Industry	Business Issue	Solution	Benefits
Government	To provide social support and services to over 1 million New Zealanders and more than 100,000 New Zealand families.	SAS® Enterprise Miner SAS® Text Miner SAS® Model Manager SAS® Campaign Manager SAS® Visual Analytics	• Employment rising 9.3% in 2013. • 9.4 % drop in sole parents on benefits. • Benefit figures are at a five year low.

Transforming social welfare with analytics

Social welfare accounts for nearly a quarter of New Zealand's gross domestic product. Tasked with improving services while spending these funds responsibly, the Ministry of Social Development (MSD) is transforming its welfare system with the help of SAS® Analytics.

MSD is New Zealand's largest government agency. It spends $22 billion a year providing child protection and youth, family and employment services to more than a million New Zealanders in need. But with data showing that a startling 13 percent of the working population is on an adult benefit – many of whom had been on benefit for a decade – the agency knew a change was needed.

"The welfare system was not providing people with the support they needed to build a better future for themselves," says Paula Bennett, Minister of Social Development.

In 2010 the agency began examining ways of reducing long-term benefit dependency. MSD's research uncovered that a third of its total liability was attributable to those who entered the welfare system under the age of 18, and a further 40 percent was attributable to those who entered between 18 and 20 years old. It became clear if MSD was going to significantly reduce benefit dependency, it needed to focus its efforts on struggling young people.

A smarter strategy

Out of these findings emerged what MSD refers to as the "investment approach," a strategy designed to achieve better social and fiscal outcomes through smarter targeting of services. As with a commercial marketing campaign, the key objective is to optimize spending on various initiatives to achieve the best results. But while the private sector provides a more targeted service to increase customer

retention, MSD aims to use better targeting to improve outcomes and decrease retention – that is, support New Zealanders to be less reliant on the welfare system.

"By taking the same approach to data analytics that the corporate sector has been doing for decades," says Bennett, "MSD saw a huge opportunity to learn more about who receives benefit and to make better decisions about the support and investment they need."

The first step was creating a data model to estimate the risks of welfare dependency among the most vulnerable group: teen parents and young people unable to live with their families. By matching and analyzing data across several government agencies using SAS Data Management technology, MSD was able to predict the probability of this population going on to an adult benefit and, in turn, offer targeted services intended to reduce their long-term benefit dependency. Such services included being matched with a personal mentor, learning budgeting skills, and receiving more education or training.

The strategy worked, as findings revealed that those who received the extra investment moved onto an adult benefit at the lowest level since 2008, with employment rising 9.3 percent in 2013.

Better targeting, better outcomes

MSD decided to take its investment approach a step further and performed a baseline valuation of the entire welfare system. The agency used 20 years of historical data to calculate the lifetime cost of everyone in the welfare system. What it found was astonishing. The valuation showed that future unemployment benefit payments – where MSD's interventions had

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been focused – made up only 5 percent of the country's overall welfare costs. With the total lifetime cost of all beneficiaries at $78 billion as of 2011, there was clear value in extending the investment approach to other groups.

This insight led to a greater focus on identifying and targeting these high-risk groups. Using SAS Campaign Management, MSD can run real-time trials to determine what works fast and track the impact of different initiatives.

Last year MSD turned its attention to sole parents and, through targeted investments in education and job placement, was able to have 8,000 sole parents come off benefit – a 9.4 percent drop.

"This is light years away from how it was in the past … with every person on benefit getting the same support," says Bennett. "I now hear from sole parents every week who are grateful for the support they receive from case managers … people who are often the first to ask them what they want to do with their lives and then help them find work."

Protecting the vulnerable

Looking ahead, MSD is exploring the use of predictive risk modeling to help anticipate and curtail child abuse. Data shows that two-thirds of people on benefit at age 16 or 17 first came to the attention of MSD's Child, Youth and Family unit as children. Moreover, 90 percent of those recipients lived in benefit-dependent homes at some stage in childhood. A high correlation has been shown between child abuse and being in an environment that is welfare-dependent. "These programs are interlinked," says Bennett. "If we don't protect these vulnerable children, chances are extremely high they will end up trapped on welfare later in life."

One form of support for these young adults is MSD's Youth Service, a program designed to help them gain skills for employment through education, training and work-based learning. "Prior to Youth Service, most of these young people were disconnected from school and had no qualifications," says Bennett. "Now four out of five young people enrolled in Youth Service are in education or training. This is a great result, particularly when you consider the backgrounds of most of these young people. Many have come from dysfunctional or abusive families."

Signs of success

With analytics at the heart of welfare reform, MSD is using its huge amount of information to provide better support to those that need it. It has transformed the way MSD targets its service-based investments and has enabled the agency to concentrate efforts on those who need it most. This translates to greater savings of taxpayer money as well as better futures for people and their families.

After just a few years, early results of the investment approach have been positive. Benefit figures are at a five-year low, and with projected savings of $1 billion over four years, other government agencies are looking to follow in MSD's footsteps.

With technology as the tool for transformation, much of the program's success can be attributed to cooperation across government. Laws have been changed to facilitate the sharing of data between agencies, a move that has allowed MSD to see beyond case-by-case issues and gain a lifetime view of its clients.

"We have a golden opportunity in the social sector to use data analytics to transform the lives of New Zealanders," says Bennett. "And that's what we're doing."

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