

## Making Early Intervention work

### Can the new government improve on Social Investment with its focus on Early Intervention?

It's out with the old and in with the new. National's Social Investment approach is being replaced with a focus on Early Intervention. But the new government's focus should be on using evidence to support *timely*, if not always *early*, intervention. The health sector's experience with striking the right balance between prevention and cure offers valuable lessons that can help guide the way.

#### What does the Labour government mean by Early Intervention?

In announcing the Ministers and portfolios for the new Labour-led government, incoming Prime Minister Jacinda Ardern asserted, "Of course we support Early Intervention. What we want to do is see if that's truly what the investment approach was doing."<sup>1</sup> The new government hasn't had a chance to articulate what support for Early Intervention means, and it is likely that policy is still being formed. But there are some indications from pre-election promises, and also prior experience with Early Intervention that reveals the intended direction.

Early Intervention is aiming to address the most challenging socio-economic problems, in particular: childhood material deprivation, long-term benefit dependency, mental health problems, suicide, addiction, and intergenerational cycles of poverty and abuse.

On the campaign trail, Jacinda Ardern as Deputy Leader of the Labour Party said on May 13th, "Our policy will see School Based Health Services extended to all public secondary schools to ensure all students have access to a comprehensive youth health service... Depression and suicide risk were up to two-thirds lower in schools with comprehensive health services. Early Intervention works".

As Prime Minister, Ardern has taken on responsibility for child poverty reduction, reflecting her belief that child poverty is not only a short-term problem for children but a root cause of long-term negative impacts during adulthood.

#### Is prevention better than the cure?

Much public discussion around investments in early childhood is influenced by the work of economist James

Heckman and colleagues who have argued that the biggest gains in tackling social problems are made by investing in the "early and equal development of human potential".<sup>2</sup>

Heckman's research on the impact of early childhood programmes has led to a general belief that early childhood is always the best time to intervene – a notion that fits well within our cultural bias toward prevention versus cure – although recent work suggests Heckman's theory does not always hold true.<sup>3</sup>

The belief that an ounce of prevention is worth a pound of cure is nevertheless very much at the centre of the Early Intervention approach. But, as the health sector has learned over the last two hundred years,<sup>4</sup> there are many ways to practice prevention and so we can build on the lessons learned in designing an Early Intervention policy.

#### Timely versus Early Intervention

If a disease can be prevented from occurring, the health sector has sought ways to do so. In practice, however, early intervention has not always been cost-effective. The goal in the health sector has been to ensure *timely* intervention as opposed to *early* intervention.

Most interventions in the health sector can be thought of as prevention of some kind – preventing risk, preventing exposure, preventing disease or disability, preventing complications and adverse events, preventing pain, preventing premature death. These different types of prevention can be broadly categorised by three definitions widely used by health practitioners: primary, secondary and tertiary prevention, each of which has specific requirements for success (see Table 1).

<sup>1</sup> New Zealand Herald. "Jacinda Ardern reveals ministers of new government", 25 October 2017. [http://www.nzherald.co.nz/nz/news/article.cfm?c\\_id=1&objectid=11936599](http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11936599) (Accessed 25 October 2017)

<sup>2</sup> Much of Heckman's work, advocacy and current research can be found at <https://heckmanequation.org/resource/the-heckman-curve/>

<sup>3</sup> Rae, D. and Tony Burton, 'Is the Heckman Curve Consistent with the Empirical Evidence on Program Returns by Age?', preliminary draft, 21 June 2017.

<sup>4</sup> One of the earliest examples of preventive health policy is the formulation of standards for the location of public water pumps in London, which eventually followed the discovery by John Snow that cholera was spread through sewerage-contaminated drinking water.

**Table 1 Levels of prevention in the health sector**

Level of prevention	Definition	Requirements	Examples
<b>Primary</b>	Prevention of the onset of disease and disability before it happens by controlling modifiable risk factors.	Requires risk to be widespread or well understood, robust understanding of causal pathways, effective delivery mechanisms, and intervention with high impact relative to cost.	Vaccination against measles – successful because of deep understanding of epidemiology of disease, exposure risk, herd immunity, low rate of complications from intervention, intervention able to reach low per unit cost.
<b>Secondary</b>	Identification of disease or injury in its early stages (before symptoms are observed) and treat it to prevent the development of complications or lasting disability.	Requires ability to detect/diagnose with high degree of accuracy and progress quickly to cost-effective intervention appropriate for the early stage of disease.	Cervical cancer screening – successful because early diagnosis is accurate and treatment at an earlier stage is more cost-effective.
<b>Tertiary</b>	Rehabilitative interventions after disease has progressed to disability or complications, to minimise the impact of ongoing illness or disability, enhance quality of life, and prolong life expectancy.	Requires understanding of progression/epidemiology of disease, robust assessment criteria and guidelines for appropriate and cost-effective interventions at different stages.	Interventions to prevent respiratory complications in individuals with spinal cord injury – successful due to understanding of risk and high cost of complications. Prevention of spinal cord injury is of limited success.

Source: NZIER

Primary, secondary and tertiary prevention are levels of prevention that describe an intervention in terms of how early in the development of a problem the intervention is implemented. These approaches recognise that early intervention does not necessarily involve intervening early in life. However, in the health sector, as well as in other sectors where recent years' research into child development and in particular the development of young children's brains has been of interest, there has been increasing focus on the potential of two prevention approaches that involve early in life intervention: primal and primordial prevention.

Both primal and primordial prevention refer to *early-in-life* interventions (from conception through early childhood) to take advantage of the sensitive period of brain development which is thought to provide opportunities to deliver lasting impacts with short term interventions.

### When is Early Intervention not timely?

Experience has revealed three common scenarios in which early intervention is not timely.

**1. The problem that is to be prevented only occurs in a small segment of the population, the intervention is costly or can have adverse effects, and methods for identifying individuals who will develop the problem are error prone.**

High costs and adverse effects mean universal intervention may be unaffordable or unethical, and targeted approaches can cause unnecessary harms to some while denying treatment to some who need it.

**2. Behavioural factors are important and/or there are long time lags between the intervention and the time at which the problem may occur.**

Behavioural factors and time lags can reduce the ability of interventions to influence outcomes. In the years between the intervention and the time at which the problem being prevented might occur, lifestyle and other choices as well as external factors can reduce the impact of the intervention.

**3. The wider system does not support follow-through from early intervention.**

The lack of follow-through is often due to a lack of capacity. For example, an early diagnosis of cancer only improves outcomes if treatment can also be provided at an earlier stage.

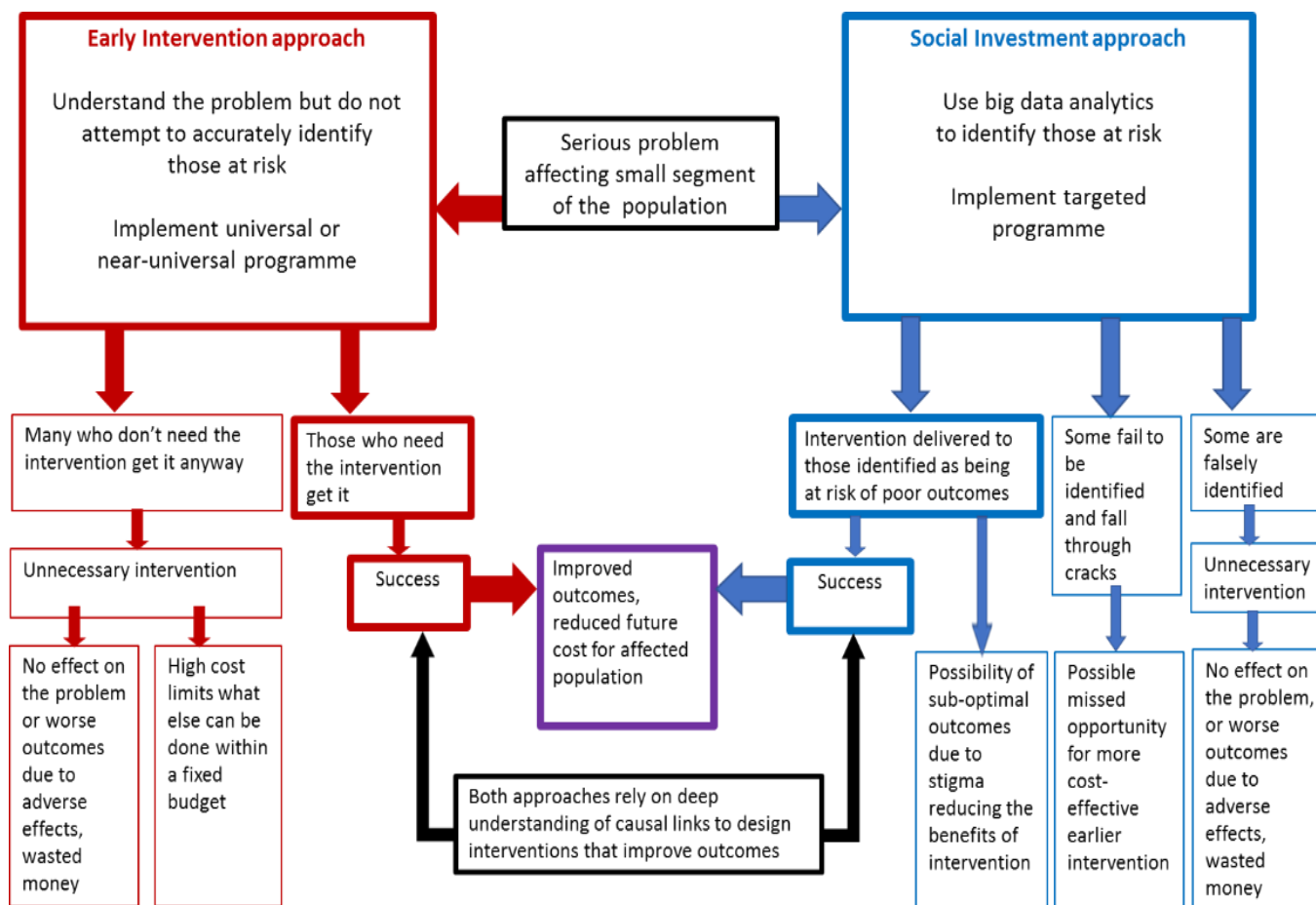
### Systematised use of evidence is needed

Understanding of risk and epidemiology, accuracy of detection, efficacy of treatments, treatment cost and features of the system are changing all the time. What was timely intervention in the past may not be timely in the future. Timely intervention requires constant research, evaluation of new interventions, and re-evaluation of existing ones to reveal the optimal time for intervention.

Quality and consistency of evidence and the way evidence is used<sup>5</sup> have been key to maintaining the balance between prevention and cure in the health sector and avoiding the pitfalls of early intervention. This has required systematised data and methods of research and analysis, as well as a systematised set of responses, including disease notification and surveillance.

The WHO and other medical and public health bodies,<sup>6</sup> have been significant contributors to setting up and running these systems, which did not appear and become effective overnight, or even in three years. It should be no surprise that New Zealand’s Social Investment approach is still in its infancy. Setting up these systems and disciplines takes many years. Early Intervention policy will face the same steep learning curve but can –and should –build on what has already been done<sup>7</sup>. There are risks and opportunities in both approaches, but a systematised approach to using evidence to identify when Early Intervention makes sense will be fundamental to ensuring success. (see Figure 1).

**Figure 1 Risks and opportunities of Early Intervention and Social Investment**



Source: NZIER

<sup>5</sup> See Kelly, G. (2016). A learning system for evidence-informed social policy. NZIER Insight 64/2016, October 2016.

<sup>6</sup> E.g. CDC, Public Health England and Britain’s National Institute for Health and Care Excellence (NICE).

<sup>7</sup> For more on this, see Crampton, E. (2017). Building on the success of others. The National Business Review, 27 October 2017.

## Can other sectors apply lessons from the health sector?

The New Zealand Productivity Commission argued in *More Effective Social Services*<sup>8</sup> that government agencies have missed opportunities for early intervention for people with complex and interdependent needs. Similar issues were raised by the Expert Panel on Modernising Child, Youth and Family.<sup>9</sup>

Although there are advocates of increased primary and even primal and primordial intervention in the health sector, it is difficult to find robust evidence of missed opportunities for early intervention in developed countries. This is because the easy wins of prevention by vaccination, sanitation and maternity care have already been made.

Much of what we take for granted in publicly-funded programmes is Early Intervention, delivered through universal or near-universal programmes, for example: pre-natal care, childhood vaccination, and primary education.

But is it possible that other parts of the social sector are still decades behind the health sector in implementing the easy-win solutions? This is likely, given that the wider social sector has not benefited from the systematised approach to evidence that the health sector has taken. There may well be opportunities for more universal programmes to tackle our biggest social problems.

Under the National Government's Social Investment approach, the focus on targeting appeared to imply that universal or near-universal interventions were off the table. This is clearly going to be a major change under the new government, with their promise to introduce a 'Best Start' payment to provide financial assistance to families with young children – a payment of \$60 per week for a baby's first year of life with 95% of all families with children in this age group being eligible to receive it.

## Political challenges for timely Early Intervention

The health sector has learned that prevention in general can be a hard sell no matter how timely it is, and it is especially so when it involves early intervention. The new government will find that there are three key political challenges inherent in the Early Intervention approach:

**1. Even successful early intervention does not carry the wow-factor associated with "miracle" cures because nobody sees the problem that might have developed without successful prevention.**

To maintain the focus, it will be important to demonstrate how reality is different and preferred to a counterfactual that many may not believe is even plausible.

Producing this type of evidence has been made possible by the IDI, provided appropriate data is collected and added as new programmes are implemented. There is also now an improved understanding of impacts being measured relative to an unobserved counterfactual, due in part to the Treasury's new approach to budget bids (CBAX).<sup>10</sup>

**2. The benefits of early intervention often do not accrue to the payer. Government is usually the payer but the benefits of greater tax revenue or reduced expenditure are generally modest compared with the private benefits of higher incomes, better mental health, improved quality of life and well-being, for a whole family with potential for intergenerational effects.**

The wider benefits will need to be valued. Discussion of measurement of well-being has already begun. Government needs to build on this and move toward relevant measures that can be added into the IDI and other tools like Treasury's CBAX model.<sup>11</sup>

**3. When Early Intervention involves intervening early-in-life, this is generally a long-term strategy requiring long term commitment.**

If interest is lost after a short time, the benefits of interventions may never come to light. Measuring and demonstrating intermediate outcomes like improved school readiness and child well-being will help to build on success and ensure continuity beyond the next election.

<sup>8</sup> New Zealand Productivity Commission, *More Effective Social Services*, August 2015, [www.productivity.govt.nz/sites/default/files/social-services-final-report-main.pdf](http://www.productivity.govt.nz/sites/default/files/social-services-final-report-main.pdf) (accessed 25 October 2017)

<sup>9</sup> Expert Panel on Modernising Child Youth and Family, *Expert Panel Final Report: Investing in New Zealand's Children and their Families*, Ministry of Social Development, Wellington, April 2016.

<sup>10</sup> The CBAX model, required for budget bids, is based on modelling the impact of an intervention relative to the counterfactual (what would be

true if the intervention were not implemented). Social sector agencies have had to learn to think about impacts relative to counterfactuals.

<sup>11</sup> The CBAX spreadsheet produces a return on investment to society as well as a return on investment to government based on a full range of private and public costs and benefits, but valuing well-being still needs to be built in.

## Key takeaways for Early Intervention

Timely intervention, which is different from Early Intervention, means intervening when we can achieve the best results for our money. The new Government's focus on Early Intervention is likely to involve increased investment in early-in-life and primary prevention. For such investments to be timely, stringent conditions must be met.

For early-in-life interventions, where the sensitive stage of brain development is the advantage:

- The problem and the intervention should be related to brain development in very young children, and
- The influence of behavioural factors needs to be minimised.

For primary prevention, where risk and causal pathways are generally not well-understood:

- The problem or the risk must be widespread,
- There must be effective delivery mechanisms for a universal or near-universal programme, and
- There must be minimal risk of adverse effects, and a high impact relative to cost.

The use of evidence is just as important to Early Intervention as it was to Social Investment. Systematised approaches to collecting and using evidence will continue to be key to ensuring the timeliness of interventions.

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