New Zealand's "Investment Approach"

A methodology to underpin targeting, personalisation and spending choices in public services

What Works in Prevention Workshop
30 March 2017

Investment Approach: What is it?

- A technical mechanism for achieving a cultural shift in targeting and delivery of public services.

- What it does:
  A. Shifts focus to lifetime, rather than current year cash costs (actuarial approach).
  B. Shifts focus to those in greatest need of long term help from public services – segmentation, risk profiling, triaging – and to “what works” for those individuals/groups/locations.
  C. Shifts investment to early intervention, where that will reduce long-term costs.

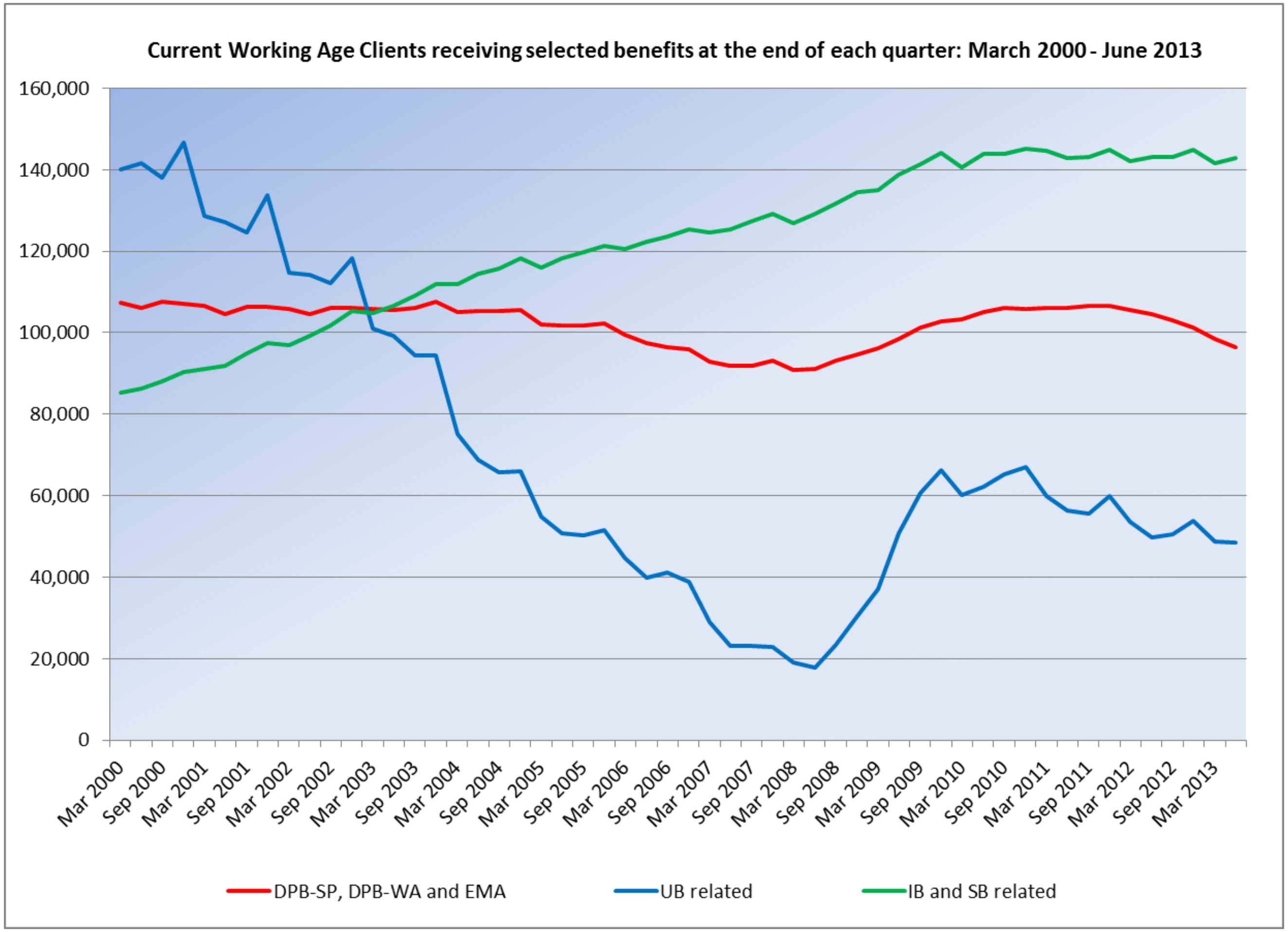
How does this link to prevention and early action?

Colin Mair:

“without some action of intervention, predictively negative outcomes will occur and the action taken will allow us to avoid or substantially mitigate that outcome. Prevention is anything that does that, not simply services and projects labelled as such.”

If so, you need agreement across all actors on the *method* for making those predictions and assessing the actions, and agreement to act on the results (even the less palatable ones).

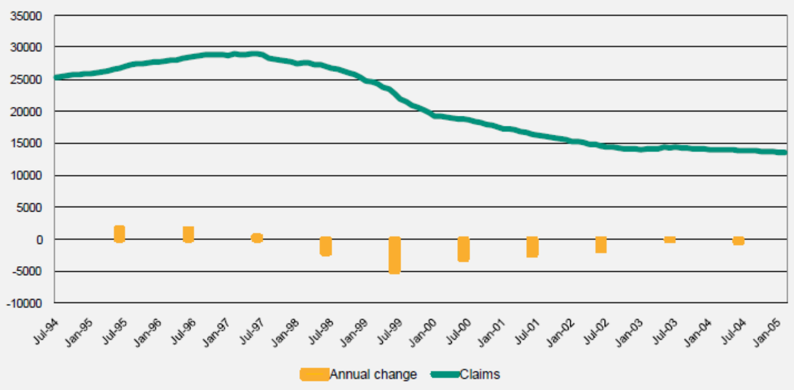
What was the driver?



Source: Ministry of Social Development, New Zealand

What did New Zealand do?
Looked at the experience of ACC

Figure 8.1: Long-term ACC claims 1994 to 2005



Source: ACC Annual Report 2002.

ACC Model – insurance based:

- Estimates *lifetime* rather than current year costs of all claims (future liability – required as an insurer to fund this).
- Uses the rich data from liability estimates to:
  - triage claims
  - focus spending where it will have the greatest impact on reducing the future liability - ie on “what works best”.

Model adapted for welfare/employability

Level I: ***Long term system outcomes***

- Annual valuation - total lifetime costs of all claims (external actuaries): approx. £43 billion.
- Makes this figure a KPI for the agency (with allowance for external cost drivers).

Level II: ***Knowing who to focus on***

- Segmentation to identify best predictors of risk and costs (risk profiling).
- Allows much more sophisticated triage and allocation of resources.

Model adapted for welfare/employability

Level III: *Knowing what works, and what works best*

- Impact on client outcomes assessed against a common metric .
- Initiatives expanded or cancelled.
- Analysis used to tailor interventions, monitor outcomes, set targets, monitor performance, allocate and prioritise budgets.

So:

- Creates a learning system .
- Makes the delivery agency *accountable* for taking a long term view and intervening early.

Level IV: *Evidence-based implementation*

- Tools for front-line practitioners that estimate probability of long term benefit receipt and lifetime costs, to:
  - guide decisions about which people to focus on
  - encourage investment in people who have the highest risk of remaining on, or cycling on and off, benefit
  - encourage intervention where it has the greatest impact over the lifetime.

A few other important points…

- Doesn't require matching of records of individuals.
- Different from traditional evaluation:
  - The liability shows where to look (probabilities, not causation), and then
  - Quasi-experimental methods used to evaluate the effectiveness of interventions in changing the liability.
- Doesn't imply cost-cutting – could be just as effective in getting more or better outcomes for every £1 spent.
- Possible risks of using a financial measure for success.

Adapting for other areas – e.g. vulnerable children

- Feasibility study underway.
- But we already know some things:
  - Using data from 2001 to present: found kids who have ‘touched’ the child protection system were a very high proportion of those who weren’t achieving in schools, on benefits, criminal outcomes.
  - Then used regression analysis to identify which characteristics observed in the linked admin data are most strongly linked to poor outcomes as an adult.

Vulnerable children: examples of results

Three strong predictors at age 5:

- kids known to CYF (care and protection agency)
- with a parent/caregiver with a sentencing history
- had been supported by benefit for 75% or more of their childhood.

At age 21, these kids are:

- five times more likely to have been referred to youth justice (23% cf 4.4% for kids overall).
- twice as likely not to have gained basic qualifications (75% cf 36%).
- five times more likely to have been on benefit for more than two years (41% compared to 8%).

The estimated costs of provision of social security, CYF and justice services for these children by age 36 are around $321,600 compared to $65,500 for all children.

And data used to provide a publicly-available tool

Social Investment Insights | Introduction | Data Visualisation

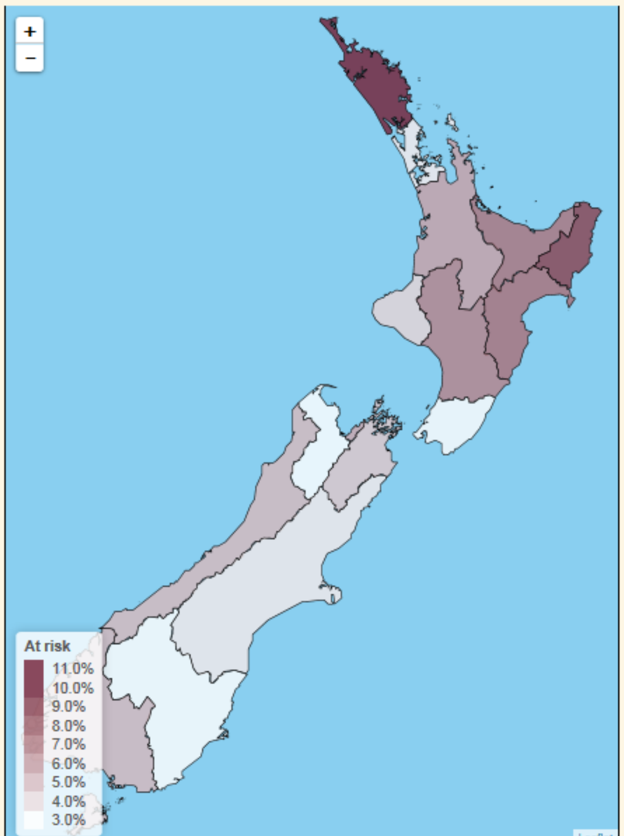
View Type: New Zealand

Geographical Unit: Region

Gender: Total

Age Group: 0-5 years

Risk Measure: 3+ Risk Indicators



Summary Information

Projected outcomes for '3+ Risk Indicators' risk group aged 0-5 years (Total NZ)

Outcome	At Risk		Not At Risk	
Population	19,449		343,383	
No Level 2 qualification	10,713	55.1%	86,196	25.1%
Referred to Youth Justice	3,591	18.5%	11,796	3.4%
Long term benefit dependent	4,779	24.6%	26,874	7.8%
Custodial/community sentence	4,998	25.7%	25,908	7.5%
Custodial sentence	2,295	11.8%	9,387	2.7%
Average projected costs	$228,312		$ 56,768	

Export Data to csv

Map Data

And data used to provide a publicly-available tool

Social Investment Insights | Introduction | Data Visualisation

View Type: Region

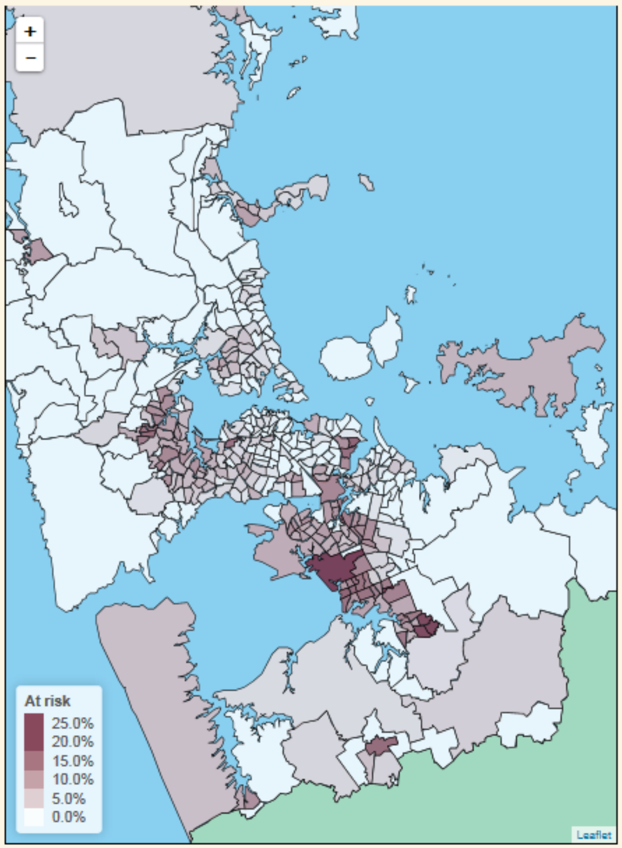
Choose Region: Auckland Region

Geographical Unit: Area Unit

Gender: Total

Age Group: 20-24 years

Risk Measure: In any of the above groups



Summary Information

Gender and Multiple Response Ethnic profile for 'In any of the above groups' risk group aged 20-24 years in Auckland Region

	Number	Percent
Female	3,090	42.2%
Male	4,230	57.8%
Maori	3,117	42.6%
NZ/European	2,904	39.7%
Asian	354	4.8%
Pacific	2,001	27.3%
Other	117	1.6%

Comparison of Auckland Region to rest of NZ for 'In any of the above groups' risk group aged 20-24 years

	Total	At Risk	Percent
Auckland	101,379	7,320	7.2%
Rest of NZ	190,542	20,781	10.9%

Projected outcomes for 'In any of the above groups' risk group aged 20-24 years (Total NZ)

Outcome (age 25 to 34)	At Risk		Not At Risk	
Population	28,098		264,111	
Custodial/community sentence	12,129	43.2%	13,287	5.0%
Custodial sentence	5,964	21.2%	3,576	1.4%
Long term benefit dependent	11,334	40.3%	14,313	5.4%
Average projected costs	$304,705		$ 45,524	

Export Data to csv

Map Data

How NZ Ministers are communicating this…

- “The investment approach will change the entire focus of the welfare system so that support is invested where it will make the biggest difference.”
- “We’re reforming the benefit system so it actively targets support to those who are capable of working, but are most likely to become long-term welfare dependent without some help.”
- “Million dollar kids”.

Predictive Analytics in Scottish Government

- The SG Strategy Unit undertook discussions with a range of organisations in 2016 to explore where PA already happening to support improved policy outcomes and where greatest potential to apply the approach elsewhere in SG

- As a result, the SG identified three areas for more detailed work:

  – probability of reoffending - to identify and assess the predictive power of characteristics and other information associated with reoffending behaviours
  – key factors associated with employment/unemployment transitions and durations for people with health conditions and/or disability
  – the risk and protective factors associated with young people's successful transition to employment.

Questions?