearth of information about the impact of these processes on outcomes for children and families. Again, however, research points to the importance and challenge of implementation if the objectives of needs identification are to be met.

12.2. Approaches to identifying strengths and needs in universal and secondary services

Challenges of unstructured clinical judgement

Miller and Maloney (2013) note that traditional 'clinical' decision making is characterised by considerable inconsistency, while Winkworth and McArthur (2009) suggest that the limitations of unstructured professional decision-making are in a lack of reliability, validity and accountability. These inconsistencies relate to "clinicians making predictive decisions on equivalent data, and across different clinicians making predictions on the same data" (C. Thompson & Stewart, 2006, p. 11). In child protection contexts, inconsistent judgements about risks to child wellbeing have the potential to either overlook children experiencing or highly likely to experience abuse, or expose families to child protection systems unnecessarily. However, inconsistent identification of child and family needs (and strengths) within universal and targeted services also results in inequitable access to services, lost opportunities for early intervention and the potential for the perpetuation of sub-optimal circumstances for children and families. In their analysis of families' access to parenting programs, Khan, Parsonage, and Brown (2013) point to the importance of professionals understanding the significance of what they see and hear, and being able to read children's behavioural indicators appropriately, in order to be able to refer families to the appropriate support. Given many of the professionals in first contact with children with potential behavioural or developmental issues may not have clinical training, unstructured judgement alone is insufficient for consistently identifying children with additional needs.

Winkworth and McArthur (2009, p. 411) note that in Australia, practitioners working with children, young people and families come from varied professional backgrounds, with a wide range of experience and skill, and different assumptions, values and principles underpinning their work. While there are benefits to this ability to utilise different intervention strategies and approaches, it may increase the potential for inconsistent needs identification.

Challenges of structured risk-based assessments

The appeal of structured assessment processes are in their potential for enabling greater consistency (and therefore greater equity), enhanced capacity to align service responses with evidence-based practice, and greater efficiency. There is largely consistent evidence that actuarial risk assessment models are more effective at predicting risks to children than unstructured clinical judgement (C. Thompson & Stewart, 2006) and this approach has been particularly resonant in child protection contexts (although not without considerable debate, see Lamont, Price-Robertson, and Bromfield (2010) and Gillingham (2011)). There is also evidence that risk-response models have been effective in more specialist fields responding

to a specific area of need, especially where there are valid and reliable screening methods and evidence-based interventions available (Madras et al., 2009).

However, Winkworth and McArthur argue that risk assessment instruments and models have

proved less successful in identifying concerns associated with neglect or emotional harm such as drug and alcohol misuse, mental illness or domestic violence, or in supporting vulnerable families early and in a sustained way. They also lacked a specific organisational, place-based and collaborative orientation (Winkworth & McArthur, 2009, p. 410).

There are a range of challenges involved in the use and implementation of structured risk/needs assessment approaches, especially in universal settings and services that provide a range of child, youth or family services.

- Risk-focused assessments have been critiqued for being deficit-focused and potentially undermining relationship-building with families (Kemp, Marcenko, Lyons, & Kruzich, 2014; Lamont et al., 2010).
- The use of specialised clinical assessment tools in social service agencies with multidisciplinary staff at different skill levels has also proven challenging, especially given the varied backgrounds and professional skills of practitioners in child, youth and family sectors (Leon & Armantrout, 2007, p. 213). Introducing assessment and identification of co-morbidities or cognate issues in specialist service contexts has proven similarly challenging (Merkes, 2009, p. 71).
- A model of single one-off assessment is also problematic. Children change as they develop, circumstances change for families, and parents may be more likely to disclose issues and needs as they build relationships with service providers (The Social Research Unit, 2013, p. 14).
- Studies on the accuracy of various risk screening have identified significant rates of false positives and false negatives. For example, Statham and Smith cite various US studies in which, of children screened for child maltreatment, up to 26 per cent were false negatives (where children are judged 'high risk' but do not go on to be maltreated) and up to 63 per cent were false negatives (where children are not judged high risk but are later maltreated) (Statham & Smith, 2010, p. 63).
- Implementation studies of structured decision making approaches have found low levels of compliance and uptake. For example, the introduction of a structured decision-making approach in mental health services in NSW identified a completion rate of 45 per cent for the mandatory component and 3 per cent completion of the voluntary module that focused on families (Liangas & Falkov, 2014, p. 650). Similarly, a study of structured decision making models in child protection found that, generally, "the tools were not used to assist decision-making, did not promote consistency in decision-making and were not used to target the children most in need of a service" (Gillingham, 2011, p. 413).

A 2006 study of various approaches to implementing risk assessment and targeted intervention, which aimed to ensure services reached those who most needed them, found that it was not possible to judge the effectiveness of different approaches. However, practitioners found it difficult to identify who was 'at risk' and how to decide eligibility of services (R. Evans, Pinnock, Beirens, & Edwards, 2006; Statham & Smith, 2010). Statham and Smith (2010, p. 36) argue that while risk assessment can be "useful as a way of focusing attention on those most likely to need support, it is insufficient on its own as a means to identify children with additional needs". They highlight the importance of individual assessment of children and families, especially from the services and practitioners who have a relationship with them – especially those in universal settings.

Integrating practice frameworks-guided needs identification

Practice frameworks allowing greater flexibility, emphasising the identification of strengths as well as needs (rather than risks), have been developed in response to both the benefits and limitations of structured assessment approaches (Léveillé & Chamberland, 2010). These models tend to reflect a "holistic approach that consider[s] the full range of children's and family's strengths as well as needs and difficulties, including the wider environment and circumstances in which they live" (Cleaver & Walker, 2004, p. 82). These models tend to be:

- Focused on building the capacity of practitioners to identify a broad range of strengths and needs, based on evidence-based risk and protective factors, an ecological model of child and family wellbeing, and/or priority outcomes;
- Undertaken in partnership with children and families;
- Designed to guide shared practice and cross-sector collaboration; and
- Embedded and integrated within the routine practice of agencies or systems around assessment, planning and referral.

They also aim to shift practice away from the assessment of needs/risks within the context of one agency/sector (in which practitioners may only identify the risks that apply in their own context), and the use of tools that are not easily transferred between agencies. For instance, the structured professional judgement approach used in GIRFEC in Scotland guides practitioners to 'see their work in the context of the whole child' (Aldgate & Rose, 2008). It aims to recognise specialist knowledge and expertise, but to foster a shared approach to understanding children's developmental pathways. This "does not preclude integrating more specialist information, sometimes using actuarial scales, into an assessment but it does include looking at the connections and effects of risk in one area with what is going on in the rest of the child's life" (Aldgate & Rose, 2008, p. 19). The focus of the shared practice framework is to bring consistency and visibility to assessment of risk by asking all practitioners to use the same tools as a robust foundation for assessment.

12.3. Use of validated instruments

Alongside wellbeing-focused guided needs identification frameworks, validated instruments provide a useful and robust mechanism for consistently quantifying areas of need (Greenwood, Carta, & McConnell, 2011). Although there are challenges

involved in the use of standardised assessments in child, youth and family sectors, validated instruments are an important component of establishing thresholds of severity once general areas of need have been established, and help to inform appropriate referral and treatment pathways.

The use of validated instruments in universal settings (especially child and family health, general practice, early education and care, and school) can be a powerful tool for prevention and early intervention – helping to identify areas of need early and to tailor appropriate prevention strategies (Dowdy, Ritchey, & Kamphaus, 2010; Slee et al., 2009).

Systematising screening for priority issues within a community (for example, if family violence or mental illness are significant issues) can help drive earlier identification of needs. Similarly, where there are known co-morbidities, embedding more comprehensive screening can improve the effectiveness of the service provided (for example, screening for mental health issues in substance misuse treatment and assessing parenting capacity in adult-focused treatment services). In order to be effective, however, screening processes must lead to appropriate and accessible service responses.

The systematic use of common validated assessment tools is also an effective strategy for embedding the measurement of outcomes in therapeutic practice and monitoring system-level outcomes via shared measurement.

There are a wide variety of tools designed for use in child, youth and family sectors, and a number of reviews and stocktakes of screening and assessment tools are available (Council on Children With Disabilities, Section on Developmental Behavioral Pediatrics, Bright Futures Steering Committee, & Medical Home Initiatives for Children With Special Needs Project Advisory Committee, 2006; Ringwalt, 2008); Bedford, Walton, & Ahn, 2013; (National Child Traumatic Stress Network, 2015). The PerformWell website provides an analysis and overview of numerous screening tools, sorted by 207 different outcome areas (such as social and emotional development or relationships) and 167 program types (such as parenting programs or substance misuse programs (Urban Institute, Child Trends, & Social Solutions, n.d.)).

12.4. Evidence and implementation

The majority of the research on the effectiveness of practice frameworks and guided needs assessment has focused on implementation and uptake, rather than impact on child and family outcomes. There are some examples of these models improving practice and changing both mindsets and capacity to respond effectively to a broader range of strengths and needs. However, most studies of shared assessment frameworks also identify significant implementation challenges (Léveillé & Chamberland, 2010; Miller & Maloney, 2013; Pithouse, 2006; Seddon, Robinson, & Perry, 2008; Turney, Platt, Selwyn, & Farmer, 2011; Viglione, Rudes, & Taxman, 2015). Echoing earlier findings, the key message of this research is that shared assessment processes are a valuable component of systems that

identify and respond effectively to child and family needs, but that they cannot on their own solve more systemic issues:

[T]he mantra of joined-up services and a more standardised approach to information construction and sharing seems based on the rule of optimism that somehow a common assessment framework is an uncomplicated opportunity simply waiting to be exploited. It is much more likely that system development in shared assessment strategies will require careful nurturing over time via joint training and agreed protocols for information sharing, mechanisms for coordination and problem-solving across complex occupational boundaries (Pithouse, 2006, p. 215).

Similarly, Antle et al. suggest that in order to be effective, these practice frameworks and assessment processes need to be built into the DNA of systems as a whole. Various studies of a statewide implementation of a practice framework (in a child welfare context) identified comprehensive efforts to embed the model in system processes and structures and attention to practical operationalisation issues as crucial (Antle, Barbee, Christensen, & Sullivan, 2009; Barbee, Christensen, Antle, Wandersman, & Cahn, 2011; Pipkin, Sterrett, Antle, & Christensen, 2013). They argue that

a state agency's statement of service philosophy, or principles of casework, is not specific enough to be considered a practice model. If these practice principles are not operationalised, they cannot be measured for effectiveness ... Operationalisation of a practice model encompasses the agency's standards of practice, policy and procedures. This specificity affects agency forms, case data collection, time-lines, progress reporting, collateral contacts, community engagement, and management strategies (Antle et al., 2009, p. 352).

12.5. Examples of innovative practice

Common Assessment Framework (CAF) (UK)

Based on the Framework for Assessing the Needs of Children and their Families (FACNF), the CAF was introduced alongside the Every Child Matters reforms in the UK:

The purpose of the CAF is to help practitioners assess children's additional needs for services earlier and more effectively, develop a common understanding of those needs and agree a process for working together to meet them. The aim is to provide better services, earlier, and without the need for the family to repeat their story in a number of different, overlapping assessments. As such, early common assessment is part of the government's strategy to shift the focus from dealing with the consequences of difficulties in children's lives to preventing things from going wrong in the first place (Brandon et al., 2006, p. 14).

An early evaluation found variable levels of support and implementation, with a number of implementers reporting that the CAF added to their workloads and evidence that some sectors struggled "to grasp the changes required for holistic assessments and partnership

with families. Anxiety and frustration was generated by lack of clarity about how the work was to be done, lack of support, threshold differences and lack of join up between agencies and sectors” (Brandon et al., 2006, p. 6). However, a semi-experimental evaluation of the CAF found emerging evidence that it was facilitating more collaboration and better referrals. The evaluators found tentative support for

- a decrease in the number of referrals that occurred post-implementation, suggesting that the scheme may have made professionals more discriminating in their decision to refer without this leading to perverse consequences such as more child protection referrals;
- a notable decrease in missing information in regard to basic background referral information;
- a modest increase in health-related information; much more information on education needs, notably more emphasis in assessments upon parent and family strengths; and
- more focused response from social services whereby referrals led to more initial assessments, fewer referrals leading to no further action or advice only, or referred on to other agencies, more referrals accepted for direct action by social services teams (Pithouse, 2006, p. 214).

A follow up evaluation six years after initial implementation “shows ‘a steadily improving but still somewhat inconsistent implementation’ of the CAF with significant variations in approach in different authorities. The research found that the CAF process can be ‘a key mechanism for enhancing and embedding integrated working’” and that in some (but not all) sites the CAF was seen by staff as “a single, neutral and universally used system that is not ‘owned’ by one sector or service”, and seen to facilitate joined-up working in ways about which many practitioners were highly sceptical before its introduction (Easton, Morris & Gee, 2010, p. 35). There is some evidence of positive impacts, particularly for schools. These included improvements in school attendance, engagement and aspirations, in physical health and self-confidence, in family relationships and in housing and financial support (Easton, Morris & Gee, 2010, p. vii). However, there have been no attempts to conduct a robust evaluation of outcomes for families, and in the absence of a national approach to recording CAF assessments it is not possible to “systematically follow a child’s pathway through CAF and children’s social care services” (Holmes et al., 2012, p. 3).

A recent cost analysis of the CAF identified that the costs ranged between £743 and £2,130 for the six month time period, and the average (mean cost) was £1,515, but in the absence of outcomes data, it is impossible to measure whether this represents a positive return on investment (Holmes et al., 2012, p. 8).

Services Connect consistent intake and single case plan (Victoria)

Services Connect is a broad ranging reform process that includes the development of a single plan for all clients served by the Victorian Department of Human Services. The core principles of Services Connect are person-centred, strengths-based, holistic and family

sensitive (DHS, 2013), and these are reflected in the mechanisms of the service delivery model: one plan and one key worker for all clients and a holistic initial assessment process. The initial assessment is intended to be flexible, but to guide the key domains and indicators of strength and need (Table 13). The initial assessment is aligned with the initiative's outcomes framework, and work is underway to align the initial assessment with outcomes monitoring. The initial assessment includes the Strengths and Difficulties Questionnaire (SDQ) and the Kessler 10 assessment of depression and anxiety where relevant (State Government of Victoria, 2015).

Table 13: Needs Identification for Services Connect (Department of Human Services, 2014)

Outcome areas	Example strengths and needs
Housing	Appropriateness of living arrangements, adequacy of rooms and facilities, housing tenure, extent to which costs associated with maintaining housing arrangements are appropriate and measures of homelessness
Meaningful use of time	Participation in paid employment, education, training or volunteering and regular, planned non-work activity
Learning and development	Participation in and achievement in education and learning across age groups, and the development of independent living skills, particularly for young people leaving care and people with a disability.
Cultural and social wellbeing	Maintaining, strengthening or developing connections with family, friends and cultural, spiritual or other communities and groups.
Health	Ensuring children are up to date with immunisations, physical activity, healthy eating and levels of psychological distress.
Safety	Establishing and maintaining personal relationships that are positive and free from violence, and safety from sexual, physical or emotional abuse and neglect.
Behaviours	Alcohol and other drug use, gambling, inability to manage finances, criminal offending, anti-social behaviour, violence, aggression and contact with police, youth justice or the courts.

Getting it Right for Every Child (GIRFEC) practice framework and single plan for child wellbeing (Scotland)

GIRFEC involves a broad range of reforms (discussed in Section 7), but central to the initiative is the use of a shared practice framework that guides assessment, a single plan for child wellbeing and the monitoring of their outcomes. Significantly, the GIRFEC National Practice Model is utilised across universal, secondary and tertiary systems and provides a consistent approach to identifying areas of need.

GIRFEC outlines a range of core principles which define a national approach to working with children and families:

- keeping children and young people safe;
- putting the child at the centre;
- taking a whole child approach;
- building on strengths and promoting resilience;
- promoting opportunities and valuing diversity;

- providing additional help that is appropriate, proportionate and timely;
- supporting informed choice;
- working in partnership with families;
- respecting confidentiality and sharing information;
- promoting the same values across all working relationship; making the most of bringing together each worker's expertise;
- co-ordinating help;
- building a competent workforce to promote children and young people's wellbeing (Scottish Government, 2013).

These principles are reflected in the National Practice Model (Figure 30), which is a holistic framework for assessing a child's needs and strengths, developing, and reviewing a plan for their wellbeing. The National Practice Model includes a single plan for children's wellbeing, and common procedures and forms for sharing concerns about a child, recording information, and constructing and implementing a plan. The intention for the single wellbeing plan is that,

where children and their families are involved with several agencies, all the processes are aligned and co-ordinated. The child's needs – and actions that will help – are set out in one plan, managed through one meeting structure. It means reducing duplication by eliminating the need for each agency to conduct its own assessment, while recognising the contribution that professional expertise and specialist assessments make in helping understand and meet children's needs (Irvine, n.d.).

The National Practice Model also outlines a range of key domains and indicators, which are less specific but more child-focused than the Services Connect model, and are also aligned with the model's wellbeing outcomes (Table 14).

Figure 30: Getting it right for Every Child National Practice Model

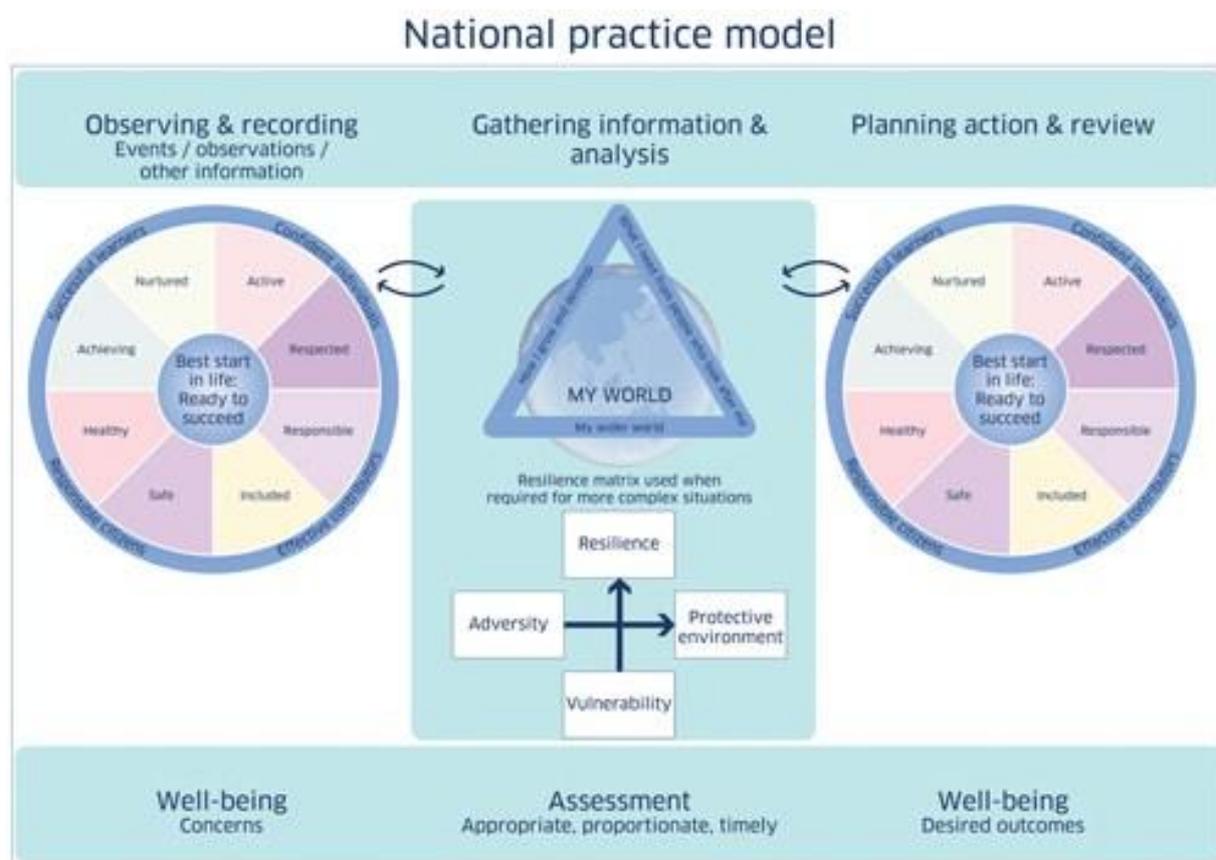


Table 14: Domains in the GIRFEC National Practice Model (The Scottish Government, 2011)

Domain	Description
Safe	Protected from abuse, neglect or harm at home, at school and in the community
Healthy	Having the highest attainable standards of physical mental health, access to suitable health care, and support in learning to make healthy and safe choices
Achieving	Being supported and guided in their learning and in the development of their skills, confidence and self-esteem at home, at school and in the community
Nurtured	Having a nurturing place to live in a family setting with additional help if needed, or, where this is not possible, in a suitable care setting
Active	Having opportunities to take part in activities, such as play, recreation and sport, which contribute to healthy growth and development at home and in the community
Respected	To be given a voice and involved in decisions that affect their wellbeing
Responsible	Taking an active and responsible role in their schools and communities
Included	Having help to overcome social, educational, physical and economic inequalities and being accepted as part of the community in which they live and learn

The evaluation of the 'pathfinder' implementation of GIRFEC outlines the cultural shift that needs to take place as practitioners begin undertaking more holistic assessments and move to multi-agency collaboration. Stradling et al. (2009) suggest that a critical step is when practitioners move from more mechanistic needs assessment, based on the National Practice Framework, to more sophisticated analysis of how these factors impact on children's growth, development and wellbeing, and the extent to which strengths can be built on. They argue, however, that this "cultural shift takes time and it tends not to happen uniformly and at the same rate for all professionals, although the shift can be facilitated by effective training programmes, self-evaluation, mentoring and quality assurance processes" (Stradling et al., 2009, p. 39). The pathfinder evaluation suggested equipping operational managers to review practice around the development of case plans, to ensure that the proposed interventions are both appropriate and proportionate to need – as a strategy for shifting practice around service system 'gatekeeping' – and emphasised the importance of building and developing knowledge and skills as part of changing professional cultures.

The pathfinder evaluation (published three years after initial implementation) identified a range of indicators that the components of the National Practice Framework were leading to more consistent and collaborative practice, including developing a shared understanding of children's needs, using common tools and processes, putting child wellbeing at the centre of processes and adopting the principle that support for children should be "timely, appropriate and proportionate" (Stradling et al., 2009). Further work around embedding this practice in the development of the single children's plan was needed.

12.6. Intervention thresholds

Early identification of needs and the ability to recognise areas of strength and need across domains of wellbeing is central to the effective operation of a prevention and early intervention system. Equally important (but less well understood) are the decisions about appropriate and proportionate service responses that flow from needs identification.

The majority of the literature about establishing thresholds which guide or determine service access relate to entry into the child protection system or clinical decision-making. In child protection contexts the focus has been on determining the threshold at which statutory intervention is required and establishing processes for differential responses based on risk – the establishment of different thresholds for risk of harm (ROH) to risk of significant harm (ROSH) in NSW was intended to reduce pressure on the child protection system through earlier intervention (Cassells et al., 2014).

There is considerably less research on the effectiveness of establishing a shared understanding of intervention thresholds at lower levels of need. Moore et al. (2014, p. 29) note the lack of evidence in Australia and internationally about practical implementation of proportionate universalism, with universal services that can progressively add well-targeted additional supports for those with particular needs. In practice, Turney et al. (2011, p. 4) suggest that "limited resources and pressure of work generally result in a tendency to raise thresholds for access to services as a way of rationing responses. High thresholds may mean that children and families with substantial problems and high levels of need do not receive timely help". Similarly, Stradling et al. (2009) note that standard practice is for children and

young people to “move around between services and agencies and up and down between different levels of support depending on the extent to which he or she meets the criteria for the various thresholds”. This ‘gatekeeping’ process reflects the complexities of existing funding arrangements and has been a necessary part of demand-management in overburdened services; however, it runs counter to the objective of building an integrated network of support around a child or young person and their family (Stradling et al., 2009). Additionally, in the evaluation of the Keep them Safe reforms, Cassells et al. (2014, p. 7) identified a lack of confidence within early intervention services about their capacity to respond effectively to families with complex needs, and concern that they risk poor outcomes by working with these families, contributing to high rates of referral to statutory services.

Systems and organisational factors are thought to be a key driver of implicit and explicit assumptions about intervention thresholds on-the-ground - with the level of resources available, perceived pressures to ration demand for services, time constraints and the requirements of case management procedures and availability of services being important influencers of how and where children, youth and families are assessed, referred and supported.

Intervention thresholds (UK)

The introduction of broad intervention thresholds through Safeguarding Children Boards in Local Authorities in the UK is an attempt to develop a common understanding of thresholds of need and provide guidance to local collaborative efforts to develop care pathways. Importantly, these thresholds are utilised across universal, secondary and tertiary services and provide indicators aligned with four broad bands of wellbeing (from on-track development to the threshold for statutory involvement). The thresholds are intended to assist practitioners and services to undertake appropriate assessment, planning and intervention for children and families from birth to adolescence.

The provision of guidance documents is intended to support “common understanding of the different levels of support available to meet particular levels of need” (Wolverhampton Safeguarding Children Board, 2015, p. 9). The use and application of thresholds differs between Local Authorities and guidance documents are intended to guide decision-making rather than provide prescriptive care pathways (or strict access criteria) – they recognise that families may be receiving services across the spectrum of needs. Table 15 provides an example of indicators at the ‘additional support/early help’ and ‘specialist support’ levels (Tiers 2 and 4), which clearly illustrate different levels of need across a range of wellbeing domains. Other Local Authorities articulate thresholds by children’s age (Sheffield Safeguarding Children's Board, 2015). The formalisation of thresholds of need is a relatively recent initiative and no independent evaluation data was identified. Several local authorities have published administrative data and/or implementation evaluation findings, indicating generally positive results. These include a reduction in referrals to child protection authorities, greater completion of early assessments, practitioner comfort and agreement with thresholds (Derby Safeguarding Children Board, 2014; Hull Saveguarding Children Board, 2013).

Table 15: Wolverhampton Thresholds of Effective Support at Tier 2 and Tier 3 (Wolverhampton Safeguarding Children Board, 2015)

Domain	Tier 2 – Additional Support / Early Help	Tier 4 – Specialist Support
Health	Slow in reaching development milestones, missing immunisations or health assessments, susceptible to minor health problems, minor concerns re: diet, hygiene, clothing, alcohol consumption (but not immediately hazardous), special educational needs / disability requiring support, inappropriate sexual activity to age, previous pregnancy under 18 years	Has severe/chronic health problems, persistent substance misuse, non-organic failure to thrive, Fabricated illness, physical neglect, early teenage pregnancy, serious mental health issues, seriously obese, dental decay and no access to treatment Sexual exploitation/abuse, sexual activity under the age of 13 years, physical and mental disability requiring highest level of support, complex mental health issues requiring specialist intervention
Family & social relationships	Some support from family and friends, has some difficulties sustaining relationships, engaging in gang related activities, undertaking occasional caring	Experiences persistent discrimination, is socially isolated and lacks appropriate role models, alienates self from others, looked after child (children in out of home care), care leaver, family breakdown related in some way to child’s behavioural difficulties, engaged in gang activity, subject to physical, emotional or sexual abuse/neglect, is main carer for a family member, adoption breakdown, forced marriage of a minor
Education & learning	Occasional truanting or non-attendance, poor punctuality, at risk of exclusion, few opportunities for play/socialisation, not in education, employment or training, identified language and communication difficulties, not reaching educational potential	No education provision, permanently excluded from school or at risk of permanent exclusion, significant development delay due to neglect/poor parenting
Social presentation	Can be over-friendly or withdrawn with strangers, personal hygiene starting to be a problem	Poor and inappropriate self-presentation, known to be part of a gang
Emotional & behavioural development	Low level mental health or emotional issues requiring intervention, substance misuse that is not immediately hazardous including alcohol, involved in behaviour seen as anti-social	Failure or rejection to address serious (re)offending behaviour, neglect of emotional need, puts self or others in danger, endangers own life through self-harm/substance misuse, including alcohol/eating disorder/suicide attempts, in sexually exploitive relationship, frequently goes missing from home for long periods,

		child who abuses others
Self-care skills	Not always adequate self-care—poor hygiene, slow to develop age appropriate self-care skills, overprotected/unable to develop independence	Neglects to use self-care skills due to alternative priorities, e.g. substance misuse; unaccompanied asylum seeker
Basic care, safety and protection	Carers able to provide for child's needs and protect from danger and harm	Parents unable to provide "good enough" parenting that is adequate and safe, parents' mental health problems or substance misuse significantly affect care of child, parents unable to care for previous children, there is instability and violence in the home continually, parents are involved in crime, parents unable to keep child safe, child is a victim of crime, child subject to public law proceedings in the family court
Family history and functioning	Supportive family relationships, including when parents are separated, parental engagement with services is poor, parent requires advice on parenting issues, professionals are beginning to have some concerns around child's physical needs being met, professionals are beginning to have some concerns about substance misuse (including alcohol) by adults within the home, some exposure to dangerous situations in home/ community, teenage parent(s)	Significant parent discord and persistent domestic violence/honour-based violence/forced marriage, child looked after by a non-relative within scope of private fostering arrangement, destructive relationships with extended family, parents are deceased and there are no family/friends options, parents are in prison and there are no family/friends options
Emotional warmth and stability	Inconsistent parenting, but development not significantly impaired, post-natal depression, behaviour perceived to be a problem by parent	Parents inconsistent, highly critical or apathetic towards child, child is rejected or abandoned, has multiple carers, has been 'looked after' by the local authority
Guidance, boundaries and stimulation	May have different carers, inconsistent boundaries offered, can behave in an anti-social way, spends much time alone (TV, etc.), child not exposed to new experiences	No effective boundaries set by parents, regularly behaves in an anti-social way in the neighbourhood, child beyond parental control, subject to a parenting order which may be related to their child/young person's criminal behaviour, anti-social behaviour or persistent absence from home.
Community resources	n/a	Poor quality services with long-term difficulties with accessing

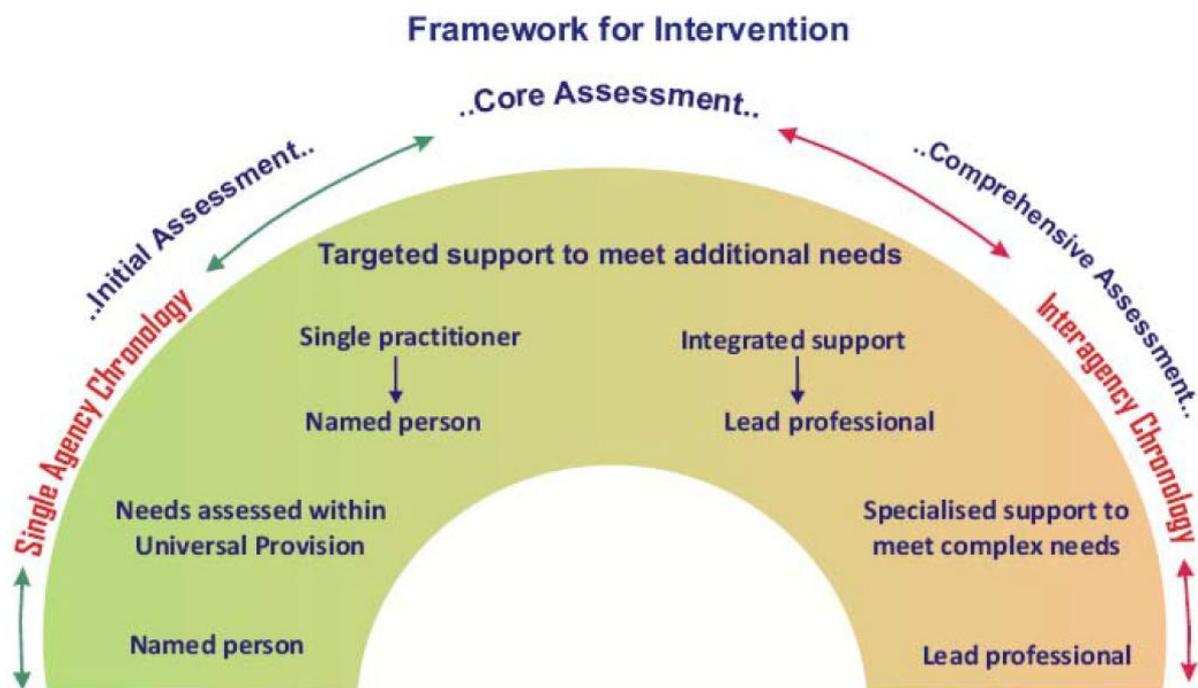
target populations, restricting and refusing intervention from services

Framework for intervention, GIRFEC (Scotland)

The intervention thresholds established for GIRFEC are less comprehensively defined, but are based on a similar model to that used throughout the UK (Figure 31). The model provides guidance about:

- the points at which different types of assessment take place,
- the individual with responsibility for leading the assessment, wellbeing plan and ongoing engagement -
 - the *named person*, a person from either health (age 0-5) or education (age 5-17) responsible for the child or family's wellbeing issues, or
 - the *lead professional*, a 'key worker' from one of the agencies involved with the family;
- the existence of a spectrum, whereby families move from having needs that can be addressed by a single agency to having multiple or complex needs that require a multi-agency response.

Figure 31: GIRFEC Framework for Intervention



13. Matching services to needs: case planning and care pathways

13.1. Overview

Many of the implementation challenges associated with the introduction of shared need assessment approaches relate to issues around aligning needs, once they have been identified, with service responses that are consistent, timely and effective. Many of these issues are structural, as discussed in Sections 7, 8 and 9, but they also relate to availability of shared understanding about appropriate intervention thresholds, case planning processes that match service responses to needs, and the presence and availability of coherent care pathways.

In the evaluation of *Keep them Safe*, Cassells et al. (2014) note that early intervention services are often very focused on reporting, referral and assessment rather than service delivery that provides effective, holistic multi-agency responses to vulnerable children. This may be related to the gap in the evidence-base about how to adequately match needs to an effective service response. Beyond the systemic issues of ensuring the appropriate services are available within a community, and the identification of evidence-based programs, there is the issue of understanding the type(s) of interventions that will be most effective for each set of family circumstances, particularly those with multiple needs. These issues include understanding:

- The optimum sequencing of interventions;
- Issues of dose, intensity and duration;
- Scaling-up and scaling-down and maintaining support;
- The combinations of interventions, services or supports that maximise outcomes (including for different cohorts and need profiles); and
- How to engage and retain families in interventions, while building self-management capacity over time.

There is a reasonably extensive body of literature about screening and treatment models for discrete issues, conditions or risks – for example, in substance misuse, mental health or developmental delays – and a large body of literature about specific programs and interventions with evidence of effectiveness. However, Statham and Smith (2010, p. 57) make the important point that when children and their families have multiple additional needs, brief, single-focus interventions are unlikely to produce a significant or lasting effect.

While some experimental and quasi-experimental program evaluations generate data on the cohorts of clients who benefit most from the intervention, the inclusion criteria for studies is often quite broad. There is a growing body of evidence from high-quality studies of multi-component interventions about the impact of specific program components, yet, on the whole, there is scant data on the impact of multiple interventions. There is also limited

research on the kinds of 'boosters' that might be required by families over time. L. Thompson, McArthur, Butler, and Thompson (2010) note that requiring ongoing assistance (even after a period of intensive, case-managed support) is not a sign of program failure but a reflection of the circumstances of families with multiple needs. They recommend funding models that allow for higher intensity and lower intensity service provision, without families having to disengage and reengage with different people/agencies, and the ability to work with families as long as is required. However, aside from 'good practice' guidelines and principles for case management, there is a lack of strong evidence about the elements of case planning and casework management that guide decision-making about stepping up and stepping down services in order to optimise outcomes (Antle et al., 2009; Moore et al., 2014).

Moreover, research indicates consistent gaps between provider- or family-identified needs and access to services. For example, a study of 2100 child welfare-involved families in the US found that 22 per cent of caregivers with mental health problems and 25 per cent with substance misuse problems were not offered related services (D'Andrade & Chambers, 2012). Another study found that mothers involved in the welfare system reported needing but not receiving physical and mental health support services (including parenting, substance use, domestic violence and mental health) at rates up to 38 per cent (D'Andrade & Chambers, 2012).

An evaluation of integrated early years centres in Queensland that was designed to respond holistically to a range of needs for families with multiple presenting issues found that the service delivery model was well-designed to identify and cater to families' needs. However, the evaluation also suggested that families were not always choosing to access services that best met their needs:

It was expected that parents with social support needs would go to groups to build their social networks; parents with child behaviour and parenting needs would participate in early childhood education and care groups and parenting programs; and parents with concrete support needs would access family support workers. The results suggest, however, that families weren't always accessing the most appropriate service for their needs. For example clients with social support needs and/or family or community dissatisfaction tended to use parenting programs or family support services. They tended not to access group based activities that could assist them to form more sustainable social and community support networks. In addition, many families with high concrete support needs were not accessing family support services (Benevolent Society, 2014, p. 4).

However, other evaluations of integrated hubs and multi-component interventions have found that the breadth of available support and the capacity of the service to respond with an intensity proportionate to need appear to be associated with better outcomes (although data collection systems did not allow linking of service access and outcomes at individual level) (EJD Consulting and Associates, 2013). The analysis of drivers of family engagement

with services in Section 6 identified a number of threshold issues that are consistently identified in the literature. These include services that are:

- relationship-based,
- involve partnerships between professionals and parents,
- target goals that parents see as important,
- provide parents with choices regarding strategies,
- build parental competencies,
- are non-stigmatising,
- demonstrate cultural awareness and sensitivity,
- maintain continuity of care,
- provide practical support to address families' most pressing needs, and
- address barriers to access (Moore et al., 2010, pp. 4-5).

Perceived alignment between the family's needs and priorities and the services provided is a predictor of engagement and uptake (D'Andrade & Chambers, 2012), and keeping families engaged long enough to have an impact is central to an intervention's effectiveness. Co-designing services with families and communities is an important strategy to enhance engagement and impact.

In the absence of clear evidence about optimum processes for matching services to need, the indicated approach is a broad orientation towards addressing goals that are important to families, that are focused on building their capacity and addressing areas of need they have identified, in the context of positive family-worker relationships – along with beginning to collect client-level outcomes data that, over time, enables the analysis of aggregate data on service type, dose, intensity and sequencing.

13.2. Examples of innovative practice

Case management

Case management is a broadly utilised strategy, often delivered with different levels of intensity and with different conceptualisations of what it means (Rapp, Van Den Noortgate, Broekaert, & Vanderplasschen, 2014). Case managers are often responsible for initial in-depth assessment, the development of action plans, referral to other agencies and ongoing monitoring. Given the importance of relationship-based and partnership-focused worker-client interactions for matching service responses and needs, case management is a key strategy. Gronda outlines the potential benefits of this approach:

- Cost containment: efficiency, effectiveness, reduced duplication;

- Accountability: single point for coordination and follow-through;
- Therapeutic outcomes : personal development – assisting people toward higher levels of self-care, self-responsibility, independence and productivity;
- Better project management: better planning, coordination, appropriation, and outcome achievement through a structured process resource;
- System improvement: compensating for fragmentation and gaps in the service system; and/or
- Improved bureaucratic control of resource allocation: a service that is documented, monitored and evaluated (Gronda, 2009, p. 24).

In her analysis of the core components of effective case management (with a specific focus on homelessness, but taking into account the broader literature), Gronda identifies that the underpinning mechanisms for effectiveness related to the provision of persistent, reliable, intimate and respectful services that provide comprehensive and practical assistance and work towards the overarching goal of an increase in self-care and self-management. The key components of this process are:

- Persistence and reliability;
- Intimacy and respect;
- Timely access to appropriate resources, including housing, and specialist supports;
- Determination of support duration and intensity on an individual basis;
- High-level assessment, relationship and communication skills; and
- Adequate staff supervision, training and recognition (Gronda, 2009, p. 24).

Additionally, Gronda's interviews with case management practitioners strongly identified the centrality of partnership and being led by client-identified goals (Gronda, 2009, p. 24). These findings are echoed in other studies of the 'good practice' in case management (Dew, DeBortoli, Brentnall, & Bundy, 2014).

The evidence for case management comes primarily from child protection, homelessness and mental health sectors, and there are few experimental or quasi-experimental studies available. However, the literature indicates moderate levels of positive impact, although there is more evidence of effectiveness in mental health and substance misuse than in child welfare, and very limited evidence in family support-type contexts (Cano et al., 2015; Dauber, Neighbors, Dasaro, Riordan, & Morgenstern, 2012; Fitzpatrick-Lewis et al., 2011; Gronda, 2009; Hesse, Vanderplasschen, Rapp, Brockaert, & Fridell, 2014; Morgenstern et al., 2006; Rapp et al., 2014; Suter & Bruns, 2009)

Key workers or lead professionals

Similar to the role of a case manager, key workers are involved in supporting families to navigate the service system. Key workers provide a single point of contact for families and their role is particularly important where families are accessing services from multiple agencies. In the UK, the lead professional role is conceptualised by a set of functions carried out within existing roles, with a focus on providing a single point of contact for the child, young person or family, coordinating the delivery of the actions agreed by the practitioners involved in the multi-agency 'team around the child' and reducing overlap and inconsistency in the services received by children, young people and their families (Centre for Social Research and Evaluation, 2012). The key worker role in GIRFEC is slightly broader and is outlined in Box 5.

The effectiveness of key workers in matching service responses to need has not been extensively explored in the literature. However, they clearly play an important role in knitting together the range of agencies and services families are engaged with. Key workers can function to personalise the service system, both in terms of individualising and tailoring support for a child, young person or family and by providing a personal interface with often complex bureaucratic processes (M. Evans, 2013). The evaluation of GIRFEC found that families reported being more aware of what was happening for them and their children, having a greater understanding of processes, and an appreciation of having a clearly-identified lead and point of contact (Stradling et al., 2009).

Reflecting the evidence that worker-client relationships are a critical element of enabling change, a 2013 evaluation of a new service delivery model that included key workers as a critical element suggested that "the building of strong, trusting relationships between the participants and key workers has allowed for the development of targeted recovery strategies that are flexible to and supportive of their needs" (M. Evans, 2013). An evaluation of the same program by L. Thompson et al. (2010) found that the relationship between the key worker and the family was a predictor of whether or not the family attained the goals they set and their satisfaction with the program. They suggest that the mechanisms through which this relationship was linked with improved outcomes was through the sense of empowerment families achieved "through the partnership approach embodied in the family meetings, the strengths-based support and encouragement" provided by the key worker (L. Thompson et al., 2010, p. 54). They also note the importance of allowing the family to choose the Key Worker.

A Canadian evaluation of key workers for families with a child experiencing Foetal Alcohol Spectrum Disorder (FASD) identified that the key worker role had had a significant impact on parents' understanding of FASD and its impact on their child's behaviour, as well as improving their (self-reported) parenting skills and levels of stress and overall wellbeing (Hume, Rutman, Hubberstey, Lentz, & Van Bibber, 2009). There were more equivocal findings about the impact of the model on children's development and wellbeing, although children's school-based behaviour appeared to have improved (Hume et al., 2009).

Again, there is limited evidence of the influence of key workers on outcomes for children, young people and families, but considerable research on implementation processes and challenges. The key issues for effectiveness have been identified as positive working

relationships, effective multi-agency processes, adequate resourcing, effective management and governance, and performance management systems that support collaborative working (Centre for Social Research and Evaluation, 2012).

Box 5: The role of the lead professional

Role of the Lead Professional in Getting it Right for Every Child (Stradling, McacNeil, & Berry, 2009)

- To ensure the multi-agency Child's Plan is agreed and produced based on an assessment of needs and risks.
- To ensure that the multi-agency plan incorporates any current single-agency plans.
- To ensure that materials relating to assessment and/or review are circulated to everyone involved prior to meetings (including children and families).
- To act as the main point of contact with the child and family for discussing the plan, progress and arising issues.
- To act as the main point of contact for all practitioners to feedback progress or any issues.
- To ensure that provision of specialist help and assessments are coordinated and not duplicated.
- To ensure that the views of the child and family are taken into account.
- To support the child and family in accessing practitioners and services.
- To monitor how well the Child's Plan is working, especially in relation to improving the child's situation.
- To arrange reviews of progress and to amend the Child's Plan where necessary.
- To ensure the child is supported through key transitions including ensuring careful and planned transfers of responsibility.

Screening, Brief Intervention and Referral to Treatment (SBIRT)

SBIRT is a public health approach to screening for substance misuse (especially alcohol and tobacco) and referral to specific interventions (either brief or intensive) based on identified need or risk. SBIRT screening can be conducted in community and primary care settings, given the availability of reliable and practical screening tools (Agerwala & McCance-Katz, 2012), and requires the development of clear referral pathways to low or high intensity evidence-based treatment based on screening results. There is a large body of research on

SBIRT models, with highly promising findings (Agerwala & McCance-Katz, 2012; Babor et al., 2007; Committee on Substance Abuse, 2011; Kraemer, 2007; Madras et al., 2009). For example, a 2009 study reported findings of multi-site screening of nearly 500,000 patients in medical settings. Of the 22.7 per cent of patients who were identified as risky/problematic or experiencing substance abuse/addiction and referred to brief intervention or treatment, a substantial proportion reported reduced illicit drug use (67.7 per cent) and reduced alcohol consumption (38.6 per cent) at a 6-month follow up. They also found improved self-reported general health, mental health, employment, housing status and criminal behaviour (Madras et al., 2009). The applicability of this model to more generalist child and family wellbeing services is unclear, given screening and intervention approaches are less coherent and well-defined, and no similar approaches were found in the literature.

Risk-Need-Responsivity (RNR)

RNR models are utilised in justice contexts and provide a framework for matching interventions to the particular risk factors and the dispositions of offenders (Vieira, Skilling, & Peterson-Badali, 2009). Vieira et al. (2009, p. 386) outline the key components of the model:

- The *risk principle* states that future criminal behaviour can be predicted via attention to an individual's risk level and that the intensity of treatment services provided to a youth should be matched with his or her identified level of risk;
- The *need principle* draws attention to the distinction between needs that are predictive of criminal conduct and those that have little influence on offending behaviour; and
- The *responsivity principle* asserts that offenders should be assigned to programs delivering services in a manner that is consistent with their individual learning styles and abilities.

A considerable body of research, including meta-analyses, have supported the effectiveness of this approach on reducing recidivism, with research suggesting that approaches that adhere to the model have a greater impact on outcomes (Dowden & Andrews, 1999; Marsh, Cao, Guerrero, & Shin, 2009; Vieira et al., 2009; Vitopoulos, Peterson-Badali, & Skilling, 2012). The RNR model provides support for approaches that tailor interventions to the specific circumstances of clients.

Solution-Based Casework (SBC)

Utilised primarily in child protection contexts, Solution-Based Casework is an evidence-based model of developing and managing case plans in partnership with families. It has a preventative focus and is appropriate for use with families with multiple additional needs. The model is built on several core assumptions:

- that full partnership with the family is a critical and vital goal for each and every family case;

- that the partnership for protection should focus on the patterns of everyday life of the family;
- that solutions should target the prevention skills needed to reduce the risk in those everyday life situations and
- that families possess unnoticed and unrecognized skills that can be used in the anticipation and prevention of child maltreatment (Antle et al., 2009).

The case plans that develop out of the SBC process target changes in behaviour and routine within the family: “these specific plans of action are not the typical service delivery plans that measure service compliance, but are behaviourally specific plans of action that are co-developed by the family, provider, and caseworker” (Antle et al., 2009, p. 1347). The model integrates assessment, case planning and casework management and has been implemented across child welfare systems in several jurisdictions. Implementation studies and case file reviews suggest that the model improves outcomes and goal attainment for families, with greater fidelity to the model associated with better client outcomes, and a quasi-experimental study focused on rates of re-notification found a substantial reduction in sites implementing SBC (Antle et al., 2009).

13.3. Care pathways and service journeys

A key component to responding effectively when areas of need have been identified is the capacity for practitioners to link families to services outside of their own areas of responsibility or agency offerings. Section 9 discussed localised approaches to planning and commissioning services, a central strategy for matching services to needs at a community or population level. However, individual practitioners and agencies do not always have comprehensive knowledge about the range of services available within a community. Alternatively, that knowledge might be held by particular individuals but not formally documented or shared.

A range of systemic issues make having up-to-date information about local services a significant challenge. These include frequent changes to funding for services; frequent turnover of staff; complex regulations around eligibility for services; multiple funding sources and disconnection between local, state and federal governments; high levels of demand, waitlists and over-subscription; and the sheer complexity of either the number and range of services present within a community or, conversely, the simple lack of required services. Knowing how to connect families to support may be a particular issue for universal services that have not traditionally played a strong role in early identification of needs and referrals – early education and care settings and schools, for example (Khan et al., 2013).

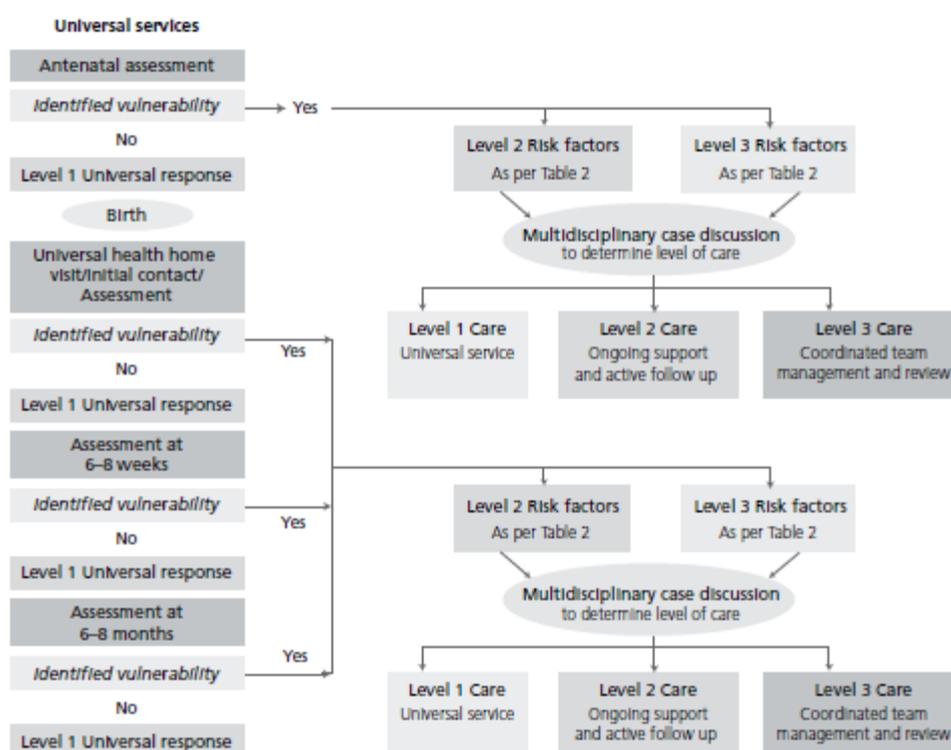
There are few examples of evidence-based approaches to mapping referral pathways and defining coherent and consistent pathways for families, although the literature on place-based approaches to service delivery highlights the importance of relationships, collaborative governance and shared goals for fostering inter-organisational cooperation and planning around referral pathways (Moore et al., 2014).

13.4. Examples of innovative practice

Models of Care

Models of Care are used extensively in health, providing a clearly articulated but relatively broad approach to the way services are delivered, outlining “best practice care and services for a person, population group or patient cohort as they progress through the stages of a condition, injury or event” (Agency for Clinical Innovation, 2013, p. 3). They contribute to establishing processes to help ensure “people get the right care, at the right time, by the right team and in the right place” (Agency for Clinical Innovation, 2013, p. 3). Models of Care document best practice, including processes for referral, and identify key referral pathways. For example, the Safe Start Model of Care used within maternal and child health services in NSW provides a broad outline of the service pathways families travel within primary care settings (Figure 32) (Ministry of Health New South Wales, 2010).

Figure 32: Safe Start Primary Care Pathways



A study of the use of models of care in Western Australia found strong support for their role in promoting the planning and delivery of healthcare, facilitating collaboration and in engaging clinicians, consumers and carers in developing evidence-based care, although consistent concerns about the resourcing available to fully implement the models and maximise their potential (Department of Health, 2012).

Business process and patient journey mapping

Business process mapping is a strategy for understanding a child, young person or family's pathway through an individual service or networks of services. It was a key component of the preparation for implementation of GIRFEC, where the focus was on understanding a child's pathway into multi-agency support and, by questioning routine procedures, identifying barriers to the delivery of appropriate, timely and proportionate support (Stradling et al., 2009). The implementation evaluation of GIRFEC found that the mapping exercises helped rationalise processes, develop a coherent sequence of actions and harness commitment to change processes. However, some staff interviewed as part of the evaluation were concerned that the focus on processes would undermine needs-based responses to children and families, although the evaluators argued that the processes established in GIRFEC are both evidence-based and reflective of a practice model that is needs-driven, based on

how best to construct a plan in order to improve the child's circumstances and help them to achieve desired outcomes. The mapping of procedures provides a working basis for making the sequence of tasks as efficient, non-bureaucratic and cost effective as possible (Stradling et al., 2009, p. 34).

There are a number of examples of journey-mapping analyses that track the experiences of families as they move through local service pathways. The Mapping two Worlds Together project explored the journeys of patients from remote communities to health services in urban areas. The project developed a range of tools for exploring patient journeys with Aboriginal and Torres Strait Islander people (Kelly et al., 2012). A number of communities have also published case studies of patient journey-mapping exercises (Mason & Robb, 2008; Partners in Recovery South Western Sydney, 2013; Quintero, 2004; Scott, 2013).

HealthPathways

Developed in New Zealand and utilised in a number of Medicare Locals in Australia, HealthPathways involves the collaborative development of defined and evidence-based care pathways for specific conditions. Intended for GPs, the online portal provides localised information about other available services and is intended to help facilitate collaboration across health sectors. A process evaluation of early implementation of HealthPathways in 14 Medicare Locals found that it had not yet impacted population health measures, but that it appeared to facilitate improved collaboration between acute and primary care sectors, improved clinician experience of patient care and enhanced support for GPs (Alison Boughey Consulting, 2014). In New Zealand, HealthPathways was one component of a system reform effort that led to a reduction in hospital admissions and more evidence of preventative healthcare (BMcD Consulting, 2013; Timmins & Ham, 2013).

13.5. Co-design and co-production

Designing service responses and pathways in collaboration with service users, who are 'experts in their experiences', is emerging as an important field of practice and research in numerous sectors (Steen, Manschot, & Koning, 2011). Co-design and co-production

processes bring together the experience of service users with experts. Building on community development strategies, they provide an opportunity to shift and systems so that they are designed around the needs and preferences of children, young people and families rather than by organisational structures and priorities. Co-design is based on “the understanding that people’s needs are better met when they are involved in an equal and reciprocal relationship with public service professionals and others” (Moore et al., 2014). Boyle et al. (2010) argue that the people who most rely on public services tend to be those who are most disempowered by the current model, and that co-design and co-production can work to empower service users as well as improve systems. They point to a range of potential benefits that can flow from co-production of service systems:

- Building the capacity of ‘providers’ and ‘users’.
- Utilising people’s knowledge and experience about what they need, how their needs can be met and what they can do with and for others.
- Minimising waste by developing solutions with users rather than doing things ‘to’ and ‘for’ them.
- Reducing the costs of a service by shifting the focus towards person-led, community-involved, preventative services that relieve the pressure on more costly acute and specialist interventions (Boyle et al., 2010, p. 11).

Co-design and co-production are being used in a number of sectors and are informing change at agency-level and system-level (Bradwell & Marr, 2008). The strongest evidence for co-design comes from the health and mental health sectors, and there are examples of innovation and emerging good practice in other fields. While there is little rigorous evidence about the impact of co-design on the functioning and effectiveness of systems, engaging families and communities in design and development of service systems is emerging as a key element of impact.

Co-production of services (Boyle, Coote, Sherwood, & Slay, 2010, p. 9)

- **Recognising people as assets:** transforming the perception of people from passive recipients of services and burdens on the system into one where they are equal partners in designing and delivering services.
- **Building on people's existing capabilities:** altering the delivery model of public services from a deficit approach to one that provides opportunities to recognise and grow people's capabilities and actively support them to put these to use with individuals and communities.
- **Mutuality and reciprocity:** offering people a range of incentives to engage, which enable us to work in reciprocal relationships with professionals and with each other, where there are mutual responsibilities and expectations.
- **Peer support networks:** engaging peer and personal networks alongside professionals as the best way of transferring knowledge and supporting change.
- **Blurring distinctions:** blurring the distinction between professionals and recipients, and between producers and consumers of services, by reconfiguring the way services are developed and delivered.
- **Facilitating rather than delivering:** enabling public service agencies to become catalysts and facilitators of change rather than central providers of services themselves.

14. Key Principles

14.1. Overview

Effective service provision needs to be underpinned by a suite of core principles, grounded in the research evidence, to guide practice. Throughout the literature and across numerous practice frameworks, sets of clinical guidelines and agency mission statements, a number of core principles emerge that are useful to ground thinking about how services are delivered to children, young people and families. Numerous practice models and guidelines repeat these core ideas, although the terms chosen to articulate the concepts may vary.

The following concepts emerge repeatedly across the research literature: a holistic focus, strengths-based approach, working in partnership with families, and capacity building. These principles support equitable and effective service delivery, with attention to the added complexities involved in engaging vulnerable, disadvantaged or otherwise hard-to-reach populations. Providing a safe, non-stigmatising, and responsive service is vital to reaching children and families who may otherwise be disconnected from support. The following core principles support an engaging and inclusive approach to service delivery.

14.2. A holistic approach

A holistic approach to child development is at the core of contemporary thinking on service delivery, grounded in Bronfenbrenner's (1979) ecological model of child development. This involves planning approaches that start from the perspective of the whole child, focusing on what is required to ensure wellbeing across all dimensions of their life. This approach places the individual child or family at the centre of a number of interrelated domains of social, physical and emotional wellbeing. Whether this principle is articulated as child-centred, child rights, or a holistic approach to child and youth wellbeing, the substance of the principle remains the same – services need to recognise the complexity of each individual, the strengths, needs and interests they possess and the social and cultural context in which they grow and develop. This approach enables any service provider to respond to the individual as a whole person, rather than an isolated presenting issue.

14.3. Strengths-based practice

A strengths-based approach to working with families will emphasise the importance of supporting families to recognise, draw from and build their strengths, while facilitating and empowering change (Bernard, 2006; Bell & Smerdon, 2011). The potential for families to change is an important aspect of strengths-based practice. As Powell and colleagues have observed, all families have strengths and capabilities, and child and family wellbeing can be enhanced through the use of these strengths as tools and building blocks (Powell et al., 1997).

Strengths-based practice also incorporates the identification and fostering of protective factors - the conditions and attributes of individuals, families, communities and societies that reduce or eliminate risk, and promote health development and wellbeing of children and families (Strengthening Families, 2015).

This approach requires service providers to view families through a lens of possibilities and potential rather than incapacities and deficits, in order to facilitate necessary change. The “problem is the problem; the person is not the problem” (McCashen, 2005, p. 12).

Strengths-based approaches also incorporate the acknowledgement and privileging of the person or families story or narrative as ‘knowledge’ and recognises the individual as the expert in their own life (Wong & Cumming, 2008).

14.4. Working in partnership with families

Closely connected to the strengths-based approach is the principle of working in partnership with children and families. As noted previously, the quality of the relationship between families and service provides has an enormous influence on the effectiveness of any service. This includes continuity of care, attention to communication styles and strategies, and empowering families to recognise their own role in the therapeutic relationship.

In a study exploring how antenatal and universal early childhood services could be made more inclusive, Carbone et al. (2004) argued that a worker’s ability to establish a positive, non-judgmental relationship with all children and parents is crucial. Additionally, the capacity of workers to proactively engage and sensitively follow up vulnerable children and parents who are at risk of ‘dropping out’ was identified as essential.

Effective partnerships require a non-judgemental, non-threatening, non-expert approach, which includes cultural competence. Practitioners should be explicitly reliable and committed to trustworthiness, confidentiality, and empathy. Participants should be involved in decision-making relating to therapeutic aims and goals; practitioners working in partnership will ask clients about what they want, need, expect, and understand (Barnes & Freude-Lagevardi, 2003).

14.5. Capacity building

Another key dimension of the strengths-based approach is the idea of capacity building. This means supporting families and children to build their skills, empowering them to set goals for themselves and the other members of their families. This may involve work around resilience, parent education programs, provision of knowledge and resources, and / or supportive discussion of family and individual aspirations. This approach supports individuals to develop the necessary knowledge and abilities to find and apply solutions to their own lives. This in turn builds self-reliance, a sense of empowerment, control, and increased awareness of responsibility.

Conclusions and critical components

Our current service systems have been shaped by history, but are no longer serving people or communities well. Service system fragmentation leaves clients without timely or coordinated responses to interrelated concerns, even where it is likely those concerns will lead to long-term consequences and costs. Services often respond to the current crisis without working to prevent the next crisis and avoid welfare dependence. This occurs in the context of siloed service investments that are overwhelmingly skewed towards reacting to established problems; concentrating on the intensive/high-cost end rather than on prevention.

This paper has used available research to highlight factors that enable effective prevention and early intervention at a system-wide level. This has included service-system design approaches which are informed by the evidence and, because of this, are consistent with current reform directions in Australia and internationally.

The evidence provides strong theoretical underpinnings and directions for systems reform, although the balance of evidence would suggest that there is no single model or 'silver bullet'. Instead any system should establish the capacity for continual measurement and improvement. The 'ideal system' is not a rigid or static model but is an agile and responsive system comprised of cultures, structures and processes that are flexible and responsive. It is underpinned by robust accountability and governance mechanisms and thereby enables adaptation and problem-solving.



To achieve this transformation, key service system elements that emerge from international research include:

- **A common approach to measuring outcomes:** to embed accountability, the measurement of effectiveness, and the building of evidence at all levels of the system.
- **Data-driven local planning and commissioning:** local approaches to needs assessment, service planning and resourcing.
- **Scale-up of evidence-based practice:** building 'evidence ready' systems and using evidence to guide investment decisions and service provision.
- **Shared ways of working:** systems, structures, tools and mindsets that enable and promote shared ways of working.
- **Commitment to implementation:** establishing processes and structures that reflect the lessons of implementation science and enable the objectives of system change to be embedded in practice.
- **Governance and accountability mechanisms:** with a focus on addressing system-level barriers and facilitating improved practice on the ground.

Enabling proportionate, coordinated, person centred service delivery

This paper has analysed what works to engage vulnerable families and achieve improved outcomes to outline the kind of service delivery the next generation of service system needs to support.

Current research regarding service systems that enable prevention, early intervention and person-centred service delivery highlight those systems which have increased the level of integration across the system to achieve coordinated and proportionate responses from a universal base. These systems have innovative governance approaches that enable the local co-design of service systems around local needs through collaborative decision-making.

The primary findings from a number of studies of these models are:

- the central importance of implementation, change management and continuous quality improvement processes;
- the clear link between evidence-based interventions and system-wide effectiveness.

Underpinning the effectiveness of these approaches is a common set of structures:

- the use of an outcomes framework to provide accountability and embed the measurement of effectiveness and building of evidence at all levels of the system;
- local approaches to needs assessment, service planning and resourcing;
- building 'evidence ready' systems and using evidence to guide investment decisions and service provision; and
- systems and structures that enable and promote shared ways of working.

Local actions to promote system sustainability are often not sufficient. Central leadership, resources and governance contribute critically to effective implementation and the long-term survival of re-shaped service systems. (Peterson et al., 2013, p. 8)

Collecting and using outcomes for collaborative data-driven decision making

High quality data is central to the effective planning of prevention and early intervention strategies, and is a key means for mobilising collaborative approaches to service planning and delivery. Systematic collection of common outcomes data across-sector is important for accountability, and can maintain commitment to reform and continuous improvement processes. It also facilitates the development of shared goals; the identification of particular strengths, priorities and pressures at regional levels; and enables collective impact.

Little identifies the key information sources required for an 'intelligent system' as:

- Epidemiology to formulate priorities for intervention, estimate likely impact on child well-being, and monitor trends.
- Systematic reviews and databases of proven models with clear standards of evidence.
- Economic analysis that predicts the costs and cashable benefits of introducing various evidence-based programs into local systems.
- Experimental evaluation to estimate the impact of locally implemented programmes on child outcomes, and the actual costs and cashable benefits.
- High quality dissemination.
- Quality assurance procedures (Little, 2010, p.43).

To collect and draw meaningful conclusions about child, youth and family wellbeing, a much stronger emphasis on the collection of outcomes data is required at all levels of the system (service, region and state). There are a number of strategies needed to shift social policy systems to a culture of measurement, including building workforce capacity, linking data and enabling collaborative governance which uses data to shape and steer.

Local data-driven planning and commissioning

Local approaches to identifying community needs and priorities, and planning and funding services accordingly, have emerged as key strategies for driving re-alignment of system elements around shared goals and outcomes. This re-alignment is central to achieving a more cohesive local service platform and for reshaping investment to achieve prevention (Sandford, 2014).

Data driven planning and commissioning breaks down barriers to reprioritising funding for prevention and early intervention through better intelligence on the drivers of demand for secondary and tertiary services. This intelligence enables: a clearer picture of how investment in one area of the system can reduce pressure on other parts of the system; better targeted investment in prevention and early intervention; and more direct opportunities to realise the economic benefits of prevention and re-invest in local services.

Data-driven planning and commissioning relies on devolved decision-making and local co-design across sectors. Innovative local governance has been shown to benefit from the support of central leadership, governance and systems to overcome well-documented implementation challenges and maintain momentum across diverse stakeholders.

Using evidence to guide investment decisions and service provision

Systems improvements are intrinsically tied to service improvements – without attention to both the effectiveness of either is limited. There are several key factors that influence the extent to which systems are able to adopt and scale-up evidence-based interventions: knowledge and access to information, capacity and readiness, and incentives to utilise evidence-based interventions. Sound implementation of evidence based services and systems is best supported with implementation science approaches, including capacity building and common principles and processes.

Shared practice frameworks

Shared practice frameworks enable coordinated and proportionate service delivery at a client level, and continual improvement at a system level. Shared practice frameworks have proved an important starting point for systems change and for shifting the implicit elements of a system - the knowledge, attitudes and beliefs that influence and shape practice on-the-ground. They also play an important role in strengthening connections between universal and secondary services regarding effective prevention and early intervention.

The core principles that apply across sectors and define a common way of working must be grounded in the science of child and youth development and the evidence that supports an ecological approach to child and family wellbeing. To be effective, shared practice frameworks require a parallel commitment to changing the structural elements of the system.

Identifying strengths, needs and intervention thresholds

One priority of a prevention and early intervention focused system is the early identification of needs and the ability to link children and families to appropriate and timely support. Systems also work to ensure that limited resources are used in the most efficient and effective manner.

To support these goals, flexible practice frameworks which emphasise strengths as well as needs have been developed in response to the benefits and limitations of structured assessment approaches (Léveillé & Chamberland, 2010). These models tend to be:

- Focused on building the capacity of practitioners to identify a broad range of strengths and needs, based on evidence-based risk and protective factors, an ecological model of child and family wellbeing, and/or priority outcomes;
- Designed to guide shared practice and cross-sector collaboration; and
- Embedded and integrated within agency or systems around assessment, planning and referral.

Alongside wellbeing-focused practice frameworks that guide the identification of needs, validated instruments provide a useful and robust mechanism for consistently quantifying areas of need and for tailoring appropriate prevention strategies (Dowdy et al., 2010; Slee et al., 2009). In order to be effective, however, screening processes must lead to appropriate and accessible service responses.

Matching needs and services

Equally important as needs assessment, but less well understood, are the decisions about appropriate and proportionate service responses that flow from those assessments.

Flexible service threshold guides have been developed in some jurisdictions to assist practitioners undertake appropriate assessment, planning and intervention for children and families from birth to adolescence. Used well, these guides may support proportionate universalism with a strategic approach to risks, prospective outcomes and likely lifetime costs. Service threshold guides are yet to generate demonstrable results. In the meantime it is important for service systems to collect client-level outcomes data that, over time, will enable an analysis of aggregate data on service type, dose, intensity and sequencing.

Case coordination and management is a broadly used strategy, often delivered with different levels of intensity and with different conceptualisations of what it means (Rapp et al., 2014). Given the importance of a relationship-based worker-client partnership for matching service responses to needs, case coordination is a key strategy. Gronda outlines the potential benefits of effective case coordination and management:

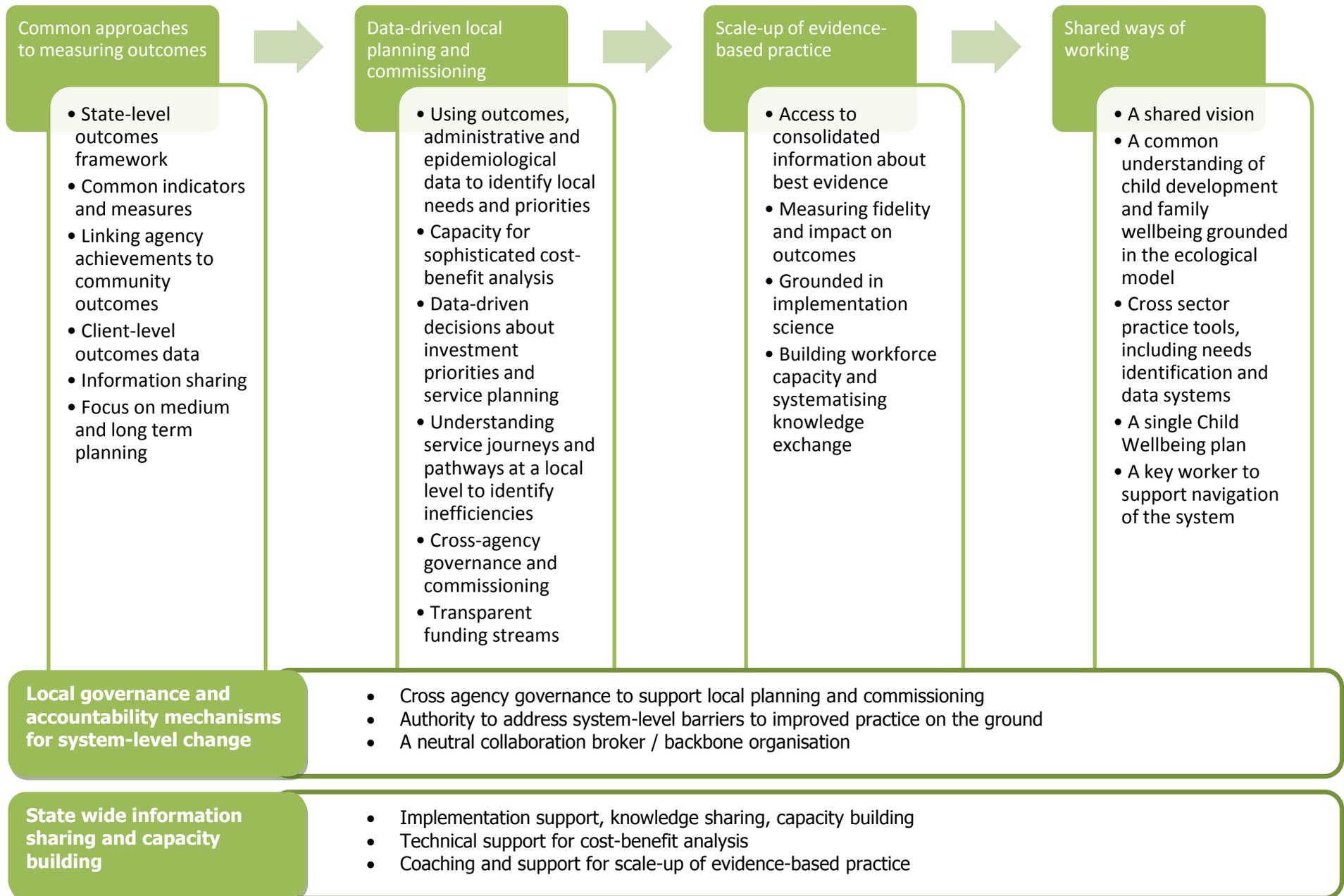
- Cost containment: efficiency, effectiveness, reduced duplication;
- Accountability: single point for coordination and follow-through;
- Therapeutic outcomes : personal development – assisting people toward higher levels of self-care, self-responsibility, independence and productivity;
- Better project management: better planning, coordination, appropriation, and outcome achievement through a structured process resource;
- System improvement : compensating for fragmentation and gaps in the service system; and/or
- Improved bureaucratic control of resource allocation: a service that is documented, monitored and evaluated (Gronda, 2009, p. 24).

Co-designing service responses and system structures with families and communities is emerging as a crucial component of impact.

Conclusion

The aim of reform must be the development of infrastructure for an 'intelligent system' that collects and uses data to measure the outcomes it is achieving, and which has mechanisms for decision-making that are responsive to evidence, data and changing local contexts. Effective systems are designed around the factors that promote the wellbeing of children and reflect the ways families work. They leverage trusted universal service platforms to

promote the factors known to be important for child development and they respond early to emerging problems.



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Appendix A - Antenatal

Why is the antenatal period important?

Maternal health and wellbeing has a direct impact on children's developmental outcomes. There is a link between maternal nutrition and children's cognitive and behavioural outcomes, as well as later health outcomes, while substance misuse is directly linked to birth defects, developmental delays, behavioural problems and low-birthweight (Doyle, Harmon, Heckman and Tremblay, 2009, p. 4). Low birthweight can impact a child's cognitive ability and has been associated with lower academic performance, likelihood of accessing remedial education services, poorer language and social skills, greater incidence of behavioural issues (Doyle, Harmon, Heckman and Tremblay, 2009, p. 4).

In spite of improvements in infant mortality, a steep gradient of birth outcomes remains. Teenage parents, ethnic minority groups, Indigenous Australians, homeless parents and women experiencing domestic violence, mental illness and/or substance misuse have disproportionately high rates of poor pregnancy and perinatal health outcomes (Hollowell, Oakley, Kurinczuk, Brocklehurst, & Gray, 2011, p. 2).

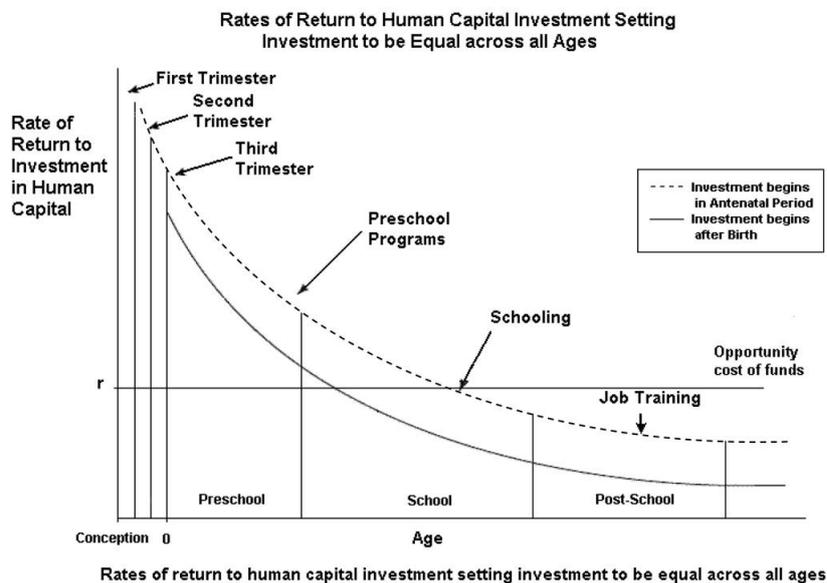
Cost-benefit of antenatal investments

Heckman argues that "a truly preventative program should begin pre-birth as the foetal environment and maternal behaviour during pregnancy has significant long-term consequences for the child's health and development" (Doyle, Harmon, Heckman and Tremblay, 2009, p. 4). Although the evidence-base for effective antenatal interventions is still developing, it is hypothesised that antenatal investments carry an even stronger return on investment than early childhood interventions.

Modelling from the UK estimated that "the additional public sector cost associated with preterm birth up to age 18 is approximately £1.24 billion", with 92 per cent of this cost reflecting the additional hospitalisation costs immediately following birth and during the first two years (Strelitz, 2013, p. 3:10).

Figure A1: Hypothesised return on investment for antenatal interventions” (Doyle, Harmon, Heckman & Tremblay, 2009, p. 4)

Figure 2b



Modifiable risk and protective factors

- **Risk factors:** maternal smoking, pre-term birth, maternal mental health, maternal alcohol use, poverty, household stress
- **Protective factors:** access to antenatal care, parental mental health, social connections and support

Optimal intervention pathways

High quality antenatal care (universal and targeted)

Hollowell et al. suggest that “antenatal care is generally thought to be an effective method of improving outcomes in pregnant women and their babies, although many antenatal care practices have not been subject to rigorous evaluation” (Hollowell, et al., 2011, p. 2). Antenatal services play an important role in preventative care, as well as in the early identification of vulnerability and risk and provision of timely support and referral to address additional needs.

Current antenatal services appear to work relatively well for the majority of families, but there is evidence that antenatal services do not consistently provide adequate care for vulnerable families, with access to services, lack of optimal care, poor communication and collaboration and a lack of continuity of care noted as recurrent challenges in Australia and internationally (Schmeid, et al., 2008, p. 7). As noted by Tracy et al. (2013, p. 1723) Tracey et al., “standard hospital maternity care—the only option available to most childbearing women in Australia—is based on a fragmented system wherein women meet several

different midwifery and obstetric staff at each consultation throughout pregnancy, birth, and the postnatal period”.

Midwife-led antenatal care (universal and targeted)

Midwife-led antenatal care is a promising model for improving child health and maternal wellbeing and for providing strengthened continuity of care, especially for vulnerable families. A number of studies have identified improved outcomes for low and high risk women. A recent Cochrane Collaboration Systematic Review of 11 trials involving over 12,000 women found that women who received midwife-led models of care were:

- Less likely to experience antenatal hospitalisation;
- Less likely to use or experience regional analgesia, episiotomy and instrumental delivery;
- Less likely to experience foetal loss before 24 weeks;
- More likely to feel in control during labour and to be attended at birth by a known midwife;
- More likely to initiate breastfeeding; and
- More likely to have a shorter length of hospitalisation (Hatem, Sandall, Devane, Soltani, & Gates, 2009; Sandall, Soltani, Gates, Shennan, & Devane, 2013).

A recent Australian RCT found that caseload midwifery care (characterised by continuity of care) cost significantly less than standard maternity care (by AUD\$556.74 per woman) and improved breastfeeding rates at discharge and at 6 months (Tracy et al., 2013). The authors note that the cost savings were achieved through the increased number of unassisted vaginal births and spontaneous onset of labour, reduced use of analgesia, fewer women experiencing significant postpartum blood loss and reduction in the median length of stay in a postnatal ward (Tracey et al., 2013, p. 1730).

Group antenatal care (targeted)

Group antenatal care is a well-established model for prospective parents to interact and may be delivered on top of or instead of individual antenatal care appointments. Systematic reviews of group antenatal care programs demonstrate positive outcomes, particularly when they place young mothers in a group with others with similar characteristics and at a similar stage in pregnancy. One review notes that in 11 out of 12 studies, women receiving group care had equivalent or improved pregnancy outcomes compared with traditional care, including decreased incidence of preterm birth, increased birth weight, improved weight gain during pregnancy, increased adequacy of antenatal care and greater antenatal knowledge. (Lathrop, 2013). Other reviews are more critical of the quality of evidence supporting group antenatal care, but do note that those targeted at socioeconomically disadvantaged women are likely to show a positive reduction in preterm births (Hollowell, et al., 2011; Ruiz-Mirazo, Lopez-Yarto, & McDonald, 2011).

Targeted group antenatal care is embodied in such programs as *Centering Pregnancy*, which involves a ten week program with between eight to twelve women, all with similar due dates. The program has been developed and trialled with a broad range of 'at-risk' women, including adolescents and those from culturally diverse backgrounds. Evaluation of the program has shown a significant improvement in the rates of preterm births and inadequate prenatal care, along with significant positive effects on breastfeeding initiation, antenatal knowledge, readiness for labour and delivery, and satisfaction with antenatal care (Ickovics, Kershaw, et al., 2007). This evaluation also reported that the approach is cost-neutral when compared with individual antenatal care, in terms of the costs incurred for antenatal care and delivery care (Ickovics, Kershaw et al., 2007). However, no further rigorous cost-effectiveness or cost-benefits analyses have been conducted. In Australia, group antenatal care has been trialled in a few locations with pregnant Indigenous women, showing promising outcomes related to birth weight, perinatal death and maternal health (DEECD, 2014).

Sustained nurse home visiting (targeted)

Nurse home visiting interventions (outlined in detail in the infancy section) are one of the most promising strategies for improving child development outcomes for young children.

McDonald, Moore and Goldfeld argue that the research supports antenatal rather than postnatal recruitment (2012, p. 17). A meta-analysis of home visiting systematic reviews found evidence that interventions that begin early (either antenatally or at birth) are more effective than those that begin in later parenthood, while Aslam and Kemp argue that programs that commence antenatally report a greater number of significant positive outcomes when compared to studies that commenced postnatally, particularly for child behaviour outcomes (McDonald, Moore and Goldfeld, 2012, p. 17).

Nurse home visiting is also a key strategy for providing coordinated care for vulnerable and at-risk families.

Breastfeeding preparation (universal and targeted)

Breastfeeding protects children from a range of later problems including reducing the risk of ear (otitis media) and lung infections, asthma, obesity and diabetes, sudden infant death syndrome, dermatitis, gastrointestinal disorders (coeliac and inflammatory bowel disease) and leukaemia, and appears to have an impact on neurodevelopmental outcomes including intelligence (Barlow and Blair, 2013, p. 6:3). It helps promote bonding and attachment, while also having health benefits for mothers (NHMRC, 2012, p. 16).

NHMRC infant nutrition guidelines note that although the majority of women in Australia initiate breastfeeding, rates drop significantly after 6 months, with around 25 per cent of women continuing to breastfeed for the recommended 12 months (NHMRC, 2012, p. 16).

Drawing on evidence from four systematic reviews, the National Institute for Clinical and Care Excellence (NICE) in the UK, finds that the evidence supports the use of:

- antenatal group work (with an interactive component);

- peer support schemes that involve local, experienced breastfeeders as volunteers to prepare parents for breastfeeding;
- multi-modal education/social support programmes combined with media campaigns; and
- 1:1 tailored education sessions, which may be more effective for low-income women who had planned to bottle feed and group support for women who had planned to breastfeed (Dyson, McCormick, & Renfrew, 2005).

Smoking cessation (targeted)

Smoking during pregnancy is associated with impaired foetal growth, low birth weight and preterm birth, as well as an increased risk of miscarriage, stillbirth, neonatal death and sudden infant death syndrome (BMA, 2004).

Evidence from six reviews that largely focused on interventions delivered during the antenatal period, suggests that effective smoking cessation interventions have a behavioural focus, aim to change beliefs about smoking and address stress management, and there are indications that combining behavioural interventions with rewards for smoking cessation and social support may enhance the effectiveness of these interventions (NHS Health Scotland, 2012; Lumley et al., 2009).

Maternal mental health (targeted)

There is some evidence to show that maternal mental ill-health during pregnancy has independent and adverse impacts on birth outcomes (Grote, et al., 2010) and on continuing depression in the postnatal period (Heron et al., 2004). A British longitudinal study found that depression in pregnancy was associated with poorer infant development and later child outcomes. For instance, they found that depression during pregnancy was strongly associated with violence in adolescence, even after controlling for the family environment, the child's later exposure to maternal depression, the mother's smoking and drinking during pregnancy, and parents' antisocial behaviour (Hay, Pawlby, Waters & Sharp, 2008). There is also emerging evidence that maternal depression can impact epigenetic pathways (Gray, 2013, p. 5:3).

Maternal mental health interventions are mostly focused on the postnatal period. A review of treatments aimed at preventing the development of mental disorders for women with existing risk factors during the perinatal period noted that, of the sixteen studies that met inclusion criteria, all were aimed at preventing depression in the postnatal period. In a few, the intervention period spans pregnancy and the postnatal period, with the intention of preventing depression from emerging or continuing in the postnatal period (NICE, 2007).

Some discussion of antenatal mental health interventions is made in a literature review carried out by Beyond Blue (2008). They note that antenatal depression often goes undiagnosed or unrecognised by health care providers and that there is a significant number of suicides in pregnancy (p. 61). There is little evidence for preventive interventions, but treatment (i.e. Cognitive Behavioural Therapy) appears effective.

Given the dearth of specific targeted programs for mental health in the antenatal period, there is little in the way of cost-benefit analysis reported. However, one analysis of a project in Florida encompassing screening and intervention for high-risk depressed women in the community both before and after pregnancy reports a benefit to cost ratio of 5.31 : 1 (Beyond Blue, 2008, p. 71).

Maternal alcohol use (universal and targeted)

A 2012 Parliamentary Inquiry found that Foetal Alcohol Syndrome Disorder (FASD) is the largest cause of non-genetic, at-birth brain damage in Australia (House of Representatives, 2012, p. 1). FASD can result in a range of impairments, including learning difficulties, difficulties, a reduced capacity to remember tasks from day to day, anger management and behavioural issues, impaired speech and muscle coordination, and physical abnormalities in the heart, lung and other organs (House of Representatives, 2012, p. 1). Additionally, “the complex learning and behavioural difficulties observed in people with FASD may result in problems at school; with the criminal justice system; drug and alcohol misuse and addiction and mental health problems” (Bower, 2012, p. 4).

A substantial proportion of Australian women consume alcohol during pregnancy (estimated at between 30 per cent and 50 per cent (Bower, 2012)), with around 11 per cent drinking more than two standard drinks per occasion or six standard drinks per week, and a further 1.5 per cent consuming more than four standard drinks per occasion (Colvin et al., 2007 in NIDAC, 2012). Australian young adults, including young women, have some of the highest rates of alcohol-related disorders and levels of substance use of any nation in the world (Toumbourou et al., 2014), and pre-pregnancy rates of alcohol consumption are one of the strongest predictors for high alcohol consumption during pregnancy (Skagerström, Chang & Nilsen, 2011).

Health professionals do not routinely ask about alcohol consumption during pregnancy and report feeling ill-equipped to support women to reduce their use of alcohol. A 2007 survey of health professionals who regularly care for pregnant women found that just over half asked women about alcohol consumption in pregnancy and only 33 per cent routinely provided information to pregnant women about the effects of alcohol use in pregnancy (Payne et al., 2011b, in Bower, 2012). Additionally, only 18 per cent of surveyed health professionals knew the four essential criteria for the diagnosis of FASD, 67 per cent were concerned about stigmatising the child or the family with a diagnosis of FASD and only 6 per cent felt very prepared to deal with FASD (Payne et al., 2011). Similar findings applied to studies of Australian paediatricians (Payne et al., 2011).

Under-reporting of FASD makes it difficult to identify the costs of FASD, but Canadian research has estimated that the annual per-person costs of FASD were over CAD\$21,000 and that the community level costs from birth to age 53 were around CAD\$5.3 billion each year (Slade et al., 2009 in NIDAC, 2012).

There is a significant lack of evidence about effective interventions to reduce alcohol consumption during pregnancy, especially for high-risk women. A Cochrane review in 2009 found limited evidence to support the effectiveness of interventions for reducing alcohol

consumption in pregnant women (Gray, 2013, p. 5:6). A systematic review of interventions to support children and families with FASD found several potentially effective strategies, but a significant lack of high quality evidence (Peadon, Rhys-Jones, Bower & Eliot, 2009).

Awareness and prevention (universal)

The most effective preventive interventions for maternal alcohol use are school-based health and wellbeing interventions and large-scale systems change (such as increasing the drinking age and increasing the floor-price of alcohol), which moderate drinking behaviour prior to pregnancy.

The Telethon Institute for Child Health Research recommends community-level public health promotion as well as training and information for health professionals in order to reduce the incidence of FASD (Bower, 2012, p. 6).

Diagnosis and management (targeted)

The Telethon Institute argues that the lack of clear guidelines for the screening and diagnosis of FASD is a significant barrier to improving management of the condition, arguing that:

there are no sustainable services specifically for the screening or diagnosis for FASD in Australia, no national guidelines for the diagnosis and management of FASD and no nationally accepted diagnostic or screening instrument. These barriers to diagnosis are accentuated in rural, remote and Indigenous communities where access to health services is limited. Lack of identification of FASD means we are unable to quantify the problem and thus lack evidence to advocate for much needed health professional training and diagnostic services (TICHR, 2012, p. 3).

They recommend the a range of strategies to improve diagnosis and management, including: development and implementation of a diagnostic instrument for FASD, multidisciplinary diagnostic clinics, improved access to services and counselling regarding further pregnancy, and health professional training.

Motivational interviewing (targeted)

Motivational Interviewing (MI) is a tool for addressing a specific problem where a person may need to make a behaviour or lifestyle change. The strategy takes a guiding approach to communication, in which an interviewer employs reflective listening in order to guide a person to resolve their ambivalence about behaviour change. It was developed for use with problem drinkers but has since been adapted to other scenarios.

Systematic reviews of MI report positive outcomes when compared to traditional advice-giving, although it is not consistently effective across providers, populations, target problems, and settings. Overall, these reviews present convergent evidence that MI can be an effective intervention with a range of addictive and health-related behaviours (Moore et al., 2012).

There is some evidence that brief MI may be effective in motivating women who are light to moderate drinkers to cease alcohol consumption during pregnancy. However a review of interventions found no significant effects of MI on obstetric or neonatal outcomes and the findings of this review were limited by the nature of the women included. A further systematic review of the impact of MI, which was not restricted to pregnancy and the postnatal period, found a significant effect of MI on alcohol use/abuse, drug addiction, smoking cessation, increased weight loss and physical activity. Overall, the evidence suggests that MI has the potential to reduce addictive behaviour, but clarification of the factors (e.g. level of alcohol use) that are linked to treatment effectiveness is needed. (NHS Health Scotland, 2012).

Table A1: Effective antenatal interventions

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
High quality antenatal care	Midwife-led antenatal care	Universal	Continuous care during pregnancy and birth, led by midwives	<p>Less likely to experience antenatal hospitalisation</p> <p>Less likely to use or experience regional analgesia, episiotomy and instrumental delivery</p> <p>Less likely to experience foetal loss before 24 weeks</p> <p>More likely to feel in control during labour and to be attended at birth by a known midwife</p> <p>More likely to initiate breastfeeding</p> <p>More likely to have a shorter length of hospitalisation (Hatem, et al., 2013).</p>	Reduction of AUD\$556.74 per woman	Supported
	Group-based antenatal care	Universal and at risk parents	Antenatal care delivered in a group setting with parents with similar due dates and life circumstances	<p>Decreased incidence of preterm birth, increased birth weight, improved weight gain during pregnancy, increased adequacy of antenatal care and greater antenatal knowledge. (Lathrop, 2013).</p> <p>Improvement in the rates of preterm births and inadequate prenatal care, along with significant positive effects on breastfeeding initiation, antenatal knowledge, readiness for labour and</p>	Not available	Promising

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
				delivery, and satisfaction with antenatal care (Ickovics, Kershaw, et al., 2007).		
High quality antenatal care Sustained nurse home visiting	Nurse Family Partnership	Disadvantaged first time mothers	To improve the outcomes of pregnancy, improve infant health and development, and improve the mother's own life-course development	Evaluation, including long-term follow up studies, show program impacts on alcohol use, child abuse, criminal behaviour, early cognitive development, healthy gestation/birth, illicit drug use, tobacco use, mental health, physical health, post-secondary education and employment, teen pregnancy	Benefits: \$22,781; Costs: \$9,600; Benefits - costs = \$13,181. Measured Risk: 80per cent	Well supported
	Maternal and Early Childhood Sustained Home Visiting (MECSH)	Vulnerable parents	To enhance maternal and child outcomes through universal system for maternal, child, and family health services. MECSH targets disadvantaged, pregnant women at risk for adverse maternal and/or child health and development outcomes.	Positive outcomes for child health, maternal health and parenting practice	Not available (study currently underway)	Supported
Maternal alcohol use	Motivational interviewing	Adults of all ages	Motivational interviewing is a directive, client-centred counselling style for eliciting behaviour change by helping clients to explore and resolve	Rubak et al. (2005) conducted a systematic review and meta-analysis of randomized controlled trials using motivational interviewing as the intervention in the management of	Benefits: \$8592 Costs: \$210 Benefits-Costs \$8381	Well supported (promising for women during

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
			ambivalence.	lifestyle problems and disease. They identified 72 randomised controlled trials in all, and found that MI outperformed traditional advice giving and helped elicit changes in client's behaviour in 80 per cent of the studies. MI had a significant and clinically relevant effect in approximately three out of four studies, with an equal effect on physiological and psychological diseases. Psychologists and physicians obtained an effect in approximately 80 per cent of the studies, while other healthcare providers obtained an effect in 46 per cent of the studies.		pregnancy)

Appendix B - Infancy and early childhood (0-3)

Why is the infancy and early childhood period important?

It is emphasised throughout the literature that positive stimulation early in life affects subsequent health, wellbeing, coping skills and competence across the lifespan. Abundant research also demonstrates that experiences from conception to age three have the most important influence on connecting and sculpting the neurons in children's brains. (AIFS, 2005; Department for Children and Youth Affairs, 2013).

Cost benefit of investing in infancy and early childhood

The strongest evidence for the cost-benefit of prevention and early intervention is for the 0-3 period, with estimates of return on investment ranging from 7:1 to 17:1.

Key risk and protective factors

- **Risk factors:** low birth weight, difficult temperament, insecure attachment and harsh responses from carers, inadequate housing, low parental aspirations for child, parental substance misuse, toxic stress
- **Protective factors:** adequate birth weight, attachment and nurturing relationship with caregivers, material wellbeing, adequate nutrition and breastfeeding, stimulating home learning environment, access to health and social care

Optimal intervention pathways

The [breastfeeding](#), [maternal alcohol use](#) and [smoking cessation](#) pathways outlined in the previous section continue to apply in the infancy stage. This section outlines the following pathways:

- Access to health and social care
- Parenting skill development
- Home learning environment
- Promoting breastfeeding
- Social connections and support outside the family

Specific evidence-based interventions are outlined in Table A2.

Access to health and social care

There is evidence that universal health services in developed countries are not available equally and are not accessed by all women, children and families. As Tudor Hart (1971) observed, there is an 'inverse care law' that operates within health systems, which means those who are in most need of health services are least likely to receive them unless action

is taken (Furler et al., 2002; Hart, 1971). Maternal and neonatal outcomes are poorer for women from disadvantaged, vulnerable or socially excluded groups, although national-level data is often incomplete. Schmied, Homer, et al. (2008, p. 7) note that state reviews of maternal and child health identified the inadequacy of maternity services in responding to the needs of vulnerable and disadvantaged families, finding that vulnerable families did not receive the care they needed, with overlaps in roles of service providers, lack of coordination of available services and few mechanisms to transition care from one service to another.

Strategies that are broadly effective in engaging vulnerable and disadvantaged families include:

- targeting interventions to vulnerable families early in a pregnancy
- mixing specialist and generalist, targeted and universal services
- using single entry points for an array of coordinated services
- ensuring transport, child care and appropriate scheduling (Cortis, Katz and Patulny, 2009, vi).

Children's Centres are among the most promising models for improving access to health and social care for families with young children, and there is emerging evidence that when appropriate outreach and engagement strategies are in place, they increase service access by vulnerable families. There is also indications that the antenatal and perinatal period are windows of opportunity for service engagement, "with parents thought to be more willing to accept advice and receive help in the prenatal months, especially early in the pregnancy (McCurdy and Daro, 2001 in Cortis, Katz & Patulny, 2009, p. 8). The inclusion of health services seem strengthen the effectiveness of early years services, probably because of better access to children and established health visitor networks (Belsky et al., 2006).

There are also significant waiting periods for specialist services (such as speech and language and child behaviour difficulties), and limited capacity to deliver early intervention responses on the scale required. For instance, a WA parliamentary report estimated that of the 14,500 children and adolescents suffering from a speech and language impairment or difficulty, only 1,000 were able to receive a service (WA Parliament, 2009, p. xxi). These "delayed interventions end up being more costly for government, as it extracts a greater demand on future health services to provide therapy and treatment requirements. In addition, many of these delays may exacerbate a child's behavioural conditions and social dysfunction, which ultimately places added pressures on other public agencies, such as the education and justice departments" (WA Parliament, 2009, p. xx)

Children's centres

Children's Centres (also known as child and family centres, neighbourhood houses, Sure Start, etc.) are a widely utilised strategy for facilitating access to coordinated health, parenting, early learning and referral services. They are a prominent feature of the Nordic universal service platform for families, have been extensively implemented in the UK, and increasingly in Australia (i.e. Tasmania, South Australia, the ACT, Queensland,

Commonwealth-funded Indigenous child and family centres and the Communities for Children model, and numerous local initiatives, often run by community organisations).

The theoretical rationale for children's centres is strong. In addition to providing integrated health, parenting and learning services, they provide a clear point of contact for families and provide a non-stigmatising point of access to information and support.

However, there is a lack of robust evaluation data to support their effectiveness, although there is some promising evidence from the Chicago Child-Parent Centres, Toronto First Duty and Sure Start. In part due to methodological challenges, the majority of children's centres have not been evaluated, and where evaluations exist they have tended to focus on process issues rather than outcomes for children and families (with the result that there a good level of evidence for the implementation and structural factors that contribute to perceived effectiveness (Moore et al., 2008)). There is, however, some evidence to show that coordinated early years provision (whether centre-based or not) improves help-seeking, social support, access to parenting support and improved parenting efficacy, and some evidence of improved child outcomes:

- Williams and Churchill (2006) found substantial evidence for experiences of individual parent empowerment, through wide range of activities such as parenting classes, fathers' groups, breastfeeding support, exercise and sports groups, and fun days. Parents expressed the value of Sure Start in terms of increased confidence, skills, self-esteem as parents, and friendships. There was greater variation in the extent to which the programs had generated collective empowerment.
- A Sure Start follow-up study found that, at age 7, parents in Sure Start areas reported engaging in less harsh discipline, providing a more stimulating home learning environment, providing a less chaotic home environment, and single parent and jobless families reported better life satisfaction. However, limited evidence was found for a range of other intended outcomes (Melhuish, 2012)
- Toronto First Duty (TFD) found that both kindergarten teacher ratings of school readiness and direct assessments by the researchers suggest that the children benefited socially and developed pre-academic skills. Parents whose children attended TFD programs reported being more involved in their children's early learning (Corter et al., 2006 in Moore et al., 2008). Additionally, parents felt more confident in helping their children learn. Program hours and participants increased at all of the sites. Access to programs allowed parents to achieve goals, such as helping children learn and meeting other parents (Corter et al., 2006 in Moore et al., 2008).

A new outcomes framework has been developed for Sure Start (Marmot, 2013) to enable consistent ongoing monitoring of the effectiveness of Sure Start Children's Centres and there are large scale evaluations of South Australian and Tasmanian children's centres underway, which will contribute to this evidence base. ARACY's experience working with children's centres in other jurisdictions indicates that they can be highly effective in increasing access to services for vulnerable and disadvantaged families.

Sure Start Children's Centres

(Cheminais, 2007 in Moore et al., 2008)

Level 1: Universal provision for all families with children under five

- Free integrated early years education and care for 12.5 hours a week, eventually to 48 weeks a year
- Information and access to child care in the local area
- Information on parenting, drop-in groups, and opportunities to access parenting support and education
- Antenatal and postnatal services and child health services and information on health
- Information about employment, education and training
- Information at transition points, e.g. at birth of a child, entry to primary school

Level 2: Provision for families experiencing challenging circumstances, leading to their children being at greater risk of obtaining poor outcomes

- Advice and support in accessing care
- Group-based antenatal and postnatal support focused on parenting
- Varying levels of group-based or one-to-one parenting and family support to meet the distinct needs of fathers and mothers
- Employment and training support

Level 3: Specialist support and provision of children identified as being at even greater risk of poor outcomes

- Intensive structured parenting, child and family support through evidence-based programs including outreach and home visiting. This includes practical day-to-day support in the home, delivered together with other agencies like social services.
- Access to specialist services such as speech and language therapy, and family therapy, safeguarding services are children who are at risk of harm, abuse, neglect.

Supported playgroups (targeted)

Supported playgroups are targeted at vulnerable and at-risk families and provide an informal and supportive environment to promote early learning, model positive adult-child interaction, encourage a positive home learning environment and support access to other universal and targeted services (Jackson, 2013; Parenting Research Centre, 2013; Barnes et al., 2006). Although supported playgroups are widely used and well regarded, they have not been subject to extensive experimental or quasi-experimental evaluation.

However, a recent randomised controlled trial of smalltalk, an early learning and language development program designed to be embedded within supported playgroups and maternal and child health services, provides promising Australian evidence of the benefits of high quality supported playgroups (Parenting Research Centre, 2013). This research combined

with what is currently known about the benefits of rich, informal social support environments for families with young children (Jackson, 2011, p. 2103), provides emerging evidence for supported playgroups.

Sustained nurse home visiting (targeted)

There is consistently strong evidence for the impact of high quality and well implemented intensive home visiting programs, with international evidence pointing to lasting impacts on mothers, children, families and entire communities, including children's improved performance at school and more maternal employment (Olds, 2011). It is the only intervention with proven efficacy for this age group and cohort of families. Sustained nurse home visiting offers the potential to redress inequity for the most disadvantaged families through targeted and intensive delivery of child health, developmental promotion and parenting support within the context of universal health care.

A recent review of effective child health and early learning home visiting programs identified 14 that met standards of evidence and were appropriate for wider roll-out (Avellar et al., 2013). Two of the nurse home visiting programs are currently being delivered in Australia:

- Maternal Early Childhood Sustained Home (MECSH) Visiting Program had favourable impacts in three domains (child health, maternal health, and positive parenting practices). At least one impact in two domains (child health and positive parenting practices) was sustained for at least one year post program-inception, but none of the impacts lasted for at least one year post program-completion or was replicated in a second study sample (second study underway, see ARACY, 2014).
- Nurse Family Partnership (NFP) had favourable impacts in seven domains (child development and school readiness; child health; family economic self-sufficiency; maternal health; positive parenting practices; reductions in child maltreatment; and reductions in juvenile delinquency, family violence, and crime). At least one impact in all seven domains was replicated in another study sample, was sustained at least one year post program-inception, and lasted for at least one year post completion (Australian implementation underway, see Fielding (2012)).

Parenting skill development (universal and targeted)

The impact of parenting behaviours on children's development and outcome has been established (in section 2.8). Parenting during the first three years is one of the most significant determinants of children's early language acquisition, their cognitive development, their sense of self and security, their emotional regulation and their ability to form positive peer and other relationships.

The introduction to parenting provides a window of opportunity to shape and influence norms and expectations about child development and the kinds of parenting behaviours associated with better development outcomes, and potentially to establish help-seeking and information-seeking practices.

Promoting positive parenting behaviours through social marketing (universal)

There is evidence that demonstrates that public health campaigns are effective in addressing many health behaviours (Hornik, 2002) with a meta-analysis showing on average a 9 per cent increase in targeted behaviours (Snyder and Hamilton, 2002). Public health campaigns around smoking and road safety, for instance, show a dramatic reduction in prevalence, over a number of years, as a result of a combination of legislation, changing social norms and specific campaigns (Australian National Preventive Health Agency (ANPHA), 2012, pp. 24-25). Extrapolated to a specific, evidence-based parenting behaviour such as simply reading to children, which PISA data demonstrates can equate to an additional 1.5 years schooling for a child, the impact of this approach on parenting behaviours could be substantial (TNS and ARACY, 2012).

The *Engaging Families in the Early Childhood Development Story* project explored key messages from neuroscience about impacts on development in the early years and found that:

Parents generally recognised the importance of those key messages that are consistent with traditional child development theories (for example, the importance of nurturing relationships, the importance of a language rich environment, the importance of good health and nutrition). However, they did not often demonstrate an understanding of the link between the messages and brain development or between brain development and children's longer term outcomes. Nor did they always have the knowledge, capacity or resources required to apply them (Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEECDYA), 2011, p. 8).

The Scottish government reports that their national social marketing campaign was highly effective. The campaign reached 70 per cent of the target audience; parents who were aware of the campaign were more likely to agree strongly that they should play, talk and read more, so that their child becomes a better learner (84 per cent of parents); there was a 16 per cent uplift in the perceived importance of playing, talking and reading following the campaign, and early indications that the frequency of actual playing and reading behaviours increased; a 7 per cent increase in those reporting playing several times a day and those reading at least once a day (Scottish Government, 2011). Preliminary work to develop a social marketing campaign based on key messages from neuroscience campaign has been commissioned by COAG (ARACY, 2014).

Information about parenting and child development (universal)

There is some (but very limited) evidence that media-based parent training about diagnosed child behavioural problems (such as leaflets and videos, sometimes supported by telephone contact or parent groups) are moderately effective, and more effective than no treatment (NHS Health Scotland, 2012).

Group parenting programs (universal and targeted)

There is evidence to support the benefit of group-based parenting programs for children under three years, although the strongest evidence for group-based parenting interventions is for children aged over three years (with few programs targeted at infants) (PRC, 2012, 19). A recent Parenting Research Centre review of parenting interventions found that the programs with the strongest evidence were those that focused on improving child behaviour, especially children displaying internalising and externalising behaviours (PRC, 2012, p. 18). The programs with the strongest evidence were those targeted at specific issues and children with emerging behavioural issues (i.e. Triple P, Parent-Child Interaction Therapy, Tuning into Kids, NEWPIN) with emerging evidence for universal delivery of Triple P.

Promoting attachment and responsivity (targeted)

Interactive video feedback is a promising strategy for promoting parent-child attunement and parental sensitivity to infant cues, an important process for establishing secure attachment. A *Video-feedback to Promote Positive Parenting (VIPP)* intervention developed by Juffer et al. is supported by several RCTs and video feedback is also utilised as part of a number of parent-child programs.

There is emerging (but not strong) evidence for several interventions that focus on strengthening attachment (including Circle of Security, Promoting First Relationships and Watch Wait and Wonder), although these programs have a very strong underpinning theoretical framework and are widely used in Australia.

Home learning environment

Longitudinal data confirms that the home learning environment exerts significant influence on young children's cognitive and language development, with impacts on attainment at preschool and transition to school (Sylva et al., 2004). Sylva et al. show significant effects on cognitive, language and social development, with the strongest effect being on cognitive development. The home learning environment also has a stronger effect than either social class or parental education, which in previous studies have often been found to be amongst the strongest predictors of children's cognitive development. Consequently, the authors emphasise that 'what parents do is more important than who parents are'.

The Effective Provision of Pre-school Education project (EPPE) identified that reading, teaching songs and nursery rhymes, painting and drawing, playing with letters and numbers and visiting the library had the strongest impacts on children's learning, while other researchers have identified that the quality of play in young children's home environments as an important driver of children's learning and wellbeing (DiPietro, 2000; Robinson, 2002; Shonkoff and Phillips, 2000; Sylva et al., 2004). Sylva et al. (2004), suggest that these results confirm the need for policies that promote programs to encourage active parenting strategies thus enhancing children's cognitive and social/behavioural outcomes. They

suggest that programs which directly promote activities for parents and children to engage in together are likely to be most beneficial for young children.

This is reflected in the more effective interventions in this area, which seek to empower parents and give them confidence and capacity to engage in learning activities with their children. This may be in the form of home visits to support, train and equip parents and familiarise children with learning activities (e.g. Parents as Teachers, HIPPY), or simply by providing accessibility to learning resources that can be shared between parent and child (e.g. Better Beginnings, Bookstart). Parents as Teachers and HIPPY are two of the more strongly evaluated programs (DEECD, 2014; Avellar, 2013).

- Parents as Teachers (PAT) had favourable impacts in four domains (child development and school readiness, family economic self-sufficiency, positive parenting practices, and reductions in child maltreatment). Favourable impacts in child development and school readiness were replicated in at least one other study sample (Avellar et al., 2013). WISPP modelling calculates a positive benefit to cost ratio of 1.18:1 (Aoset al., 2011).

Promoting breastfeeding

The [impact of breastfeeding](#) during the first year of life is outlined above.

Effective interventions to promote breastfeeding during infancy focus on hospital-based strategies in the immediate post-birth period, along with community approaches delivered by healthcare professionals and / or peers, who can offer support and guidance over the longer term.

In a systematic review of interventions to promote breastfeeding – including hospital and community based – Renfrew, McCormick, Wade, Quinn, and Dowswell (2012) note that most interventions generally have a positive effect on the duration and exclusivity of breastfeeding, across all groups of the population, including low-income mothers. However, greater impact is likely when face-to-face support is provided and when this is not offered reactively (i.e. not when mothers have to initiate contact, but vice versa). Support offered by both professionals and peers can be equally effective.

The economic value of breastfeeding (and costs of not breastfeeding) is well documented and thus supportive of interventions to promote breastfeeding. It is one of the few areas in which parents themselves may see a tangible cost benefit, although this may arguably be offset with productivity costs lost due to time spent breastfeeding. Beyond this, healthcare system costs for children who are not breastfed are reported to be substantially higher than for breastfed infants. This, and other analyses, leads the National Health and Medical Research Council (NHMRC) to assert that “the total value of breastfeeding to the community makes it one of the most cost-effective primary prevention measures available” (NHMRC, 2003, p.14).

Social connections and support outside the family

Enhancing social connections and developing opportunities for informal social support is an important strategy for strengthening child and family wellbeing: “families with rich social support networks have increased access to information, resources and friendship networks which assist them in their day-to-day lives and in the parenting of young children” (Ferguson, 2006; Hoffmann-Ekstein, 2007; Izmir, Katz and Bruce, 2009; Leonard and Onyx, 2003, Scott, 2001; Winter, 2000). Longitudinal Study of Australian Children (LSAC) data demonstrates a link between parents who lack social support and poor mental health, with primary carers who reported that they did not receive adequate support from family and friends were 2.5 times more likely to report clinically significant symptoms of distress (Zubrick et al., 2008 in DEECD). Improving social connections between families can also have an impact on community cohesion (OECD, 2010; Putnam, 1995). Conversely, social isolation is a risk factor for child abuse and neglect, and is a stress-factor alongside parental mental illness, substance abuse, family violence and poverty (J. K. Bayer, Hiscock, Morton-Allen, Ukoumunne, & Wake, 2007; Bishop & Leadbeater, 1999; Cano et al., 2015; Coohy & Braun, 1997; DePanifilis & Zuravin, 1999; Wandersman & Nation, 1998).

A Victorian review of strategies to improve social connection identified a significant lack of evidence or guidance for effective practice.

Playgroups (universal)

Playgroups offer the opportunity for parents, carers, babies and young children to come together, often in an informal, community environment. They are said to just as useful for adults as for children, in that they create friendship opportunities and enjoyment, offer social support and connectedness to the broader community, and provide learning opportunities (Grealy, 2012; Oke, Stanley, & Theobald, 2007). However, empirical evidence on the effectiveness of playgroups on social inclusion and connectedness is scarce, and tends to focus on the impact of (targeted) supported playgroups.

A few surveys of playgroup users offer some insight into their perceived effect and benefit on social inclusion and community connectedness. Membership surveys, such as that conducted by Playgroup Victoria, indicate that the large majority of parents believe that attendance at a playgroup provided them with a sense of friendship, community and / or connectedness. Playgroups also played a role for some in connecting them to other community resources and services, such as toy libraries, kindergartens and local businesses (Playgroup Victoria, 2013).

Facilitating social connections (targeted)

General strategies for enhancing social opportunities for families experiencing social isolation include:

- *models for assessing social networks*: these models are used to assess quantity and quality of a family's connections with formal and informal supportive networks outside the family;
- *multiservice interventions*: planning services to the specific needs of families that could include casework services, support groups, parent training, transportation etc.;

- *individual social support*: intensive social contact with a volunteer or professional to help parents “expand and enrich” their social networks;
- *social skills training*: helps individuals to build their motivation and skills to access and benefit from supportive social relationships (DePanfilis et al., 1996).

Nutrition, physical activity and obesity

The issue of overweight and obesity in childhood is linked to many short and long-term health conditions. Evidence shows that children who are overweight or obese as early as two years of age are more likely to be obese as adults. Child obesity has been associated with a wide range of health and psychosocial problems in childhood, including respiratory disorders, high blood pressure, sleep apnoea and musculoskeletal disorders, with evidence also pointing to an elevated risk of developing type 1 or type 2 diabetes (Strelitz, 2013, 3:13). Obese children are also more likely than non-obese children to experience psychological or psychiatric problems, including low self-esteem, depression, conduct disorders, and reduced school performance and social functioning (Halfon, Larson and Slusser, 2013).

Evidence from the Longitudinal Study of Australian Children (LSAC) suggests that obesity becomes more firmly entrenched in early childhood and may be more challenging to reverse in the middle school years. Persistent overweight/obesity is also more common in children living in the most socioeconomically disadvantaged areas (Wake and Maguire, 2012 in AIHW, 2012).

Known risk factors for childhood overweight and obesity include over-nutrition (particularly of foods that are high in energy and sweetened drinks) low levels of physical activity and an increase in sedentary and screen-based activities. However, modifying these risk factors is complex as they are influenced by a range of individual, family and broader community/ societal factors (DEECD, 2010).

Family and parenting practices play a major role, for example, in influencing children’s meal habits and physical activity (Reilly, 2005, in Department of Education and Early Childhood Development, 2010). Physical activity levels are also influenced by other environmental and societal factors, such as changes in mode of transport, increasing urbanisation, access to recreational facilities and green spaces, perceived neighbourhood safety and increasing concerns about child safety and injury risk (DEECD, 2010).

Table A2: Evidence based interventions for infancy and early childhood

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
Group parenting programs	Triple P	Children 0-10	To prevent behavioural , emotional and developmental problems in children	Evaluations consistently show improvements in parenting behaviours, self-esteem and stressors and lower rates of child misbehaviour (CTC 2012, p.14). A USA study of Triple P in 18 countries found that it was effective in reducing substantiated child abuse, out-of-home care placements and child abuse injuries when compared to services as usual (Prinz et al., 2009).	Benefits: \$865; Costs: \$143; Benefits - costs: \$722. Measured Risk: 100per cent (WSIPP, 2012).	Well supported
	Incredible Years	Primary aged children with behaviour difficulties	The Incredible Years is a series of programs that addresses known risk factors for the development of child conduct disorders	Significant program impacts were found for child training and child and teacher training (Webster-Stratton, Reid & Hammond 2004); also for child, teacher and parent training (PT) (Blueprints for Healthy Youth Development (BHYD), 2012-2014).	Parent program: Benefits: \$2,482; Costs: \$2,074; Benefits - costs = \$408. Measured Risk: 61per cent	Supported
Sustained nurse home visiting	Nurse Family Partnership	Disadvantaged first time mothers	To improve the outcomes of pregnancy, improve infant health and development, and improve the mother's own life-course development	Evaluation, including long-term follow up studies, show program impacts on alcohol use, child abuse, criminal behaviour, early cognitive development, healthy gestation/birth, illicit drug use, tobacco use, mental health, physical health, post-secondary education and employment,	Benefits: \$22,781; Costs: \$9,600; Benefits - costs = \$13,181. Measured Risk: 80per cent	Well supported

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
				teen pregnancy		
	Maternal and Early Childhood Sustained Home Visiting (MECSH)	Vulnerable parents	To enhance maternal and child outcomes through universal system for maternal, child, and family health services. MECSH targets disadvantaged, pregnant women at risk for adverse maternal and/or child health and development outcomes.	Positive outcomes for child health, maternal health and parenting practice	Not available (study currently underway)	Supported
Video feedback	VIPP	1-3 year olds who were identified as being at risk for developing externalizing behaviour problems	To stimulate the parent's observational skills and empathy for his/her child. It also aims to enable positive reinforcement of the parent's moments of sensitive behaviour shown on the video.	Several studies including RCT indicate that the intervention had a significant impact on attitudes towards sensitivity and sensitive discipline, the intervention group mothers displayed more positive discipline over time than control group mothers and compared with control group fewer VIPP children scored in clinical range for externalising problems (Velderma et al. 2006) Groeneveld, Vermeer, Van Ijzendoorn, Linting, 2011).	Not available	Supported
Promoting attachment	Circle of Security	0-5 year olds	Intended to help caregivers increase their awareness of their children's needs and whether their own responses meet those needs. With increased awareness it is hoped that parents can expand their moment-to-moment parenting choices where needed.	Multiple studies conducted showing positive results and RCT planned.	Not available	Promising

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
	Promoting First Relationships	0-3	Aims to promote children's social-emotional development through responsive, nurturing caregiver-child relationships	Multiple RCTs conducted with longitudinal RCT currently being completed. Results show significant improvements on observational ratings of caregiver sensitivity, caregiver reports of child competence, and caregiver understanding of the child's social-emotional needs	Not available	Promising
Home learning environment	Parents as Teachers	0-3	To provide parents with child development knowledge and parenting support, provide early detection of developmental delays and health issues, prevent child abuse and neglect, and increase children's school readiness	Positive impacts on child development and school readiness, positive parenting and some evidence of a reduction in child maltreatment (NZ implementation had few positive impacts)	Costs: \$4,319 Benefits: \$2825 Benefits-cost: \$-1494	Promising
	Better Beginnings WA	Universal	To support parents as children's first teacher and provide positive literacy /language influences	An independent longitudinal study has shown that the program impacts positively on parental early literacy practices, attitudes and beliefs (Barratt-Pugh, Kilgallon & Stakus, 2009 (Building Blocks))	Not available	Emerging
Promoting breastfeeding	Health professional education initiatives and community outreach	Universal	Nurses or lactation specialists provide education; information and practical messages to women	Health profession education programs have been demonstrated to have the greatest effect of any single intervention on initiation and short-term duration of breastfeeding. Integration of breastfeeding counselling within	Not available	Well supported

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
				multiple community-based services and home visits are also effective.		
	WHO Baby-friendly Hospital Initiative	Universal	Improving breastfeeding rates	A trial of 4,614 women which found that breastfeeding rates were higher where hospitals used the WHO BFHI initiative (Perez-Escamilla et al. (1994); Other studies have suggested that the effectiveness is not maintained after the mother leaves the hospital Couinho et al. 2005; Gau (2004)	Not available	Supported

Appendix C - Preschool (4-5)

Why is the preschool period important?

Preschool interventions are among the most well-supported. Although the optimum age for engagement in early learning is 3 years, preschool attendance for 4 year olds has a substantial impact on their cognitive development, social and emotional development, peer relationships and general readiness for school.

Cost benefit of investing in the preschool period

WISPP calculations show a net benefit of 22,236 for universal preschool, while the Abecedarian model shows a net present value of \$163,862 and a return on investment of nearly 4:1.

Key risk and protective factors

- **Risk factors:** Difficult temperament, Insecure attachment, Harsh and inconsistent discipline, Poor peer relationships, Toxic stress, Obesity, Parental substance misuse, Low parental aspirations
- **Protective factors:** Self-regulation, secure attachment, Cognitive skills, early mastery of skills, planning and problem solving ability, Communication and language skills, Positive peer relationships, Material wellbeing, Stimulating home learning environment, Adequate nutrition, Access to health and social care, Access to high quality early learning

Optimal intervention pathways

The [access to health and social care](#), [parenting skill development](#), [home learning environment](#), [social connections and support](#), nutrition and obesity pathways outlined in the previous section continue to apply in the preschool stage

This section outlines the following pathways:

- Early education and care
- Parenting skill development
- Speech and language
- Home learning environment
- Nutrition, physical activity and obesity
- Behaviour and mental illness prevention
- Transition to school

Specific evidence-based interventions are outlined in Table A4.

Early education and care

Participating in early education is one of the strongest predictors of children's academic outcomes, with Melhuish et al. arguing that "high quality early childhood education and care will shift the population curve for child outcomes, and this is the only type of early intervention for which evidence is currently available for shifting the population curve through enhancing the development of all children in the relevant population, rather than lifting the 'tail' of the population through targeted intervention (Melhuish, Belsky and Leyland, 2012, p. 10).

There is consensus among researchers that high quality early learning environments improve cognitive and wellbeing outcomes for children (Centre for Community Child Health, 2003b; Ghate and Hazel, 2002; Shonkoff and Phillips, 2000). The landmark British study, *Effective Provision of Pre-School Education*, demonstrated the robust link between participation in preschool and early literacy and numeracy, as well as the link between the quality of the educational environment and impact on children's learning (Sylva, Melhuish, Sammons, Siraj-Blatchford and Taggart, 2004; Burger, 2010).

Australian and international data demonstrates a clear link between preschool attendance and academic achievement in primary school. A number of longitudinal studies have shown that early cognitive ability influences later educational outcomes, with evidence to suggest that assessments of ability at 22 and 42 months predict educational outcomes at age 26 years (Feinstein, 2003). Additionally, children's literacy and numeracy skills at age 4–5 are a good predictor of academic achievement in primary school (Harrison, Goldfeld, Metcalfe and Moore, 2012), and children who had participated in high quality early learning achieved higher test scores in Year 3 and 4 reading, numeracy and science (Warren and Haisken-DeNew, 2013). The greatest benefits accrue to those who attended early education for more than one year (Warren and Haisken-DeNew, 2013). These gains are maintained into adolescence, with PISA data illustrating that, after controlling for social background, attending more than one year of preschool education was associated, on average across the OECD, with a 33 point gain in test scores at 15 years (Mostafa and Green, 2012, p. 4).

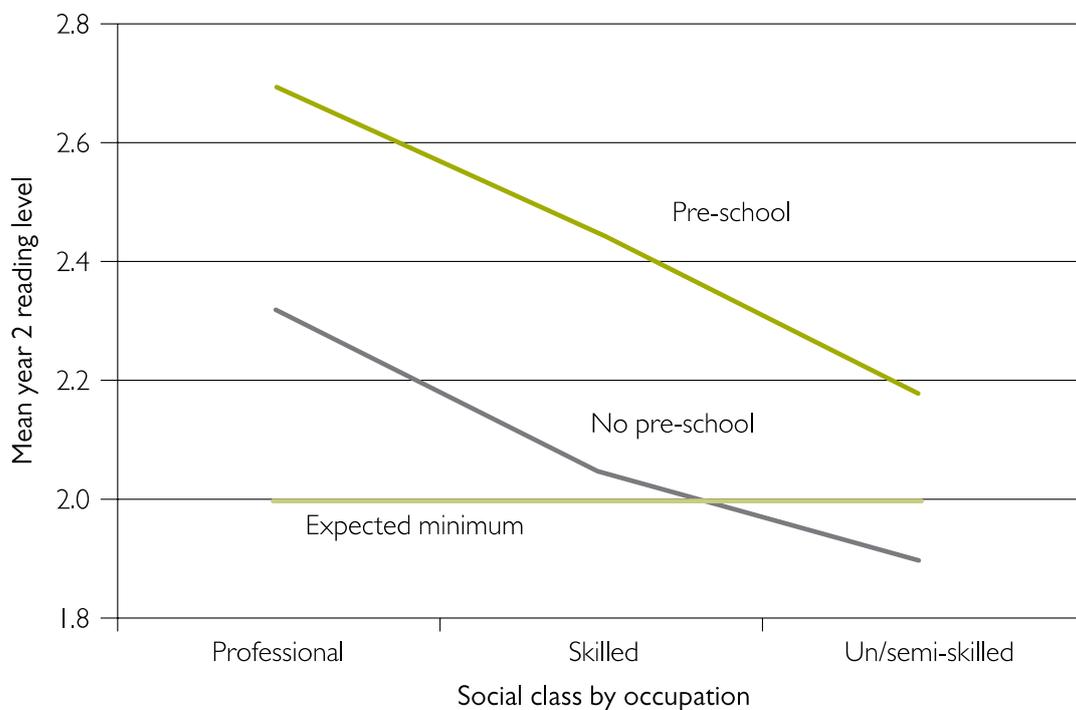
Participation in pre-primary education is of particular importance to children from socioeconomically disadvantaged backgrounds (McLachlan, Gilfillan and Gordon, 2013, p. 103). International literature emphasises the potential benefits of engaging with early learning to maximise developmental outcomes for children from vulnerable families, specifically, prevention of the 'achievement gap', reduction of need for special education, increased likelihood of healthier lifestyles, reduction of crime rates and overall social costs (Heckman, 2008).

Recent Australian data show children who attended preschool, or other formal early learning, had lower rates of developmental vulnerability on one or more of the domains than those who did not attend, regardless of the level of area disadvantage (Sayers et al., 2012). Aboriginal and Torres Strait Islander children, and children with language backgrounds other than English also had lower rates of developmental vulnerability if they had attended preschool (Sayers et al. 2012). According to AEDI data from 2009, 28.8 per cent of children from the most disadvantaged socio-economic information for area (SEIFA) quintile who

participated in a preschool/kindergarten program in the year before school, were developmentally vulnerable on one or more domains, as compared with 39.4 per cent of those who did not attend, a 10.6 per cent variation. The variation widens to 11.9 per cent for children from the next quintile (Sayers et al., 2012).

Addressing barriers to access high quality early learning services is vital to achieve universal participation. Available data suggest children missing out on early learning are more often among disadvantaged families, with children from Indigenous families and those from non-English speaking backgrounds the least likely to be participating in early childhood education (ECE) (Baxter & Hand, 2012). Research by Melhuish (2011) shows that preschool education has a dramatic influence on literacy levels for all children. Although the gap between the wealthiest and most disadvantaged children persists, for the poorer children preschool attendance lifted their literacy performance into the target range for their age at age 11 (see Figure A2).

Figure A2: The impact of preschool attendance on literacy at age 7



Source: Melhuish, E. (2010) *Policy Exchange presentation*.

The evidence also demonstrates that it is only quality early environments that deliver improved outcomes for children (AAP, 2205; NICHD, 2000; Phillips, et al., 2000; CCCH, 2006; Sylva et al., 2004; Munton et al., 2000; Schroeder et al., 2009). The early learning interventions with the strongest evidence (such as Perry and Abecedarian) involve high quality care, with trained staff, high adult-to-child ratios and offering a detailed, educationally based curriculum (Centre on the Developing Child, 2007; Dalli et al., 2011; Vandell & Woolfe, 2000).

The existing early education and care infrastructure also has the potential to contribute substantially to a more comprehensive platform of integrated early childhood learning, health and parenting information, support and referral. With training and ongoing professional support, staff in all forms of early education and care, including long day care and preschool, could play a significant role in the early identification of children experiencing developmental challenges and timely referral to early intervention services. The relationships between families and early education teachers and staff could also be better leveraged to provide a non-stigmatising referral to targeted services, if early education and care centres were considered part of a universal service platform (see previous section on Children's Centres) (Muir et al., 2010 and Belsky et al., 2006).

Effective approaches to early education and care include: universal preschool attendance for 3- and 4 year olds (universal), priority and subsidised access for vulnerable families (targeted), and utilising ECEC to deliver health, learning and parenting support.

The UK provides 15 hours a week of free early education to 3 and 4 year old children and to vulnerable 2 year olds. Recent data shows that 95 per cent of eligible 3 and 4 year olds attend preschool (92 per cent of 3- year olds and 99 per cent of 4 year olds) and 70 per cent of eligible 2 year olds (Department for Education, 2011). There has been a substantial improvement in the number of children achieving a good level of development at age 5 (59 per cent of in 2010-11 compared with 45 per cent in 2005-06). The gap in outcomes between the lowest achievers and their peers has also narrowed, although low income children are still less likely to attend preschool and less likely to have access to higher quality early years services (NAO, 2012, 8). However, the impact of the expansion of preschool access has not yet impacted achievement at age 7.

Parenting skill development

The significant impact that parenting behaviours has on children's development and outcomes has been established previously.

Universal parenting interventions

Tuning in to Kids is a group parenting program designed to help preschool children learn to understand and regulate their emotions. It teaches parents to increase their awareness and regulation of their own emotions, their children's emotions, to use children's emotional experiences as an opportunity for closeness and teaching and to guide children's behaviour with appropriate limits. There is a growing body of evidence for this program with multiple RCTs conducted. Results for preschool children indicated that parents who participated in the program were less likely to be dismissive or critical when their children were emotional (Havighurst, Wilson, Harley, & Prior, 2009; Havighurst, Wilson, Harley, Prior, & Kehoe, 2010). A further RCT found additional benefits of the program with increases in positive parental involvement and consistent discipline (Wilson, Havighurst, & Harley, 2012)

Intensive parenting support (targeted)

Parent child interaction therapy (PCIT) focuses on parent and child simultaneously. It is a targeted approach focusing on 2-7 year olds with challenging or disruptive behaviours. It teaches parents play-therapy skills to improve parent-child interactions as well as problem-solving skills to manage new problem behaviours. Parents practice communication skills and behaviour management with their children in a playroom under the guidance of trained therapists. PCIT is supported with multiple studies including RCTs demonstrating significant benefits such as parents developing a stronger sense of competence and control in their childrearing (Nixon, Sweeney, Erickson, & Touyz, 2003) and considerable decreases in child-related parenting stress (Matos, Bauermeister, & Bernal, 2009).

Parents Under Pressure is designed for families with children 2-8 years where there are difficult life circumstances that impact on family functioning such as mental health difficulties, substance misuse, family conflict or severe financial stress. It is conducted on an individual basis in the family's home. A number of studies have been conducted using the Parents Under Pressure approach which overall have found clinically significant improvement on parent functioning, child functioning, parent-child relationships, and social contextual measures (Dawe & Harnett, 2007a, 2007b).

The Triple P positive parenting program can be delivered in a group or individual format. It targets children between 2-12 years with behavioural problems. Multiple RCTs have shown significantly beneficial long term improvements including lower levels of targeted child behaviour problems, dysfunctional parenting and reduced parental anxiety and stress (Turner, Richards, & Sanders, 2007; P. Wilson et al., 2012; Zubrick et al., 2005). Triple P is conducted in 25 countries, and has solid empirical evidence.

Stepping Stones Triple P, a variant of the standard Triple P, is designed for parents who have a child with a disability to promote children's competence and development, parents' management of misbehaviour, and generalisation and maintenance of parenting skills. Two RCTs showed statistically significant improvements, maintained improvement up to one year (Plant & Sanders, 2007; Whittingham, Sofronoff, Sheffield, & Sanders, 2009).

Behavioural issues and mental illness prevention

Parenting interventions are also effective for children with significant behavioural difficulties, early signs of conduct disorder and early signs of mental ill-health. In Australia, it is estimated that 14 per cent of young people have clinically significant mental health issues, including children as young as 4 (Table A3) (Sawyer et al., 2000, p. 10). Additionally, around 19.3 per cent of boys aged 6-12 meet the diagnostic criteria for ADHD, 4.8 per cent develop conduct disorder and 3.7 per cent experience depressive disorders (Sawyer et al., 2000, p. 20).

Table A3: Prevalence (per cent) of total problems, externalising problems and internalising problems (Sawyer et al., 2000, p. 10)

	Total problems per cent	Externalising problems per cent	Internalising problems per cent
All Children	14.1	12.9	12.8
Males 4-12	15.0	13.6	15.0
Males 13-17	13.4	11.7	13.6

Females 4–12	14.4	12.2	11.3
Females 13–17	12.8	14.1	10.7

Children experiencing significant behavioural issues and mental ill health experienced a lower quality of life in all domains than those without such a disorder, and particularly in terms of self-esteem and peer and school relationships (Sawyer et al., 2000, p. 23). Conduct disorders in childhood are also associated with a significantly increased rate of mental health problems in adult life, including antisocial personality disorder – up to 50 per cent of children and young people with a conduct disorder go on to develop antisocial personality disorder. (NICE, 2013, p. 5). UK research also indicates that children with conduct disorders and other behavioural issues also comprise a considerable proportion of the work of the health and social care system:

- 30 per cent of atypical GP-child consultations are for behavioural problems,
- 45 per cent of community child health referrals are for behaviour disturbances, and
- psychiatric disorders are a factor in 28 per cent of all paediatric outpatient referrals (NICE, 2013, p. 5).

Additionally, children and young people with conduct disorders are more likely to be placed in OOHC and a relatively large proportion of young people involved with the criminal justice system have conduct disorders.

Addressing early signs of behavioural issues is a key prevention strategy for mental illness, and parenting interventions focused on conduct disorder have relatively strong evidence of effectiveness (i.e. the Incredible Years) (NICE, 2013, p. 6).

Speech and language development

The early years establish the cognitive and language skills that set the foundation for future development. Preston et al. argue that “the preschool years are as such an optimal time for the development of early receptive and expressive language skills”, and recent research suggests that the age of functional language acquisition impacts on not only later reading and language behaviour, but also the “corresponding neurocircuitry that supports linguistic function into the school-age years” (Preston et al., 2012, in Barlow and Blair, 2013, p. 6:4).

Studies of speech and language delay for children 2 to 4.5 years old report prevalence rates of between 5-8 per cent (Nelson, Nygren, Walker, & Panoscha, 2006). Whilst most children’s difficulties resolve, children whose difficulties persist into primary school may have long-term problems concerning literacy, socialisation, behaviour and school attainment (Law, Garrett and Nye, 2010). Early language delay has been associated with poor literacy outcomes in primary school, leading to overall academic underachievement. In addition to ongoing linguistic under-achievement, language-delayed children have also show more behaviour problems and impaired psychosocial adjustment (Nelson et al., 2006).

Although a number of studies indicate children who are identified as ‘late talkers’ go on to demonstrate language skills within the normal range by the time they enter formal

schooling, standard scores for this group tend to be significantly lower than their peers especially on specific areas including grammar (Roos & Weismer, 2008). In a longitudinal investigation of the language development of a group of children who were identified as late talkers, Rescorla (2002) found, as a group, these children were significantly lower in vocabulary skills at six, seven and eight years of age and in grammar at ages six and eight (Rescorla, 2002; Rescorla & Dale, 2013).

Parents and carers play a significant role in developing children's language, with established links between parental responsiveness, engagement and verbal stimulation and early speech and language. Barlow and Blair explain that "aspects of early language development such as word learning are also improved where parents engage in joint attention activities with their children and where the caregiver is responsive in terms of the attention and vocalisation of the child." (2013, p 6:5).

A recent UK meta-analysis recommended a range of language-promotion strategies at universal, targeted and tertiary levels. At a universal level, the analysis recommended elements of Thinking Together, use of 'word wizard' approaches to support vocabulary at universal and targeted levels and use of Talking Time preschool intervention and Talking Mats in primary school. At a targeted level they recommended a range of evidence-based intervention, including the Becky Shanks Narrative Intervention, Talk Boost, Colourful Semantics and Language for Thinking (Law et al., 2012).

A well-known approach that exemplifies the responsive parenting approach is the Hanen Programs for Parents (Luigi Girolametto, Weitzman, & Greenberg, 2012; Milburn, Girolametto, Weitzman, & Greenberg, 2014). These programs aim to increase the child's social communication skills and language development by enhancing the quality of interaction between the parent and child. Parents are taught that interaction should usually be initiated and controlled by the child. They are explicitly taught to follow their child's attentional lead and respond contingently to the child's behaviour in a manner that is congruent with the child's immediate interests. There is evidence to suggest that Hanen programs combined with focused stimulation increases children's speech and language development in addition to increasing parental roles in child interactions (L. Girolametto, Pearce, & Weitzman, 1996).

Home learning environment

The impact of the home learning environment on children's development and outcomes has been established previously.

- Home Instruction for Parents of Preschool Youngsters (HIPPY) had favourable impacts in three domains (child development, school readiness and positive parenting practices), and these impacts were replicated in at least one other study sample (Avellar et al., 2013). The net benefit for HIPPY is calculated at £1,065 per child (Hummell, 2011).

Transition to school

Extensive national and international research over the past decade has given us clear understandings of the importance of the transition to school for young children. Effective transition to school models use a family-focused, relational approach to facilitate positive relationships: a) opportunities for linking children and families to schools b) opportunities to foster relationships between children who will attend school together prior to school commencement and c) avenues for relationship- building between teachers in early childhood services and teachers in schools (Jackson and Woodrow, 2008).

Although there are few transition to school interventions that have been subject to high quality evaluation, the following strategies are identified throughout the research on transition as being central to effective practice:

- Relationships and connections for children and families before and during changes in settings and continuity of learning and transfer of information, skills and knowledge when moving from one environment to another, such as from home to early learning to preschool to kindergarten.
- Strengths-based approaches that allow schools to build on what children have learned prior to school entry, identifying learning needs and styles before school and leveraging the benefits of earlier positive learning experiences rather than 'starting afresh' or allowing 'fade out'.
- Linkages in systems and practical tools and resources which facilitate connections and conversations between professionals and between families and professionals (e.g. transition statements and meetings, systemic mechanisms and 'conversation starters').
- Parental and community familiarity with and engagement in learning environments, including learning at home in the years prior to school.
- Positive parental engagement which influences student development and student academic attainment - the engagement of parents in the home is shown to have the greatest positive impact in improving learning outcomes (ARACY, 2013, p. 5).

Table A4: Effective interventions for preschool

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
Early education and care,	Enhanced preschool for low-income families	Universal preschool	Early education and care	Improved test scores and graduation rates, reduced use of special education supports, reduced crime	Cost: \$6974 Benefit: \$29,210 Net benefit: \$22,236	Well supported
	Abecedarian	Low income families with 0-5 year olds	Focused on developing children's social, emotional, and cognitive areas with particular emphasis on language development. Enhanced language development appears to have been instrumental in raising cognitive test scores.	Children who participated in the early intervention program had higher cognitive test scores from the toddler years to age 21, improved academic achievement, completed more years of education, were more likely to attend university, and were older when their first child was born.	Total cost: \$58,955 Total benefits: \$222,817 Net present value: \$163,862 Cost benefit ratio: 3.78:1	Well supported
	Perry preschool	3-4 year old children from disadvantaged families	Discover impact of high quality preschool for children from disadvantaged backgrounds	Children in the program completed an average of almost 1 full year more of schooling than children not in the program, spent an average of 1.3 fewer years in special education services and had a 44 per cent higher high school graduation rate		Well supported

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
Parenting skill development	Tuning in to Kids	Preschool children	To improve parents' emotion responsiveness and coaching skills, as well as increase parents' own emotional competence	Several studies conducted indicating parents were significantly less dismissive and more empathic	Not Available	Supported
	Parent Child Interaction Therapy (PCIT)	2-7 year olds with challenging or disrupting behaviours	PCIT aims to decrease externalized child behaviour problems (e.g., defiance, aggression), increase positive parent behaviours, and improve the quality of the parent-child relationship	Studies including a RCT completed showing significant positive results for intensity of child's behaviour problem and parental stress	Not Available	Supported
	Triple P	2-12 year olds with behavioural problems	Put evidence-based parenting into the hands of parents and to allow parents to feel comfortable asking for help. Also aims to deliver the exact amount of support a parent needs and give parents the confidence and skills-to manage problems independently	Multiple RCTs showing significantly beneficial long term improvements	Not available	Well Supported

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
	Stepping Stones Triple P	2-12 year olds with disabilities and behavioural problems	Put evidence-based parenting into the hands of parents and to allow parents to feel comfortable asking for help. Also aims to deliver the exact amount of support a parent needs and give parents the confidence and skills-to manage problems independently	Two RCTs conducted which showed statistically significant improvements. These were maintained up to 1 year following the therapy.	Not available	Well Supported
Speech and language	Hanen Programs for Parents	Preschool children with communication difficulties	Provide parent with the tools they need for helping their child reach his or her fullest communication potential.	Results have shown mothers became more responsive The children were more assertive, responsive and able to take more turns (both verbally and non-verbally). Mother-child interactions were more balanced, frequent and lasted longer and parents reported improved family relationships. Parents used more responsive interaction strategies than parents in the control group, and their children had larger vocabularies than the	Not available	Hanen Programs for Parents

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
				children in the control group.		
Home learning environment	HIPPY	4-5yr olds	To promote preschoolers' school readiness and support parents as their children's first teacher by providing instruction in the home. The program model is designed for parents who lack confidence in their ability to prepare their children for school, including parents with past negative school experiences or limited financial resources.	Positive impacts on child development and readiness for school and parenting practices	Cost: £1,325 Benefit: £2,390 Net benefit: £1,065 (Hummel, 2011)	Well supported
Nutrition, physical activity and obesity prevention	Nourish	Infants (4-6 months and 13-15 months) and their mothers	To reduce the risk of childhood obesity	Results show that the intervention was effective. At follow-up infants in the control group had higher BMI-for-age scores and were more likely to have gained weight rapidly from baseline. At 14 months, the intervention group had reduced growth-related indicators of future risk for	Not available	Supported

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
				obesity (Daniels, Mullan, Battitutta, Nicholson, Perry & Magarey, 2012 (PRG))		
Social and emotional wellbeing	Preschool PATHS	3-6 year olds	<p>Promote children's social and emotional skills.</p> <p>Enhance the classroom climate through the use of practices that promote positive interactions between adults and children.</p> <p>Promote positive peer relationships in the classroom</p>	<p>Multiple randomised controlled trials undertaken. Generalisation of outcomes to improvement in school readiness.</p> <p>Program appears to be beneficial as a prevention and early intervention program for) preschoolers with externalising and/or internalising difficulties.</p> <p>Significant improvement in children's emotional understanding; social competence and social-cognitive skills.</p> <p>Significant improvement in school readiness also observed in 4-year-old children upon completion of the program.</p>	Not available	Well supported

Appendix D - Primary years (5-11)

Key risk and protective factors

- **Risk factors:** Poor academic achievement, low self-esteem and limited coping skills, poor social skills and peer relationships, parental depression, family conflict, lack of parental warmth, harsh discipline or overly permissive parenting, favourable family and community attitudes to drugs and alcohol
- **Protective factors:** Early academic achievement in literacy and numeracy, positive peer relationships, self-efficacy and self-esteem, time in emotionally responsive interactions with parents, consistent and language-based discipline, relationships with adult/s outside the family, parental wellbeing, positive relationships with teachers and belonging at school, participation in extra-curricular activities

Optimal intervention pathways

The [access to health and social care](#), [parenting skill development](#), [home learning environment](#), [social connections and support](#), [nutrition, physical activity and obesity](#) pathways outlined in the previous sections continue to apply in the primary years stage

This section outlines the following pathways:

- Parenting skill development
- School-based nutrition, physical activity and obesity prevention
- School-based social and emotional wellbeing promotion
- Participation in sport and community activities
- School-based healthcare
- Parent engagement in learning and schooling
- Bullying

Specific evidence-based interventions are outlined in Table A5.

Parenting skill development

The importance of parenting for children's development and wellbeing has been established.

Specific interventions for this age cohort include Triple P and Parent Effectiveness Training.

School-based nutrition, physical activity and obesity prevention

The impact of obesity on child development and outcomes has been outlined previously. Patterns of healthy eating and physical activity are established for many children before they reach school. However, there is an emerging body of literature about interventions to

change children's nutritional and activity patterns, and the evidence that is available has identified school-based interventions as being among the most promising approaches to modifying behaviours related to diet and exercise (Waters, et al., 2011). A British review of 38 studies found overall combined diet and physical activity school-based interventions may help prevent children becoming overweight in the long term (Brown and Summerbell, 2008). Wang et al. (2013) conducted a meta-analysis of 124 interventional studies on childhood obesity prevention programs. They conclude that the strength of evidence is high that school-based diet and physical activity interventions with a home component or school-based combination interventions with a home and community component prevent obesity or overweight. Over half of the school-based interventions considered by Wang et al. reported statistically significant beneficial effects in at least some body weight-related measures, such as BMI, prevalence of overweight and obesity, waist circumference, and percent body fat.

Successful school-based physical activity programmes appear to have a number of common elements. They tend to

- create a positive culture concerning physical activity;
- provide long-term interventions;
- employ specialist PE teachers;
- link to the community, and
- avoid stigmatising those who have been inactive and instead emphasise enjoyment combined with a focus on skills development.

Along with the improvements to physical fitness, physical activity in schools has been associated with additional benefits such as improvement to classroom behaviour, self-esteem, self-image, school satisfaction and learning efficiency (Trudeau and Shephard, 2008, WHO 2007).

A whole-school approach to healthy eating has been associated with positive impacts on improving the diet of children in schools. Jones et al. (2012) a multi-component program that sought to address the health and sustainability aspects of food led to higher self-reported fruit and vegetable consumption in 9-11 year old students.

Evidence from a recent systematic review of childhood obesity prevention studies aiming to improve nutrition or physical activity (or both), published by the Cochrane Collaboration, highlights the following broad policies and strategies as promising interventions:

- Inclusion of healthy eating, physical activity and body image on the school curriculum, with increased support for schools to implement health promotion strategies and activities;
- Increase and make compulsory school curriculum focused on physical activity;
- Improvements in nutritional quality and food supplies, particularly targeted to those in need (e.g. remote areas);

- Environmental and cultural practices that support children eating healthier foods and being active throughout each day;
- Parent support and home activities that encourage children to be more active, eat more nutritious foods and spend less time on TV, video games and screen-based activities; and
- Implementation of more multi-component programs addressing norms and attitudes around substance use (Waters et al., 2011).

Specific effective interventions include Switch-Play (supported); School breakfasts (supported); and Be Active, Eat Well.

Learning support

It is generally accepted that a whole-school/centre approach is required to cater for the learning needs of all students which include children with diverse learning needs, disabilities, and those who are gifted. This also includes children for whom English is a second language. In Australia, around 60 per cent of children with a disability have learning difficulties and the greatest need these children have is for cognitive and emotional support (ABS, 2009). It has been shown that inclusion of children with additional learning needs is the utmost priority (Vaughn & Schumm, 1995).

It is known that children who do not receive the appropriate support in school may react with behaviour issues as well as academic impediments. Research suggests that working in groups rather than individualised programs can result in greater beneficial outcomes (Gillies & Ashman, 2000)

There are currently a number of learning support systems in place throughout the different states of Australia such as the learning assistance programme and the development of individualised education plans or individual learning plans. A recent evaluation of individual learning plans (ILP) for reading was completed which found that ILP's have improved reading outcomes for all or most students (Student Engagement and Program Evaluation Bureau, 2012).

Further education for school staff regarding children with additional needs is required. Greater input by allied health specialists into schools is another avenue to increase learning support in Australia.

School-based social and emotional wellbeing promotion

Recent research shows the degree of emotional self-regulation achieved in childhood can predict a range of consequential life outcomes, including income and financial security, occupational prestige, physical and mental health, criminality, and gambling problems (Guyn Cooper Research Associates, 2013). However, in Australia approximately 14 per cent of children and adolescents have mental health problems and only one in four receives professional help. Low levels of help-seeking are influenced by individual barriers (fear of stigma and embarrassment), health provider barriers (knowledge of mental health problems) and systemic barriers (the availability of mental health providers) (Wallace,

Holloway, Woods, Malloy, & Rose, 2011, p. 38). School-based interventions have demonstrated effectiveness in improving school-based mental health. Promotion initiatives include social and emotional learning programs and programs to promote social connectedness. There is evidence that school-based social and emotional learning (SEL) programs can lead to improvements in students' social skills, emotional wellbeing, and academic outcomes. The majority of these programs can be categorised as violence prevention, mental health promotion, and / or character education (SEL issues paper Canada, 2013).

A large US meta-analysis of 213 school-based, universal SEL programs involving 270,034 kindergarten through high school students found, "compared to controls, SEL participants demonstrated significantly improved social and emotional skills, attitudes, behaviour, and academic performance that reflected an 11-percentile-point gain in achievement" (Durlak et al., 2011). A longitudinal analysis of the Fast Track PATHS (Promoting Alternative Thinking Strategies) program found sustained program exposure resulted in 'modest positive effects' including reduced aggression and increased pro-social behaviour and improved academic engagement (Bierman et al., 2010). Notably, the study found effects on aggression were larger in students who showed higher baseline levels of aggression.

Programs promoting social connectedness have the potential to provide children with the protective factors that may safeguard against the development of mental health problems (Davies, et al., 2007, cited in ARACY, 2012a). They may be particularly effective for children from low socio-economic backgrounds, providing them with access to social activities they may otherwise be excluded from.

Studies have shown that public service costs incurred in adulthood, by individuals diagnosed with mental health problems in childhood, can be as much as ten times more than the cost of people with no such history – these include costs related to the health services, social care and the criminal justice system (NICE, 2013).

Universal mental health promotion

The UK National Institute for Health and Care Excellence (NICE) recommends approaches that embed social and emotional learning within the curriculum and school culture, including a "curriculum that integrates the development of social and emotional skills [including problem-solving, coping, conflict management/resolution, and understanding and managing feelings] within all subject areas" throughout primary education, with integrated activities to support the development of social and emotional skills and wellbeing and to prevent bullying and violence in all areas of school life (NICE, 2013). Effective Australian school-based mental health promotion projects include the Aussie Optimism Program (well-supported), the Victorian-based Gatehouse Project (promising) and Skills for Growing (supported), Friends for Life (supported) and Promoting Alternate Thinking Strategies (PATHS) (well-supported); and social problem solving (supported).

Targeted early intervention

Multicomponent and whole family interventions are effective for children showing signs of anxiety, depression, behavioural issues and other internalising or externalising conditions.

There is also promising evidence for the Incredible Years Teacher Classroom Management Program, including significant decreases in conduct problems and other problem behaviour among intervention children; behaviour among high-risk intervention children; decreases in disruptive behaviour, when mental health consultants are used as support for trained teachers and reductions in conduct problems at home when combined with other components of the Incredible Years Series (Blueprints, 2014). Additionally, there is evidence of improvements in self-regulation, cooperation skills, interpersonal skills and a reduction in stress and social impairments for high risk children.

Participation in sport and community activities

The community environment in which children and young people live has a major influence on the quality of childhood experience and a young person's development. For example living in a safe, socially inclusive and cohesive neighbourhood, with access to community, recreational, arts, cultural, and sporting facilities and the opportunity to participate in community life whether through arts and cultural, sporting, social support or civic activities are all important factors contributing to positive growth and development (ARACY, 2008, in ARACY, 2012c).

Financial constraints are a significant barrier to children and young people from low-income families engaging in social and school-based activities. For example, the ability to attend school camps and extra-curricular activities or participate in organised sport is curtailed for low income families (Hardy, et al., 2010, in ARACY, 2012c; (Skattebol, Saunders, Redmond, Bedford, & Cass, 2012). There are particular identified barriers to participation for children in regional Australia (ARACY, 2012c).

Regular participation in physical activity offers children and young people an array of positive health and social benefits, impacting not only on physiological health and development, but also on psychological and social wellbeing; for example, participation in sporting activities has been associated with reductions in social anxiety among primary school children. Promising interventions include Cadets WA and Advance, and participation in community-based or school-based support is well supported.

School-based healthcare

School-based healthcare offers a number of benefits both for treatment and prevention of risk. Much of the literature supporting school-based health services relates specifically to the North American context. In the international literature, comprehensive school-based health services are those that consist of multidisciplinary teams, are located on school grounds and integrated with the school community (Keeton et al., 2012). Research indicates benefits, particularly for marginalised or disadvantaged students, in increasing accessibility and continuity of health care directly on the school grounds (Keeton et al. 2012). A comparison study based on self-report data from elementary schools in the US found, independent of insurance status, a school-based health centre (SBHC) significantly increased accessibility to and use of health services (Kaplan et al., 1999).

As Seigart et al. note, the benefits of school-based health care can include healthier children, better learning, healthier parents and healthier communities. They specifically

identify benefits of comprehensive school health services as increased school attendance, better maintenance of chronic health conditions, and enhanced health promotion programming. However, they also observe that in the Australian system, many students do not have access to comprehensive health services at school and the role of school nurses is poorly understood (Seigart, Dietsch, & Parent, 2013). For example, the ratio of students to nurses in Victoria, according to a 2006 study, was 65 full-time nurses providing programs in 1600 schools for 60,000 students (Griffin, Nadebaum, & Edgecombe, 2006).

At present, school-based health services in Australia are limited but heavily accessed, with school nurses reporting high levels of utilisation across a range of clinical and counselling activities (Moses et al. 2008). An expansion of the number and role of school nurses could do much to meet the health care needs of students, whilst relieving the stress reported by teachers who have been expected to "pick up the slack" and monitor the health of children in ways they feel unqualified to do (Seigart et al. 2012).

School-based health services also offer the opportunity to deliver health promotion and targeted responses to key child health issues, such as asthma. The International Study of Asthma and Allergies in Childhood (ISAAC) identifies that Australia has a high prevalence of asthma in children (Australian Centre for Asthma Monitoring (ACAM), 2009), and Australia is ranked 14 out of 16 comparable OECD countries for the incidence of asthma in children (ARACY, 2013). A combination of home-, clinic- and school-based interventions are needed to address the wide variety of physical, medical, psycho-emotional, educational and self-management outcomes that may be required, and the efficacy of particular interventions for particular outcomes will vary by the age of the children (Chrisler, 2012). However, there is good evidence for school-based asthma interventions that equip children and young people to manage their asthma symptoms.

Parent engagement in learning and schooling

There is strong international evidence that parent engagement in learning and schooling contributes positively to student attainment (Emerson, et al., 2012). Family engagement is associated with academic outcomes such as higher grades and test scores, enrolment in higher-level programs and advanced classes, higher successful completion of classes, higher graduation rates and a greater likelihood of commencing post-secondary education, as well as wellbeing outcomes, including engagement with peers, improved behaviour, better transition to school, greater sense of self-efficacy, motivation and enjoyment of learning (Emerson et al., 2012). Randomised controlled studies of programs with strong parent involvement components have produced positive results for both parent and child outcomes (Miksic, 2014). Recent Program for International Student Assessment (PISA) data confirms strong links between parent engagement in learning and a range of cognitive and non-cognitive outcomes, with strong effects from parent-child reading, talking to teenagers about social issues and talking to teachers about student progress (OECD, 2012). A 2012 meta-analysis of 51 high quality studies found a mean effect size of 0.30 for parent engagement programs, with effect sizes closer to 0.51 for parent-child reading. Miksic notes that an effect size of 0.30 is roughly equivalent to an additional 6-12 months of learning (Miksic, 2014). Jeynes argues that his meta-analysis indicates that:

school-based parental involvement programs can both enhance and supplement voluntary expressions of parental engagement. A key finding is that, among the factors that were common to successful program efforts, one variable that clearly stood out was the emphasis on partnerships between parents and teachers. This finding suggests that the presence of both voluntary expression of parental engagement and school-based parental involvement programs is needed for parental involvement programs to be successful. In other words, although both voluntary expressions of parental involvement and school-based family involvement programs may have some degree of efficacy independent of one another, cooperation and coordination between the home and the school enhances the impact of both (Jeynes, 2012).

Although there is very little high quality Australian evidence about effective programs, there is a large body of international literature and a number of Australian studies underway.

- *Bending Like a River: the Parenting between Cultures Program* is an example of a specific program that has worked to engage culturally and linguistically diverse (CALD) parents and families with education (emerging).
- *Families and Schools Together* is an example of a school-based universal program (involving all parents and children from participating schools) which has demonstrated positive impacts on parental (as well as child) engagement with school (well supported).

Bullying

Children and young people who are bullied often suffer immediate harm and distress as well as longer term impacts on their social, physical and mental health (Pearce, et al., 2011, in ARACY, 2012a). Bullying can be manifested in different forms including verbal, physical, or social threats that are intended to harm an individual or group.

Children with a disability may be particularly prone to bullying. In a recent Victorian report, six out of 10 children and young people with a disability reported that they had been bullied because of their disability (Victorian Equal Opportunity and Human Rights Commission, 2012, in ARACY 2012c). This is significantly higher than the estimated rate for the general population of students.

The evidence suggests that universal systematic whole-school approaches, targeting schools, classrooms and individuals, appear to be the most effective at preventing and managing all forms of bullying behaviour (Pearce, et al., 2011; United States Department of Health and Human Services, 2012, in ARACY, 2012a).

Implementation of programs to prevent or manage bullying also need to be accompanied by efforts to build each school's capacity, enabling them to put evidence into informed practice. Specific interventions which have been associated with a decrease in bullying include parent training and meetings, teacher training, improved playground supervision, disciplinary methods, cooperative group work between professionals, school assemblies, information for parents, classroom rules and management and whole-school anti-bullying policies (Pearce,

et al., 2011, in ARACY, 2012a).

Universal interventions

- *The Friendly Schools Family Friendly Project* (well-supported) is a whole-school bullying prevention program that uses evidence-based strategies to manage and prevent bullying in primary schools. The program provides resources to allow schools to build their capacity to respond to bullying; and offers strategies to parents, teachers and students (Communities that Care , 2012, p.30).Evaluation of this program using a Randomised Controlled Trial found that it was effective in reducing bullying in intervention students.
- *The Lions Quest Skills for Adolescence* (well-supported) is an example of a well-supported comprehensive life skills and drug prevention curriculum (for children aged 8-14) which also has a component that addresses bullying.

Table A5: Primary years interventions with evidence of effectiveness

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
Parenting skill development	Triple P	Universal and targeted	Prevention of behavioural, emotional and developmental child problems (Communities That Care (CTC), 2012)	Improvements in parenting behaviours, self-esteem and stressors and lower rates of child misbehaviour (CTC, 2012, p. 14). Reducing substantiated child abuse, out-of-home care placements and child abuse injuries (Prinz et al., 2009).	Benefits: \$865 Costs: \$143 Benefits - costs: \$722. Measured Risk: 100 per cent (WSIPP, 2012).	Well-supported
	Parent Effectiveness Training	All ages	Sessions focus on modifying parenting behaviours and/or changing communication styles.	Positive effects on children's behaviour, including sustained impact in one or more studies		Well supported
	Incredible Years	Age 4-8 Children at risk of conduct disorder	Designed to promote emotional, social, and academic competence and to prevent, reduce, and treat behavioural and emotional problems in young children	RCT evidence indicated significant increases in children's emotional language, social skills, and appropriate cognitive problem-solving strategies with peers. Results also showed reductions in conduct problems at home and school as well as reductions in hyperactivity and inattention.	Parent program: Benefits: \$2,482; Costs: \$2,074; Benefits - costs = \$408. Measured Risk: 61 per cent (WSIPP)	Supported
Engagement in learning	Class Wide Peer Tutoring (CWPT)	Children 5-11 years (in low income areas)	The program aims to improve early academic competence and adopts an instructional model based on reciprocal peer tutoring that can be used at any grade	Evaluation shows benefits in academic competence at least three years later after program participation, including better comprehension, engagement with task/lessons and response to teacher (Greenwood, 1991; Greenwood & Delquadri, 1995;	Not available	Well supported

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
				Greenwood et al., 1989; Greenwood, Terry, Utle, Montagna & Walker, 1993).		
	Reading Recovery	Children 5-7 years (in bottom 20 per cent for reading skills)	This program aims to improve reading skills. Daily 30 minute individual tuition sessions over 12-20 weeks.	Program has been extensively evaluated across the world (including with randomised studies) and has shown sustained (up to 10 years of age) improvements in reading skills in intervention children who had the poorest (lowest 10 per cent) reading skills when participating in the program (CTC 2012)	Benefits: \$18,603 Costs: \$1895 Benefits minus costs: \$16,708 Measured Risk: 80 per cent (WSIPP, 2012)	Well supported
School-based nutrition, physical activity and obesity prevention	Switch-Play	Low-SES primary students	Aims to prevent excess weight gain, prevent decline in physical activity, increase enjoyment of physical activity and reduce sedentary activity.	RCT evidence showed a significant intervention effect from baseline to post intervention on adjusted BMI in the behavioural modification (BM)/fundamental movement skills (FMS) group, sustained at 6/12 months follow up. The FMS children recorded higher levels and greater enjoyment of physical activity and the BM children recorded higher levels of physical activity (Salmon et al. 2008) (DEECD))	Not available	Supported
	School breakfasts	Low-SES schools	To provide access to adequate and nutritious breakfast	A Cochrane systematic review (Kristjansson et al., 2007) found that school breakfasts had some small proven positive impacts on children's weight and height (younger children) as well as on their attendance and behaviour at	Not available	Promising

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
				school and maths performance. The most nutritionally deprived children benefit. Evaluation of a Queensland School Breakfast Club with a RCT found that the project effectively promote healthy eating outcomes (Radcliffe & Ogden, 2005)		
School-based social and emotional wellbeing promotion (SWPBS)	School-wide Behaviour Supports	Primary and secondary students	A framework that is designed for use in schools to ensure that all students can access effective instructional and behavioural approaches / interventions. These are delivered through the framework at primary, secondary and tertiary levels.	RCTs have demonstrated positive outcomes for schools adopting SWPBS	Not available	Well supported
	The Good Behaviour Game (GBG)	Primary students (years 1-3)	The program aims to promote positive discipline and reduce behaviour problems. The game provides a team-based method for teachers to introduce positive classroom discipline	RCTs support the effectiveness of the GBG in improving classroom management and reducing behaviour problems in students (CTC, 2012)	Benefits: \$39,197; Costs: \$7,922; Benefits - costs = \$31,276. Measured Risk: 85per cent	Well supported
	Promoting Alternative Thinking Strategies (PATHS)	Universal prevention, children 5-11	The program aims to facilitate the development of self-control, empathy, self-esteem, emotional awareness and inter-personal problem solving skills	Across multiple studies PATHS relative to a control group shows: lower rates of conduct problems and depression, improvements in emotional understanding/self-control, better peer sociability scores and ability to resolve peer conflicts; as well as greater	Not available	Well supported

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
				empathy, reduction in ADHD symptoms and better scores on authority acceptance, cognitive concentration and social competence (BHYD)		
	I can problem Solve	Program can be used universally, but it is known to be especially effective for at-risk children aged 4-5 years & 10-12 years from low SES backgrounds	This program aims to prevent anti-social behaviour problems. It provides a curriculum which aims to enable children to improve their inter-personal problem-solving abilities. It assists children to consider their communication with others and develop their own solutions to problems. There are two programs targeted at younger and older children (with appropriate curriculum / resources etc.) (Kids Matter)	Program evaluation, involving multiple studies, has demonstrated that the program has positive effects on children's behaviour, including sustained impact in one or more studies (at least a year) (Kids Matter)	Not available	Supported
Parent engagement in learning and schooling	Families and Schools Together	Primary students	Strengthen families, enhance parenting skills and connect families to schools. Intervention components aim to build social support, improve parent confidence and family relationships and promote child competence.	RCT-level evidence for: significant reduction in behavioural problems (Fisher 2003), improved academic competence, parental ratings of anxiety (Kratochwill, McDonald, Levin, Young Bear-Tibbetts & Demaray 2004) and improved family adaptability /cohesion. (CTC 2012, p. 15). The program has been trialled in Australia with positive pre-post program changes (Coote, 2000) (CTC 2012, p. 15)	Benefits: \$2610 Costs: \$1759 Benefits - costs = \$873 Measured Risk: 52per cent (WSIPP 2012)	Well supported
	Bending Like a River: the	CALD families	Focus on issues relevant to CALD parents including intergenerational conflict; the benefits of bicultural	Qualitative evaluation found that the program successfully contributed to fostering	Not available	Emerging

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
	Parenting between Cultures Program		parenting identity; knowledge of school/education system; knowledge of child protection laws/support services; discipline strategies.	understanding of impact of culture on parenting; parental knowledge of the school and child protection systems; and the use of non-physical discipline.		
Bullying	Friendly Schools Family Friendly Project	Children 6-14	This is a whole-school bullying prevention program that uses evidence-based strategies to manage and prevent bullying. The program provides resources to allow schools to build their capacity to respond to bullying; and offers strategies to parents, teachers and students (CTC 2012, p. 30)	Two RCTs (UK) found that the program led to significant reductions in bullying in participating schools (Cross et al., 2004; Cross, 2009; Cross et al., 2011)	Not available	Well supported

Appendix E - Middle years (11-14)

Why are the middle years important?

Early adolescence is a critical developmental stage when major physiological, neurological, psychological, and social changes exert a potent influence on children's long term developmental prospects. The enormity and intensity of changes occurring at this time heighten the developmental vulnerability of young adolescents and the developmental risks to which they may be exposed, including: major physiological, neurological, cognitive and psychosocial changes; changing relationships with parents and families (as children seek greater autonomy and independence from parental oversight and control of their lives); an increase in the importance and influence of peer relationships (as children seek to establish their own personal and social identity); and an administratively-imposed requirement for children to transition from primary to secondary schooling (which typically involves a move to a different physical setting, adjustment to a different social environment, and a different approach to teaching and learning) (ARACY, 2011).

Cost benefit of investing in the middle years

The value of middle-years investments comes from the opportunity to promote positive transition to adolescence and to intervene early in emergent mental health conditions.

Key risk and protective factors

- **Risk factors:** Poor academic achievement, low self-esteem and limited coping skills, poor social skills and peer relationships, parental depression, family conflict, lack of parental warmth, harsh discipline or overly permissive parenting, favourable family and community attitudes to drugs and alcohol
- **Protective factors:** Early academic achievement in literacy and numeracy, positive peer relationships, self-efficacy and self-esteem, time in emotionally responsive interactions with parents, consistent and language-based discipline, relationships with adult/s outside the family, parental wellbeing, positive relationships with teachers and belonging at school, participation in extra-curricular activities

Optimal intervention pathways

The [parenting skill development](#), [social connections and support](#), [nutrition, physical activity and obesity](#) pathways outlined in the previous sections continue to apply in the middle years stage

This section outlines the following pathways:

- Parenting skill development
- Promoting engagement with learning and preventing disengagement from school
- Learning support

- School based health and wellbeing interventions
- Behavioural issues
- Preventing substance misuse
- Transition to high school

Specific evidence-based interventions are outlined in Table A6.

Parenting skill development

The importance of parenting for child development and wellbeing has been established previously. Effective interventions for this age cohort include: Triple P (universal), Incredible Years (targeted), Parent Child Interaction Therapy (targeted)

Promoting engagement with learning and preventing disengagement from school

Achievement is strongly correlated to staying on at school and there is a 20-percentage point gap between the highest and lowest socioeconomic status (SES) quartiles in attainment of Year 12 (Foundation for Young Australians, 2012, p. 14).

About 10 per cent of 15-24 year-old Australians are not in education, training or work (NEET) and this group largely comprises disadvantaged groups, with analysis of Longitudinal Survey of Australian Youth (LSAY) data showing an over-representation of Indigenous young people, young people with a disability and low SES students (Foundation for Young Australians, 2012, p. 16). For young people who are the most disadvantaged, being in NEET persists, with only 1.3 per cent of those from the highest SES quartile being in NEET in both 2009 and 2010, compared with 7.3 per cent of those in the lowest SES quartile. Young people aged 18-24 who were NEET in 2010 were more likely to be homeless, and had lower levels of wellbeing and civic engagement when compared with those who were engaged in employment, education or training (FYA, 2012, p. 17)

Lack of engagement with school is a likely predictor of NEET status in Australia. Young people who left school early (at Year 9) were much more likely than Year 12 completers to be in the LSAY NEET group: and those who were NEET had less positive views about their schools and their teachers when they were teenagers (FYA, 2012).

Universal interventions

An extensive review on school completion and early leaving by the Victorian Government Department of Education and Early Childhood Development (DEECD), found that the following elements of school culture were central to maximising engagement and retention:

- a shared vision across the school community,
- high expectations of staff and students,
- flexibility and responsiveness to individual student needs,

- a commitment to success for all students, and
- a drive for continuous improvement.

Schools with the greatest success in improving student retention used a combination of strategies and promoted a whole-of-staff commitment to student engagement, changing their approaches regularly in response to student and parent needs. Early intervention was critical to success, as were sustained and multi-faceted approaches (DEECD, 2008).

There is also robust evidence that mentoring programs provide children and young people with important protective factors to support their social and emotional wellbeing, including a relationship with a caring adult, connectedness with peers and others, and individual competencies (Beltman and MacCallum, 2006).

Personalised learning approaches and Big Picture schools: This model of learning combines academic studies with 'real world learning' and places the student and their individual interests at the core of the learning process. The model has been utilised internationally, with the integrated learning framework adopted by Big Picture schools in America resulting a range of positive impacts on student engagement and learning, including very high student attendance rates and low-drop-out rates and very high proportions of Big Picture school graduates being accepted into college. Big Schools are at an earlier stage of development in Australia, but results from 15 Big Picture Schools (with 862 students) provide early evidence of improvements in student engagement in learning and school culture. Positive shifts in student engagement and academic performance are also documented through case studies of one small metropolitan high school (Yule Brook College) and two large high schools (Thornlie SHS and Manjimup SHS) in Western Australia, where Big Picture Education Australia (BPEA) personalised learning approaches were introduced (Down and Choules, 2011, pp. 53-54).

Mentoring: There is evidence that mentoring programs improve attitudes towards schools, school attendance and achievement (DEECD, 2008, p. 25). Young people from 'backgrounds of environmental risk and disadvantage' are the most likely to benefit from mentoring programs and that program effects are significantly increased when there is a strong mentoring relationship and when the program design is well supported by theory and empirically-based practice (DuBois, et al., 2002). Programs that are focused on helping children and young people with their education, social skills and relationships are generally more effective than those that focused on specific issues (such as bullying or teenage pregnancy) and programs that target at-risk young people, community-based programs and programs that lasted at least one year are more effective (Lawner et al., 2013). Two specific examples of effective mentoring programs are the *Big Brother, Big Sister program* (promising) and the *Check and Connect program* (well-supported).

Cross-age peer tutoring: there is evidence that peer tutoring can have benefits for both the tutor and the tutee and cross-age tutoring, where the tutor is older than the tutee, has been linked to benefits for tutor and tutee in academic performance, attendance and self-esteem (Barnhart, 2010). *Classwide peer tutoring* is an example of a well-supported peer tutoring program.

School Wide Positive Behaviour Support is a framework that is designed for use in schools to ensure that all students can access effective instructional and behavioural approaches interventions. These are delivered through the framework at primary, secondary and tertiary levels.

School-based or affiliated psychological, educational, or behavioural intervention programs, and community-based programs, are generally effective in preventing early school leaving (or increasing school completion) (Wilson et al., 2011, in ARACY, 2012a).

Learning support

Basic literacy skills are essential to support educational attainment and future life outcomes (OECD, 2002). Literacy skills lay the foundations for future educational achievement, success in employment, and effective economic and social participation in the community (DEST, 2005, in ARACY, 2012c). The most effective interventions and initiatives to promote and support literacy are those that target the early years. However, these should be supplemented, where needed, with targeted programs to support older children who are experiencing difficulties.

Targeted interventions

- **Reading Recovery:** is targeted at children aged 5-7 years in the bottom 20 per cent for reading skills. This well supported program has been extensively evaluated across the world (including with randomised studies) and has shown sustained (up to 10 years of age) improvements in reading skills in intervention children who had the poorest (lowest 10 per cent) reading skills when participating in the program (Communities that Care, 2012).

School based health and wellbeing interventions

The impact of school-based approaches to promoting wellbeing and preventing obesity has been established. Effective strategies for this age cohort are outlined below.

Whole school interventions, including curriculum approaches, aiming to promote prosocial behaviours and skills are well supported. A NICE systematic review identified that effective programs included conflict resolution training, peer mediators, curriculum interventions on prosocial behaviours and skills, a focus on resilience for reducing depression and anxiety, and a cognitive behavioural approach focused on problem solving and coping (Blank, 2009, 11). The same review found mixed evidence for school-based bullying interventions, although some promising models were evident (Blank, 2009, 13). There is strong, good quality evidence to support parent training/education in the implementation of interventions to promote prosocial behaviours and parent training/education in the implementation of interventions to reduce bullying and disruptive behaviours (Blank, 2009, 27).

A recent Cochrane review found evidence that both universal and targeted interventions designed to prevent or respond to early signs of depression are effective. Their meta-analysis demonstrated that depression prevention programmes reduce clinically significant depressive episodes and depression scores post-intervention and at three to nine month

follow-up in both targeted and universal interventions (Merry et al., 2011). Although there was a larger body of evidence for targeted interventions, the magnitude of effect is similar for both interventions, and in both high and low risk groups in universal interventions.

Universal depression prevention programs noted as promising in the Cochrane review include Interpersonal Psychotherapy-Adolescent Skills Training (Young, Mufson and Gallop, 2010; Horowitz and Ciesla 2007), the Penn Resiliency Program (Cardemil, Reivich and Seligman; Brunwasser, Gillham and Kim, 2009). Indicated prevention strategies, for adolescents at risk of depression, noted as effective in the Cochrane review include group cognitive behavioural therapy (such as Coping with Stress) and Interpersonal Psychotherapy Adolescent Skills Training (Clarke et al., 2001; Garber et al., 2009; Young, Mufson and Davies, 2006)

There are a range of school-based preventive interventions with evidence of effectiveness for promoting wellbeing more generally: the Aussie Optimism Program (well supported), Lions Quest Skills for Adolescence (well supported), the Gatehouse Project (promising), LifeSkills Training (well supported) and Adolescents Coping with Emotion (supported).

Behavioural issues

The impact of significant behavioural issues and conduct disorders on children's wellbeing and life chances has been established. Effective interventions for the middle years are outlined below.

- **Group-based social and cognitive problem-solving programs:** These programs should be delivered to young people who are at risk of conduct disorder, have been diagnosed with conduct disorder or are in contact with the criminal justice system (NICE, 2013, p. 6).
- **Group-based parenting interventions:** Effective interventions include the Incredible Years, Triple P and Parent-Child Interaction Therapy.
- **Multisystemic therapy:** There is a strong evidence-base to support the effectiveness of multisystemic therapy for young people (aged 11+) experiencing or at high risk of antisocial behaviour (NICE, 2013, p. 11). Evidence from a number of high quality studies shows a reduction in re-arrest rates (25-75 per cent) and OOHC placements (45-64 per cent), as well as improved family functioning, improved mental health and decreased substance abuse. A longitudinal study shows substantial reductions (45-68 per cent) in re-arrests, days of incarceration, drug-related arrests and days on probation after 15 years (MST, 2014).

Preventing substance misuse

The prevention of substance misuse is one of the areas in which public health interventions have been most effective. There has been a decline in the proportions of young people who report using an illicit substance (from 30 per cent of 12-15 year-olds in 1996 to 11 per cent in 2008), and the prevalence of cigarette smoking has also declined among young people over recent decades. However, smoking and alcohol consumption rates remain higher in

Indigenous young people and among young people in socio-economically disadvantaged areas (Australian Institute of Health and Welfare, 2012, p. 65).

However, smoking, alcohol and illicit substance related harms continue to have negative impacts on the wellbeing of young people, and pose particular risks for infants (including but not only children born to teenage parents).

Universal family-based prevention programs have been demonstrated to be effective in preventing alcohol misuse in school-aged children up to 18 years of age. The most effective interventions generally include supporting the development of parenting skills (e.g. parental support, nurturing behaviours, clear boundaries and monitoring). However, social and peer-resistance skills, and the development of behavioural norms and positive peer affiliations have also been addressed in these programs (Foxcroft & Tsertsyadze, 2011, in ARACY, 2012a). Peers, family and social context are strongly implicated in early drug use in young people. Schools offer an important site for interventions to prevent drug use. Skills based programs delivered in schools appear to be effective in deterring early-stage drug use, and increasing drug knowledge, decision-making skills, self-esteem, resistance to peer pressure and drug-use including marijuana and hard drugs (Faggiano et al., 2005, in ARACY, 2012a).

Universal interventions

- **Health promotion programs**, such as the *Aussies Optimism Program* (AOP) (well-supported), which focus on general life skills can also target health risk behaviours such as alcohol and tobacco use in young adolescents (Roberts et al., 2011, in ARACY, 2012a).
- **Primary prevention** programs that improve the emotional wellbeing of secondary students by building the capacity of school communities can also be effective at reducing substance abuse, as demonstrated by the Victorian-based *Gatehouse Project* (promising) (Toumbourou et al., 2007, in ARACY, 2012a).
- **The School Health and Alcohol Harm Reduction Project** (SHAHRP) (well-supported) provides a further example of an effective school-based program which reduces alcohol-related harm among secondary school students, through knowledge development and the development of specific strategies and skills.

Transition to high school

The transition from primary to secondary schooling is a time of significant adjustment for young adolescents. At this time students experience significant changes to school culture, organisation and environment. As Hanewald (2013) notes, students “move from a small, self-contained classroom to a large, more heterogeneous school with increased expectation of independent academic performance and less teachers’ scaffolding”.

Research indicates most children adapt well to this transition with little disruption to their wellbeing or learning (Evangelou et al., 2008). A successful transition is one where students achieve social adjustment, institutional adjustment and curriculum interest and continuity (Evangelou et al., 2008). However, for a significant minority of students, the transition

process has been associated with subsequent disengagement from learning, and a 'dip' in academic performance (Evangelou et al., 2008). Disengagement risks include: increased non-attendance/truancy, lower motivation, poorer concentration, and lower enjoyment, and in some instances school failure, non-compliance and inappropriate behaviour (Howard & Johnson, 2004). Evangelou et al. (2008) found low socioeconomic status was associated with poor school transition. Students from culturally and linguistically diverse populations, in particular those with refugee backgrounds, are also at increased risk due to their personal history of traumatic transitions and rapid changes in their physical, emotional and intellectual development (Victorian Foundation for Survivors of Torture, 2004).

A British survey of more than 500 children found experiences of bullying, worrying about their ability to do the work or about having new and different teachers for subjects, or worrying about whether they can make friends, were all associated with a poor experience of transition (Evangelou et al., 2008). Conversely, children who reported receiving help from their new school to settle in were more likely to have a successful transition. This included help with getting to know their way around the school, relaxing rules in the early weeks, procedures to help pupils adapt, visits to schools, induction and taster days, and booklets (Evangelou et al., 2008).

Table A6: Effective interventions for the Middle Years

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
Parenting skill development	Strengthening families	Children 10-14	Aims to increase resilience and reduce risk factors for substance abuse, depression, violence, aggression, delinquency and school failure (CTC 2012).	USA RCT has shown reductions in drug use, hostile and aggressive behaviour and fewer school problems (Spoth & Redmond, 2000). Outcomes for parents include gains in parenting skills, setting appropriate limits, gains in child management, building a positive relationship and an increase in positive feelings towards child. The program is being implemented and evaluated in the UK and New Zealand. (Foxcroft, Irelan, Lowe & Breen, 2002; Spoth & Redmond, 2000)	Benefits: \$696 Costs: \$1077 Benefits - costs = minus \$381 Measured risk: 7 per cent	Supported
	Teen Triple P	12-16 year olds	Aims to normalise the concept of parenting programs so parents feel comfortable asking for help. To deliver the exact amount of support a parent needs and to give parents the confidence and skills to be self-sufficient - to manage problems independently	Studies including one RCT showing significant reductions in a variety of risk factors, including parent-teenager conflict, parenting styles, parental conflict over parenting strategies and parental beliefs on measures of self-efficacy, self-sufficiency and self-management (Stallman, 2007; Ralph & Sanders, 2003)	Not available	Supported

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
	Resilient Families Intervention	Children transitioning to secondary school and early years of secondary school approximate ages 11-14 years	Help students and parents develop knowledge, skills and support networks to promote health and wellbeing during the early years of secondary school. It also aims to build parent-adolescent communication, and conflict resolution, as well as improve social support between different families, and between families and schools	One cluster RCT demonstrated that parent attendance at the brief intervention significantly reduced low academic grades and being bullied but resulted in significantly more adolescent aggression toward parents.	Not available	Promising
Promoting engagement with learning and preventing disengagement from school	Big Brother/Big Sister	At risk young people (7-17)	To delay or reduce anti-social behaviours, improve academic performance, attitudes and behaviour, improve peer and family relates, strengthen sense of self and provide social/cultural enrichment.	One study reports that young participants were less likely to skip school or initiate substance use, were more confident in school work and reported improved family relationships (Tierney et al., 1995) The study included a baseline and 18-month follow-up with 959 boys and girls, split between intervention and treatment groups, showing positive impacts of intervention.	If the program serviced 2,208 of the most vulnerable young people, it would cost AUD\$39.5 million. Assuming 50 per cent were high-risk, the associated costs of their adult criminality would be AUD\$3.3 billion. To break even, the program would need to avert high-risk behaviours in only 1.3 per cent	Promising

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
					(14/1,104) of participants, (Moodie & Fisher, 2009)	
Behavioural issues	Multisystemic Therapy	Juvenile offenders aged 12-17 years	Aims to increase the parenting skills of caregivers and change the behaviour of violent and criminal youth. It aims to reduce out-of-home placements, and improve youth-family functioning.	Multiple evaluations including RCTs shown program is effective. Results show long-term re-arrest rates reduced by 25-70 percent, out-of-home placements reduced by 47-64 per cent, families functioning much better, decreased substance use, and fewer mental health problems for serious juvenile offenders.	Based on the Institute's estimates, a typical average cost per MST participant is about US\$4,743. Overall, taxpayers gain approximately US\$ 31,661 in subsequent criminal justice cost savings for each program participant. Adding the benefits that accrue to crime victims increases the expected net present value to \$131,918 US per participant, which is equivalent to a benefit-to cost ratio of \$28.33 US for every dollar spent.	Supported
School-based wellbeing interventions	Aussie Optimism Program	Primary school (Grades 4-6) and secondary (Grades 7-9)	This program aims to promote resilience and prevent anxiety and depression, assisting with transition to adolescence.	Multiple evaluations, including RCTs, have found that the program reduces anxiety and depression (in at-risk rural students); lowers internalising symptoms (in children from low SES schools); and reduces	Not available	Well supported

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
				mental health symptoms and disorders. Sustained impacts on effect on some outcomes (anxiety, drinking/smoking, suicidal triggers).		
	Lions Quest Skills for Adolescence	Children aged 8-14	Aims to prevent alcohol and drug use, bullying and violence and academic failure and is a comprehensive life skills and drug prevention curriculum.	Three RCTs have evaluated the program: program is effective in delaying or preventing initiation of cigarette/marijuana smoking and reducing progression to more advanced drug/alcohol use; decreased the rate of cigarette recent use at 1 year among students who did not report recent cigarette use at baseline; and resulted in reported improved capacity to refuse alcohol and marijuana	Not available	Well supported
	Gatehouse project	Young people 11-14	This project aims to build the capacity of schools to respond to the mental health needs of young people The program includes classroom and whole-school elements. These aim to increase young people's connectedness with school and their knowledge for dealing with life challenges	Evaluation using random assignment of schools found that the program was associated with reductions in drug use (Bond et al., 2004) and risky sexual behaviour (Patton et al., 2006). (CTC 2012, 31)	Not available	Promising

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
			(CTC 2012, p. 31)			
	Life Skills training	12-14 year olds	The classroom-based program is provided over 30 sessions. Student are taught self-management skills, social skills and information and resistance skills relating to drug use (Blueprints for Healthy Youth Development (BHYD), 2012, p. 14)	Multiple studies, including RCTs and long-term follow up evaluations, demonstrate the effectiveness of this program. The research suggests that the program is effective with a variety of ethnic groups (BHYD)	Benefits: \$1,290; Costs: \$34; Benefits - costs = \$1,001. Measured Risk = 100per cent (WSIPP 2012)	Well supported
	Adolescents coping with Emotions	13-15 year olds at risk of depression	The content of the ACE program, which is intended to develop resilience and coping skills, has been developed with school counsellors and young people. The program sessions involve discussion; interactive learning; structured group activities and role play; with key program elements including the development of social and assertiveness skills; problem-solving; seeking help appropriately and	Evaluation (using mixed methods) found that program impacted significantly on young people's resilience and wellbeing (Kowalenko, Rapee et al., 2000 (Building Blocks)). An RCT showed that impacts are sustained over time.	Not available	Sustained

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
			challenging unrealistic thinking.			
School-based health interventions	Smoking Cessation for Youth Project (SCYP)	14-15 year olds who smoke or are at risk of smoking	Helps students who smoked to quit or reduce their current smoking, while confirming the advantages of not smoking to young people who did not smoke.	SCYP was evaluated using a cluster-randomised trial in Perth (4000 adolescents at 30 schools) between 1999 and 2000. At 20 months post-baseline, intervention students were less likely to smoke regularly or to have smoked within the previous 30 days. Regular smoking among the comparison group increased more markedly than in the intervention group, while smoking in the past 30 days decreased more markedly in the intervention group (for references see DEECD site)	Not available	Supported

Appendix F - Adolescence and youth (14-25)

Why is the adolescent period important?

Adolescence is a key period of rapid and extensive psychological and biological growth, second only to early childhood in the rate and breadth of developmental change. Viner argues that changes in the brain and all organ systems during puberty and adolescence interact with social development to set up a range of new behaviours that can be both positive and potentially negative. Brain and body development also set up a number of transitions that are important for an individual to function as a productive adult (Viner, 2013). There appears to be a 'window of vulnerability' to risky behaviours around ages 14 to 17 years (Viner, 2013)

Cost benefit of investing in adolescence

Adolescence is a major period for the onset of mental health issues, with around one in five young people experiencing psychological distress and a significant proportion of those likely to go on to experience ongoing mental ill-health. It is also an opportunity to intervene early in risky health behaviours and pathways that lead to antisocial behaviour and disengagement from school.

Key risk and protective factors

- **Risk factors:** low positive mood, withdrawal, poor concentration, negative cognitions such as low global self-worth, perceived incompetence, negative explanatory and inferential style, disengagement, involuntary stress response and emotion-focused coping, poor social, communication and problem-solving skills, extreme need for approval and social support, parental depression, parent-child conflict and lack of parental warmth, and family conflict
- **Protective factors:** sociability, intelligence and academic achievement, communication skills, self efficacy, self-esteem, strategies to deal with stress, enduring set of values, good health habits, good health-risk management skills, future orientation/achievement motivation, parental warmth, encouragement and assistance, cohesion and care within the family, positive communication with parents, talent or hobby valued by others, physical and psychological safety, appropriate structure (limits, rules, monitoring, predictability), opportunities for positive school experience, safe schools, supportive communities (service access, safety, shared values), positive social norms (expectations, values)

Optimal intervention pathways

Access to health services

Adolescence is a period of increased physical growth and development, second only to that which occurs in the first year of life. As a consequence, adolescents have higher nutritional needs than adults or children, and require at least as much sleep as they had in childhood

(at least eight hours) (Garber et al., 2013). Adolescence is also a period in which further immunisations are recommended and is the stage for emerging health and wellbeing issues such as sexual health, relationships and risk behaviours. Many mental health issues also begin to emerge during adolescence (Park et al., 2013).

Access to health services during this period is an important means to support adolescents through these issues and changes, particularly as they begin to take greater responsibility and control over their own health and health care. Receipt of health care services ideally helps adolescents adopt and/or maintain healthy habits and behaviours (such as exercise, and good nutrition), avoid risky or damaging behaviours (e.g. smoking), manage chronic conditions, and prevent disease. The experience also offers a means for adolescents to build up skills and management processes for accessing health care and interacting with health care providers into the future (Park et al., 2013).

Clinical guidelines for adolescent health services note a number of 'best practice' elements to boost accessibility and engagement. These include models of comprehensive, continuous care (e.g. multiple services in one place), and service provision in familiar, comfortable settings that provide opportunities for adolescents to socialise. There is also value in health professionals incorporating 'time alone' (i.e. without parents present) since adolescents may not share critical information or may avoid seeking care altogether when confidentiality is not assured (Park et al., 2013).

Adolescent preventive health services (universal)

Many of the health problems that affect adolescents are potentially preventable. Clinical preventive services offer the opportunity for a physician or other health care professional to avert or delay the onset of various health problems, or to identify these early to reduce their impact. While such services may include medical interventions – such as immunisations and screenings – it is argued that the most important preventive services for adolescents focus on behaviours and psychosocial issues. It is recommended that preventive health consultations are conducted every 1-2 years with adolescents, or more often for those with particular risk or conditions (Park et al., 2001).

The efficacy of clinical preventive services is well-documented in adults, with studies showing these to have been successful in such areas as smoking cessation, alcohol use, diet and nutrition and injury prevention. There is also some evidence which points to effectiveness amongst adolescents in terms of sexual health, pregnancy, alcohol use and smoking. However, few studies specifically address the effectiveness of comprehensive clinical preventive services that screen for multiple risk behaviours (Park et al., 2001, p. 3)

Rigorous cost-effectiveness and cost-benefit studies specifically analysing adolescent preventive health services are also scarce. One study looked at the cost of implementing such services among all 10-24 year olds in the US. It was estimated that implementation would incur a cost of \$4.8 billion in 1998. Another study estimated the cost of adolescent health problems in the US was somewhere in the region of \$700 billion. Therefore, it is assumed that even if preventive health services led to a decrease of 1 per cent of

adolescent health problems, a positive cost return would occur as \$7 billion would be saved, as opposed to \$4.8 billion invested (Park et al., 2001).

School-based health services

School-based health centres (SBHCs) offer the opportunity for adolescents to receive integrated health care in a familiar, convenient setting. As well as providing universal health care and support, they can provide targeted interventions and services for specific students, such as those with chronic illness or requiring mental health support. Evaluation of SBHCs in the US demonstrate positive outcomes on health, management of conditions, reduced hospitalisations and improved attendance, with limited evidence on academic outcomes (Van Cura, 2010). A cost-benefit analysis of school-based health centres documented savings of \$1.38-\$2.00 for every dollar spent (Park et al., 2001).

Some school-based health service models offer an even more holistic approach, attempting to coordinate and integrate health care provision, health promotion, social services and engage the wider community in health care and management. Initial evaluation of such approaches report reductions in absenteeism and increases in the availability of health and social services and opportunities to participate in physical education (Baltimore Student Attendance Campaign & Elev8 Baltimore, 2012).

Mental health

As Garber et al. explain,

adolescent-onset depression is strongly associated with chronic and recurrent depression in adulthood, which is a leading cause of morbidity and mortality ... The serious developmental consequences of adolescent depression and the associated treatment challenges once it has developed underscore the need for programs aimed at prevention (Garber et al., 2009, 2215).

In the Dunedin Multidisciplinary Health and Development Study cohort, half of the adults with psychiatric disorder at age 26 had a psychiatric disorder before age 15, and three-quarters by age 18 (Kim-Cohen 2003).

Approximately one in four to five young Australians are likely to suffer from a mental health problem, most commonly substance abuse or dependency, depression, anxiety, and eating disorders, with McGorry, Parker and Purcell noting high rates of disability are associated with mental disorders among young people, including impaired work productivity, absenteeism, educational failure and poor family functioning. McGorry, Parker and Purcell note for young people aged 15-24 years, mental disorders are the single greatest cause of years of healthy life lost.

Further, McGorry, Parker and Purcell report that

as a result of the limitations in the existing service models, the mental health needs of many young people largely go either undetected or receive no effective intervention whatsoever. Even those who do gain access, do so belatedly and often in the context of extreme crisis. This means that at the very time when mental health services are

most needed, they are often inaccessible or unacceptable in design and culture to young people (2006).

A recent Cochrane review found evidence that both universal and targeted interventions designed to prevent or respond to early signs of depression are effective. Their meta-analysis demonstrated that depression prevention programmes reduce clinically significant depressive episodes and depression scores post-intervention and at three- to nine-month follow-up in both targeted and universal interventions (Merry et al., 2011). Although there was a larger body of evidence for targeted interventions, the magnitude of effect is similar for both interventions, and in both high and low risk groups in universal interventions.

Universal depression prevention programs noted as promising in the Cochrane review include Interpersonal Psychotherapy - Adolescent Skills Training (Young, Mufson & Gallop, 2010; Horowitz et al, 2007), the Penn Resiliency Program (Brunwasser, Gillham, & Kim, 2009; Cardemil, Reivich, Beevers, Seligman, & James, 2007). Indicated prevention strategies for adolescents at risk of depression that are identified as effective in the Cochrane review include: group cognitive behavioural therapy (such as Coping with Stress) and Interpersonal Psychotherapy Adolescent Skills Training (Clarke et al., 2001; Garber et al., 2009; Young, Mufson and Davies, 2006)

Promoting sexual health

Previous Australian surveys have shown that adolescents are becoming sexually active earlier and there are high rates of risky behaviour. In 2002, it is reported that a quarter of Year 10 students and more than half of Year 12 students had had sex; but only two-thirds of the sexually active Year 10 students and one half of the Year 12s reported always using a condom (Smith et al., 2003). Such actions are clearly more likely to result in increased prevalence of sexually transmitted diseases as well as teenage pregnancy.

Research shows that adolescents can be more vulnerable to certain sexually transmitted diseases. Biologically, they are more susceptible to certain infections, including gonorrhoea and chlamydia. They are also more likely than many other age groups to have multiple sexual partners in a short space of time. Some have much older sexual partners, a factor linked to increased likelihood of STDs (Wildsmith et al., 2013).

Effective interventions in this area focus on sex education - (of which there is a large degree of variability in implementation and effect), taking place across various forums – school, community and/or health-based settings - and contraceptive availability.

Sex education

Systematic reviews of sex education note that effectiveness can, in part, be shaped by predominant value systems in place. For instance, in some US jurisdictions, sex education is delivered in a context of abstinence and reviews of these approaches have concluded they are, on the whole, ineffective. However, other approaches to sex education more typically delivered in Australian schools, also appear to have variable effects (DEECD, 2014).

The evidence points to greater efficacy in sex education that takes a 'whole-school approach', including consultation and interaction with parents and the school community, access to community resources, student involvement, and changes to school policy and guidelines. Key aspects to consider include acknowledging young people as sexual beings, catering for diversity and using appropriate and inclusive curricula, ensuring educators' training needs are addressed, and community/parental involvement (Dyson et al., 2003). One such school-based program taking such an approach (*Safer Choices*), has been shown to have significant effects (compared to a control group) on student contraceptive use and safe sex practices 31 months after the baseline (DEECD, 2014).

Sex education that takes a practical approach and actively teaches safe sex behaviours (and is not just about raising awareness and knowledge) appears more likely to lead to such behaviours being enacted. For example, programs that teach condom-use skills have an impact on condom use, as opposed to those education strategies which only address participant knowledge and attitudes and do not take behaviour further (Ball & Moore, 2008).

Contraceptive availability

Sex education appears to have had a small and variable impact on reducing the initiation of sexual intercourse amongst adolescents. No evidence supports some conservative views that it increases sexual behaviour (DEECD, 2014). However, in the context of sustained levels of sexual activity, interventions which provide contraceptives (such as availability of free condoms) have emerged. Some evidence suggests these can be effective in increasing condom use, but this is not always statistically significant in the studies conducted (American Academy of Pediatrics, 2001).

Preventing risk behaviours

Risk-taking behaviours appear more likely to emerge during adolescence, as self-expression and identity (particularly among peers) become important aspects for individuals moving towards becoming independent young adults. Complicating this evolution is the developing brain, parts of which responsible for impulse control do not fully mature until the age of 25. While the 'reward' system of the adolescent brain is disproportionately active, the 'control' system is not fully matured, and adolescents are biased towards immediate gain over long-term gain (Teen Mental Health, 2009).

Risky behaviours associated with adolescence include smoking, alcohol use, use of illicit substances, risky sexual behaviour, aggressive or violent behaviour, truancy, dangerous driving, and engagement in illegal activities such as trespassing or vandalism (Raising Children Network, 2012). Risk factors for risky behaviour include individual, familial and environmental dimensions, such as low self-esteem, poor parent-child communication, presence of risk-taking role models, negative school climates and low socio-economic status (Guzman & Bosch, 2007).

Research suggests that risk-taking behaviours are often co-related. Therefore the type of strategies that are effective in reducing the risk in one area may well be effective in others. It also suggests that cohesive, coherent approaches addressing adolescent risk in general

may well be an efficient approach to address multiple risk-taking behaviours (Hale & Viner, 2012).

Jackson et al. (2012) conducted a systematic review of prevention and intervention strategies for adolescent risk behaviours, looking at the effectiveness of policy and mass media interventions (e.g. pricing, social marketing), school-based programs, family/parenting interventions, and multi-domain interventions. They report that policy intervention and mass-media approaches can be effective, such as those related to smoking. School-based curriculum programs appear to be insufficient on their own, and whole-school approaches that also address school ethos and environment show more promise. More effective family/parenting interventions are those that seek to maintain family connectedness and strengthen some of the protective factors likely to prevent risky behaviour.

Overall, they conclude that the most promising interventions for reducing multiple-risk behaviour simultaneously address multiple domains of risk and protective factors predictive of risky behaviour. These interventions aim to increase young people's resilience, supported by promoting positive parental/family influences and/or healthy school environments supportive of positive social and emotional development (Jackson et al., 2012).

Young parenthood

The occurrence of parenthood in adolescence and youth is associated with a number of risk factors, such as socio-economic disadvantage, educational disengagement, drug use, and antisocial behaviour. Parenthood during this stage can serve to further entrench disadvantage by, for instance, limiting the parent's ability to engage in education and employment, and can perpetuate a cycle of disadvantage for the parent and the child. Additionally, young parents are said to often face significant social stigma and challenges in dealing with service institutions (Price-Robertson, 2010).

Many of the targeted interventions noted in the antenatal and infancy life stages earlier in this report include a focus on young parents (e.g. nurse home visiting, preschool programs, group antenatal care). These typically aim to improve parent as well as child outcomes. In a review of 19 random assignment experimental evaluations of such interventions that measured parent outcomes (reproductive health, mental health and behaviours, education, employment, and income) 10 had at least one positive impact. Seven of these programs used a home-visiting model and nine of them had an antenatal component (Chrisler & Moore, 2012).

Based on the identified needs and issues of young parents, and some of the intervention strategies to support them, Price-Robertson (2010) outlines key aspects and methods for child and family service organisations to employ with such individuals:

- Develop a holistic understanding of the young parents' lives and their developmental phase;
- Be sensitive to the needs of young parents when delivering services (e.g. stigma, accessibility, child care needs);

- Remember young fathers (including potential for father-only groups);
- Adopt a strengths-based approach; and
- Collaborate with other local community groups and services.

A number of promising practice programs to support young parents are noted in this paper, with evaluation mostly based on participant feedback. One well-regarded program includes home visits to parents, playgroups specifically for young mothers, transportation to groups and events, engagement of parents in consultative processes for the program design and delivery, and collaborations with existing local community service providers (Price-Robertson, 2010).

Preventing substance misuse

The adolescent stage is known to be a time where much of the population explores substance use. Data indicate that men aged between 18 and 24 years partake in double the rate of alcoholic drinking than men over 25 years old (Australian Institute of Health and Welfare, 2007). Australian women between 15 and 24 years tend to have the highest drug related hospital rates amongst all age groups (Australian Bureau of Statistics, 2008).

School plays a central point in many programs designed to address substance misuse, hence, the programs and approaches described in the middle years section continue to be relevant to youth up until the time they leave school. Current evidence indicates that a promising approach for youth once leaving school is youth sport and recreational strategies. This entails providing recreational opportunities outside the school setting to promote positive development. For example, the Good Sports Program introduced by the Australian Drug Foundation has been associated with lower alcoholic consumption in settings where there tends to be higher rates of risky consumption (Rowland, Allen & Toumbourou, 2012).

Other strategies for this age range include family approaches, community-based strategies and social media approaches. There is limited research into the effectiveness of family intervention programs for substance use in the post-school and under-24 year age range, although it is known that drug use is influenced by family factors (Loxley, Toumbourou, Stockwell, 2004).

There is some evidence within the community-based approaches which suggests there may be risks in addition to potential benefits in bringing together high-risk young people for drug education programs (Loxley, Toumbourou & Stockwell, 2004).

A recent meta-analysis of randomised studies regarding the use of social media campaigns to influence substance use found no effect on reduction of use and a weak effect on intention to use illicit substances (European Monitoring Centre for Drugs and Drug Addiction, 2013). It is noteworthy that the studies analysed were conducted in a number of countries including Australia.

Promoting community participation and connectedness

Community participation and connectedness during adolescence are promoted through various guides and strategies to increase engagement, such as, in NSW, the Taking PARTicipation Seriously initiative. Most of these guides assert benefits to the individuals who do participate in such programs, along with those that flow to the wider community. These include increased confidence and self-esteem; an increased capacity to protect themselves and challenge violence and abuse; and learning the skills of responsible and active citizenship (ARACY, 2014).

Empirical evidence on the benefits of community participation and connectedness is more difficult to come by, partly because it is a complex concept to define and from which to deduce direct outcomes. There is also some evidence of a link between adolescent wellbeing and community participation whereby those who are more likely to have positive indicators of wellbeing (e.g. academic performance, school engagement) are more likely to engage in community activities in the first place (Brennan, Barnett, & Baugh, 2007). However, self-reported measures from participants who have engaged in community participation activities do suggest perceived benefits for many participants, including empowerment in terms of self-improvement, pride in achievements, and feeling independent, trusted and responsible (Ackermann et al., 2003).

Targeted programs which typically seek to intervene in the life pathways of 'at-risk' or delinquent adolescents and youth sometimes include community service activities and capacity building as part of their strategy (e.g. *Operation Newstart*). This is with the aim of fostering greater community awareness and engagement among participants, and some promising results have emerged in terms of improved self-esteem, self-confidence, and pro-social behaviour (Save the Children, 2010). However, there is no indication of such programs directly improving community connectedness over the longer term.

Crime prevention

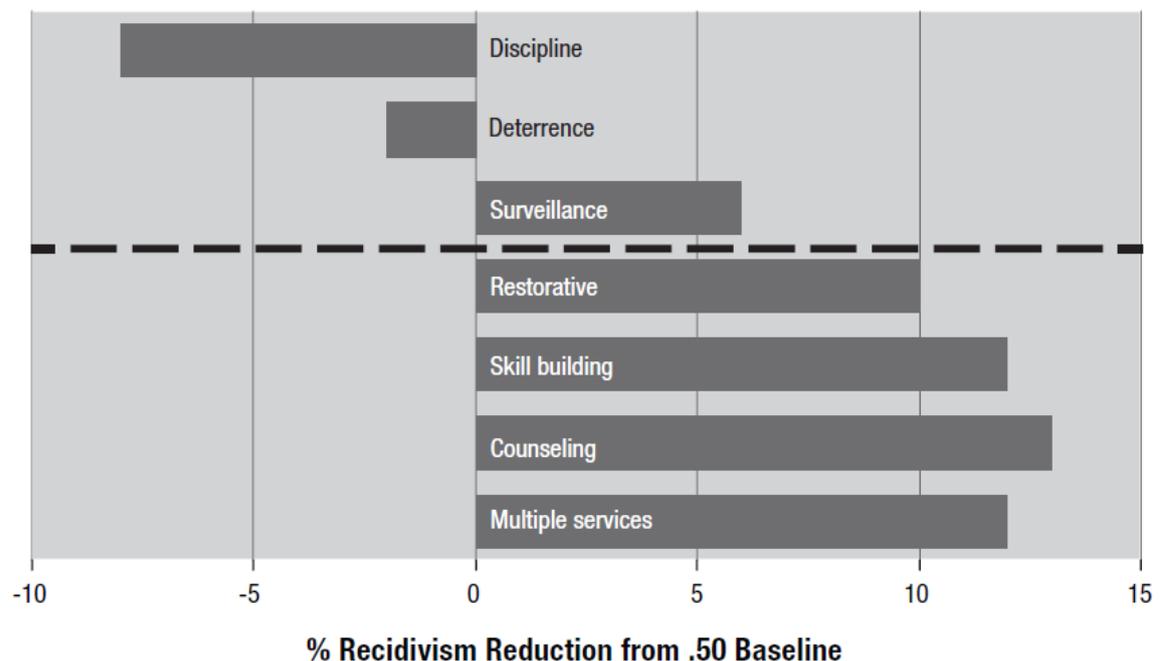
Crime prevention is an area in which there has been considerable social policy and program effort, since this has "the potential to provide significant gains for communities, families and young people, including young offenders" (DEECD, 2013). Risk factors are known to emerge early in life – such as aggressive behaviour and child maltreatment – and a range of prevention and early intervention 'life course' programs that begin in early childhood and follow individuals into adolescence have been developed. Adolescence itself is the period in which serious problems related to criminality may begin to emerge, and interventions that are targeted at individual needs and are based on principles of participation and social inclusion have been found to be most effective. In particular, social competence training, family conferencing, education style programs, comprehensive programs and programs targeting specific groups were found to be most effective (Australian Institute of Criminology, 2003).

Some of the specific (targeted) intervention approaches that have demonstrated positive or promising impacts on reducing criminality include:

- Therapy interventions: in particular, Multisystemic therapy (MST), a family-based therapeutic approach for adolescents with aggressive behaviour and at risk of or who have already offended has been shown to lead to long term reductions in criminal activity;
- Mediation: family conferencing appears to be effective in reducing the likelihood of a young person continuing to offend, though it is more resource intensive than some other methods; and
- Mentoring: has been used effectively, particularly in Australia for Indigenous youth. However benefits are modest and may disappear over time, and mentoring should be considered one element of a wider strategy for young offenders (DEECD, 2013).

Other approaches that have been assessed to be less effective include education and employment interventions for gang members, isolated interpersonal skills training, intensive regimes such as boot camps, 'scare' programs (such as prison visits), intensive supervision, and peer mediation (DEECD, 2013). As Table A7 illustrates, capacity-building and support-based interventions are more effective than coercive approaches.

Table A7: Mean recidivism effects for the program categories representing control and therapeutic philosophies (Lipsey et al., 2010, p. 24)



Restorative justice

Research demonstrates that traditional and 'tough' approaches to addressing juvenile crime, including incarceration, are ineffective. There are several reasons for this, including reinforcement of criminal behaviour within the criminal justice system and failure to address

the underlying issues that have led to and are linked to the offending behaviour (Murphy et al., 2010, in ARACY, 2012c).

Effective approaches focus on addressing these underlying factors (for example through reducing 'risk' factors such as family dysfunction, substance abuse; and increasing protective factors such as having a positive adult role model) and they also emphasise the diversion of young people away from the juvenile justice system (Murphy et al., 2010, in ARACY, 2012c).

While the evidence demonstrates that restorative justice approaches are more effective than detention in addressing youth offending Australian restorative justice programs vary in their operation and scope. For example, across Australia, the proportion of youth offenders referred to restorative justice conferences varies considerably (Murphy, et al., 2010, in ARACY, 2012c).

The majority of young people aged 10-17 under juvenile justice in Australia are under community-based provision. However, detention is still used, and the significantly higher rates of detention for males and Indigenous children and young people are extremely concerning. Indigenous children and young people are up to 24 times more likely to be in detention or prison than non-Indigenous children (Australian Institute of Health and Welfare, 2012, in ARACY, 2012c).

Increased coverage of restorative justice and other diversionary programs across Australia will be crucial to reducing the contact that children and young people have with the criminal justice system. In particular, there is an urgent need for strategies tailored to Indigenous and male offenders.

Suicide prevention

Approximately one in four deaths in the 15–24 year-old age group in Australia is attributable to suicide (ABS 2010). Suicide attempts and self-harm are more common amongst people under 24 years old (Slade et al., 2009). Little is known about suicide in children younger than 15 years (Kolves, 2010) and it is likely that the prevalence of suicide in this age group is underestimated (Beautrais, 2001; Crepeau-Hobson, 2010; Fortune & Hawton, 2007; McClure, 2001). There has been a dramatic increase in suicide of young people of aboriginal descent over the last three decades and in indigenous settings it has become clear that a suicide contagion effect has been operating (Hanssens, 2012).

The impact of suicide is far reaching. Not only does suicidal behaviour cause immeasurable social and emotional costs to individuals, families, friends and communities, but it also has significant implications for the health and wellbeing of Australian society. In addition to this, there is a considerable economic cost, with Australia losing the equivalent of 9,183 years of productive contributions due to suicides of people under the age of 25 (Begg et al. 2007).

There are known risk factors for suicide across social, individual and contextual fields with corresponding protective factors which counteract the risk factors. Although there are a number of suicide prevention programs, empirical evidence regarding the effectiveness of particular youth suicide prevention programs remains largely absent (Suicide Prevention Australia, 2010).

Career pathways and transitions

As previously noted, around one in ten Australians between 15-24 years old are not in education, employment, or training. Outcomes for such individuals are more likely to include homelessness, lower levels of wellbeing, and higher civic disengagement (Foundation for Young Australians, 2012, pp. 16-17). Regarding employment specifically, most recent figures report that over 12 per cent of young people who are looking for full-time work are unemployed, equating to over 250,000 persons (ABS, 2014). Studies show that periods of unemployment during this stage can be significant and long term, reducing longer term wage rates and earnings over the life course, and increasing the likelihood of further and longer spells of unemployment (Mroz and Savage, 2001).

Interventions for young people who are not in education, employment or training seem common but few appear to be rigorously evaluated and assessed for cost-effectiveness. Many of these – such as employment and training programs – take place in a late-intervention/remedial context, with the aim of facilitating individuals into employment and/or further education, and in many cases off welfare payments. Such approaches are shown to produce positive outcomes for many involved, but can also come at high financial cost: for instance the *Jobs Corps* program in the US has been assessed to have costs which outweigh benefits by around \$10,000 per participant (Schochet, Burghardt, & McConnell, 2008).

Prevention and early intervention to improve career pathways and employment prospects are more likely to emerge in schools, through generic measures such as careers advice, vocational education and training (VET), and work experience. Some initiatives focus on children at risk of dropping out of school who are less likely to transition into other education and/or employment (e.g. *Career Academies*). Other programs for at-risk youth – such as *Operation Newstart* in Victoria – are delivered under a wider framework of individual social, emotional, and behavioural development, with a view to, among other things, yielding better engagement with education and employment.

Very few programs are reported in the literature that demonstrate outcomes which are well-supported by evidence. Many seem to be promising, and show immediate positive short-term effects on education and/or employment which are not sustained (or have not yet been measured) over time. In a meta-analysis of such programs, Hadley et al. (2010), extract some common themes among those that yield at least one positive outcome in educational and/or employment participation:

- Targeted programs aimed at low-income youth are often effective;
- Case management and/or mentoring can be effective methods for improving education and employment outcomes;
- Provision of child care for program participants has been associated with successful outcomes; and
- Programs which target youth early in their transition to adulthood are frequently more effective at improving education and employment outcomes (Hadley, Mbwana, & Hair, 2010, p. 2).

Examining the broad types of universal school-to-career programs, employment-outcomes data in the US suggests that cooperative programs (where students alternate between academic and vocational studies and a job in the field), internships with an employer, and apprenticeships are more likely to boost employment in the immediate post-school period. Meanwhile, school-sponsored enterprises (where students produce goods or services for sale) increase the probability of further education enrolment (Neumark, 2004).

Such research adds support to a combination of vocational education and 'real life' work experiences in improving career and employment outcomes, particularly for students who are not as academically engaged. This has obvious connotations in terms of the availability and delivery of VET within the education sector. Several analyses report positive outcomes for students who participate in VET programs in Australia in terms of employment and higher education participation (Gorgens, 2006). Elsewhere, a focus on specific vocational areas with links to educational content and engagement with real employers (for instance, in *Career Academies*), appear to be an effective means for engaging young people in careers and further education and employment progression

Table A8: Effective interventions for adolescents and youth

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
Preventing disengagement from school	Cararra	13-15 year olds at risk of disengagement from school	An intensive program for at-risk 13-15 year-olds who participate through the end of high school. The program adopts a holistic approach addressing context (school/family) and needs (supportive relationships, social services) as relevant - and provides a variety of services and activities, including health care, sexual health knowledge, academic/employment assistance.	Experimental evaluation over 3 years (with random assignment of 1200 students) found that program participation led to increased sexual health knowledge, health care and health behaviours, life skills and academic skills. Participation also reduced the likelihood of pregnancy and childbearing and increased the use of Depo-Provera for females / and reduced the likelihood of males' initiation of marijuana use (Philliber, Kay & Herrling, 2001 (Child Trends))	Benefits: \$7184; Costs: \$14,220; Benefits minus costs: -\$7,036. Measured Risk: 37 per cent (WSIPP, 2012)	Supported
	Check and connect	14-15 year olds at risk of disengagement from school	A dropout prevention strategy that uses close monitoring of school performance, combined with mentoring, case management and other supports. Enrolled students are assigned a monitor who regularly reviews their performance and attendance, advocates and supports and intervenes if problems are identified	Two studies, involving more than 200 students in US schools, found that the program had positive effects on staying in school and potentially positive effects on progressing in school. No discernible effects were found on completing school within four years of entering the program (NB information derived from the What Works Clearinghouse website)	Not available	Well supported
Promoting sexual health	Safer choices	Secondary students	The program aims to reduce unprotected sexual intercourse	Experimental evaluation over 3 years (with random assignment	Benefits: \$7184; Costs:	Supported

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
			by encouraging abstinence and, among students who report having sex, promoting condom use. Program includes: a school health protection council; the curriculum; a peer club or team to sponsor school-wide activities; parenting education; and links between schools and community-based services.	of 1200 students) found that program participation led to increased sexual health knowledge, health care and health behaviours, life skills and academic skills. Participation also reduced the likelihood of pregnancy and childbearing and increased the use of Depo-Provera for females / and reduced the likelihood of males' initiation of marijuana use (Philliber, Kay & Herrling, 2001)	\$14,220; Benefits minus costs: -\$7,036. Measured Risk: 37 per cent (WSIPP, 2012)	
Criminal justice	Multisystemic therapy	12-18 year olds at risk of committing crime	The program aims to improve family capacity to overcome the causes of delinquency and reduce criminal behaviour. Therapists work with young people and their families to address the known causes of delinquency (BHYD)	Multiple studies demonstrate the program impacts on arrests, violent offences, incarceration, substance use, teen pregnancy (BHYD)	Benefits: \$32,121 Costs: \$7, 370 Benefits - costs = \$24,751. Measured Risk: 98 per cent (WSIPP, 2012)	Well supported
	Functional Family Therapy	12-18 year olds at risk of offending	This is a short-term (30 hours) family-based therapeutic program which aims to improve communication and behaviour management skills	Multiple studies (including RCTs and studies with long-term follow-up) in several locations have demonstrated program benefits for recidivism for young people. This is a model Blueprints for Healthy Youth Development (BHYD) Program (for references see BHYD	Benefits: \$70,370; Costs: \$3,262; Benefits - costs = \$67,108; Measured Risk: 100 per	Well supported

Intervention type	Effective programs	Target population	Program aims	Outcome results	Cost benefit data	Level of evidence
				website)	cent (WSIPP 2012)	
Promoting community engagement and participation	Advance	Adolescents	School-based program that offers young people the chance to volunteer or implement a project that is of benefit to their community. Includes five elements: learning; training; delivering; recognition; decision-making	Mixed method evaluation of program has been conducted which reports improvements in youth participation in education, skills development, enhanced relationship with adults and the community, and greater community support for young people. A separate survey (pre/post) indicated some improvement in school performance.	Emerging	Not available
	Cadets (WA)	Adolescents	Stated purpose of program is to provide young people with an opportunity to participate in training which offers provision of practical life skills, development of leadership skills, promotion of teamwork and development of initiative	Evaluation reported positive impacts on participants' sense of community belonging, social skills and wellbeing (Building Blocks)	Emerging	Not available



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