



**MINISTRY OF SOCIAL
DEVELOPMENT**
TE MANATŪ WHAKAHIATO ORA

Report of the Enhancing Intake Decision-Making Project

Author

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Executive Summary

Background to the Enhancing Intake Decision-Making Project

In 2014, the Minister for Social Development commissioned a project relating to the use of statistical risk modelling within Child, Youth and Family (CYF) intake decision-making. The project was designed to understand whether the use of this information could enhance intake decision-making, where a concern has been raised regarding a child or young person, and a recommendation for a service response must be made. Potential benefits of this project include both a reduction in the number of unnecessary investigations undertaken by CYF, and better identification of those children, young people, and whānau who are a high priority for services. The resulting Enhancing Intake Decision-Making Project was the product of collaboration between Insights MSD, CYF, and the CYF National Contact Centre¹.

Intake decision-making context

In New Zealand, notifications regarding the wellbeing of a child or young person are reported to CYF or the Police

Under Section 15 of the Children, Young Persons and Their Families Act (1989), any person who believes that any child or young person has been, or is likely to be, harmed (whether physically, emotionally, or sexually), ill-treated, abused, neglected, or deprived may report this matter to CYF or the Police. As empowered by this legislation, every year CYF receives notifications regarding the alleged abuse or neglect of about 100,000 unique New Zealand children and young people. Often, these children and young people do not experience just one instance of alleged maltreatment, with a significant proportion experiencing repeated notifications across their lifetime.

The CYF National Contact Centre and FVIARS committees are primarily responsible for making triage decisions regarding these children and young people

The CYF National Contact Centre and the Family Violence Inter-Agency Response System (FVIARS) are the primary organisations tasked with assessing and making decisions regarding these notifications. It is also worth noting that since its establishment in 2014, the Vulnerable Children's Hub has been an increasingly important part of this process. After receiving a notification, the Contact Centre is responsible for a 'triage decision', which involves a judgement about the level of care and protection related concern surrounding a child or young person, and the recommendation of an appropriate service response. The FVIARS committee is responsible for similar intake decisions regarding cases of family violence reported directly to the Police. In 2014, the intake decisions

¹ The National Contact Centre, also referred to as the Contact Centre, provides the initial point of contact for anyone in the community who has concerns about a child or young person's welfare. Notifications can come in the form of calls, emails, letters or faxes from a range of notifiers, including family members, members of the wider community, Health or other practitioners, schools, Police and courts.

made by these two organisations resulted in the referral for further assessment of more than 41 percent of those children and young people notified.

Intake decision-making is complex and subject to a range of environmental factors

The intake decisions made regarding care and protection notifications are complex and subject to a number of uncertain environmental factors, for example, time pressures and incomplete information. These decisions also have significant consequences for the children, young people, and whānau involved. A failure to intervene when required can result in serious negative outcomes. Similarly, interventions that are not required are costly and may result in additional harm. Despite their importance, these decisions are often made within a time-pressured environment, using information that is uncertain or incomplete. Given these constraints, intake decision-making may benefit from the use of additional tools, which have the potential to improve overall effectiveness.

Nature of the Project

This project was designed to determine whether statistical risk model information can support the intake decision-making process

Internationally, a range of aids have been developed, both within the care and protection field and others, which have the potential to improve the effectiveness of decision-making. These tools include statistical risk models developed from administrative data², which may be used to improve decision-making, effectively target services, and form part of a strategy to achieve better outcomes for children and young people. This project was designed to assess whether a statistical risk model tool could be used to support intake decision-making within a New Zealand context. The project aimed to explore whether decision-making could be improved by the use of statistical information highlighting the level of underlying risk experienced by those children and young people notified to CYF with a care and protection concern.

To achieve the overall objective of the project, three phases of work were undertaken

The overall objective of the Enhancing Intake Decision-Making Project was to answer the specific question: Could care and protection intake decision-making be improved by giving social workers access to a statistical risk tool? To achieve this overall objective, three main phases of work were undertaken:

1. Developing a statistical risk model specifically tailored to the New Zealand care and protection intake system.
2. Developing a means of putting this statistical risk model into operation within an intake decision-making environment.
3. Trialling the use of this information within a non-operational context at the National Contact Centre, and collecting feedback from social workers relating to their perceptions of this tool.

² Data collected incidentally as part of recording keeping, generally as part of providing a service. This data can include individual's names, demographic information, and the particular service provided.

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A statistical risk model was developed to assess the likelihood of children and young people experiencing a care and protection concern

The first phase of the project was designed to answer the following question: Can administrative data be used to build a statistical risk model that is more accurate than existing intake decision-making? This phase of work initially involved creating a dataset from CYF and Work and Income information, which was then used to develop a measure of *estimated concern* for each child or young person notified to the contact centre. Using this measure, a number of models were designed to predict whether a child or young person required further assessment by CYF, and the accuracy of the best model was compared against existing decision-making.

The operational use of statistical risk model information was refined through analysis, design, and testing work

The modelling work suggests that a statistical risk tool has the potential to provide important new information to assist social workers making intake decisions. However, putting this information into operation within an intake decision-making context is not straightforward. In order to apply this information within a practice context, the second phase of the project sought to answer the question: How could the output of a statistical risk model be used within an intake decision-making environment? This phase of the project used analysis, design, consultation, and testing work to develop a Background Risk Indicator, which was accompanied by associated guidance and training information. The overall approach reinforced the primary role of professional judgement within decision-making, particularly within cases containing serious care and protection concerns.

The 'Background Risk Indicator' was trialled within a non-operational context at the CYF National Contact Centre

Following the development of the Background Risk Indicator, the next phase of the project involved answering the specific questions: Would social workers apply the Background Risk Indicator within their decision-making in a safe and expected manner; and, what were the views and perspectives of social workers given access to the Background Risk Indicator? In order to achieve this objective, the trial involved simulating the intake decision-making environment at the National Contact Centre. The trial was designed to assess the impact of different Background Risk Indicator scores across three different levels of care and protection related concern. The trial also involved gathering feedback from social workers regarding the effectiveness of training, their perception of the Background Risk Indicator, and their views on using this information within decision-making.

Key findings of the Project

Results from the project demonstrate that a statistical risk model has the potential to improve the effectiveness of intake decision-making

The overall findings of the Enhancing Intake Decision-Making Project suggest that using statistical risk model information, in the form of a 'Background Risk Indicator', has the potential to improve care and protection intake decisions. Results from the trial highlight that when this information is used successfully, social worker decision-making is influenced in a safe and expected manner. These results suggest that the potential for

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more effective decision-making provided by the model could be realised, which may result in improved outcomes for New Zealand children, young people and whānau. While further development work is warranted, these results provide a clear platform for progressing towards an implementation phase.

The key findings of the project are summarised in the table below.

Feasibility testing indicates that a statistical risk model can be developed from linked administrative data held by MSD, which has the potential to improve the effectiveness of care and protection intake decision-making

- In past years, CYF has received notifications about care and protection concerns for 100,000 unique children and young people each year. In 2014, for a subset of this group with reliable data, about 63 percent were referred to local CYF sites for further investigation or services.
- The project developed a measure of *estimated concern* in order to assess the accuracy of intake decisions. The measure used information about what happened after the referral decision (either further intervention on the part of CYF, or a further report of concern within the following two years) to estimate if there was a care and protection concern for the child or young person. This approach provides a reasonable measure, but will not be correct in all circumstances.
- Based on the measure of *estimated concern* that was developed, existing intake decision-making is accurate in about 60 percent of cases.
- Using historical data, the statistical risk model appears to be around 6 percentage points more accurate than existing intake decision-making. The model was able to refer an increased proportion of children and young people where there was an *estimated concern*, as well as fewer children and young people where there was not a concern.
- As is good practice, ethnicity was not included as a variable in the model. When it was added in order to assess any remaining contribution, it added only a minor increase to the accuracy of the model's decision-making.
- The increase in accuracy provided by the statistical risk model was broadly comparable across different ethnic groups, although the model refers a higher number of Māori children and young people than under the status quo. The reason for this higher referral rate is currently unknown, and further work will be required to better understand this finding.

A 'Background Risk Indicator' was developed as a way of using statistical risk model information within intake decision-making. The results of a non-operational trial suggest that the Background Risk Indicator would be used by social workers in a 'safe' and 'expected' manner

- On average, roughly 15 per cent of decisions were changed after social workers saw the Background Risk Indicator. The size of these changes was modest, reaching statistical significance in some cases.
- 74 per cent of social workers made at least one change after seeing the Background Risk Indicator, but only 13 per cent made four or more changes.
- The referral rate of social workers appeared to be slightly more responsive to the Background Risk Indicator when it suggested a higher rather than lower risk, implying that the use of the tool carries a risk of increasing overall rates of referrals.
- No social workers made unsafe decisions in response to the Background Risk Indicator. This meant that in cases where the presenting information suggested a serious care and protection concern, low or medium Background Risk Indicator scores were appropriately disregarded.
- In cases where social workers changed their decision after seeing the Background Risk Indicator, all but two of these changes were in the expected direction ie increases or decreases in the referral rate or urgency of referrals were observed, depending on whether the Background Risk Indicator score was high or low.
- In instances where social workers changed their decision, they indicated that they were broadly comfortable with applying the Background Risk Indicator, and many saw the tool as a positive addition to their decision-making processes.
- A majority of social workers felt the training they received prepared them well for using the Background Risk Indicator, and were confident that they understood the concept of this tool.
- A small number of social workers were not receptive to the Background Risk Indicator, perceiving the tool to be narrowly focused on identifying risk, based on poor quality data, unsuited to a strengths-based approach to social work practice, and unable to account for cultural differences.
- Prior to seeing the Background Risk Indicator, results from the trial highlighted variation in the intake decisions made by social workers on the same case. There was no evidence that the Background Risk Indicator reduced this variation.

Along with these direct findings, the Enhancing Intake Decision-Making Project has also generated considerable insight into future work that may be required to support putting the tool into operation. These considerations are summarised in the table below.

- This work has underlined the importance of the National Contact Centre, local FVIARS Committees, the Vulnerable Children’s Hub, and CYF sites to intake decision-making. There would be value in considering whether, and how, to also provide those decision-makers with statistical risk modelling information to help ensure effective implementation.
- Any implementation of statistical risk modelling would be likely to impact on short and long-term referral rates and workloads for CYF and its partners, and this should be understood ahead of any implementation. It is also likely that the implementation of statistical risk modelling will require increased resourcing of preventative services.
- Existing administrative data is not always consistent. Effective use of statistical risk modelling would require resources to be invested in developing robust and consistent administrative data.
- Drawing on a wider range of data from other agencies has the potential to enhance the accuracy of a statistical risk model, and this merits further investigation.
- Social workers stated that their trust in an indicator would be enhanced by a model that drew on familiar and plausible factors. To improve decision-making, they wanted to see these underlying factors presented, as well as the overall indicator.
- Input and governance by frontline practitioners will be an essential part of implementing the model, and ensuring that any associated training is effective.
- Implementation of statistical risk modelling could impact on referral rates for Māori children and young people. Early engagement with Māori academics, service providers, and other stakeholders ahead of any implementation would be highly valuable, particularly given long-standing concerns about the high proportion of Māori children and young people already within the care and protection system. This work would also need to ensure the availability of appropriate services, which could meet the needs of Māori children and young people, and their whānau.
- There should be adequate monitoring, process and impact evaluation of any implementation of a statistical risk tool. One approach for assessing the impact of any tool on decision-making would be the ‘before/after’ decision approach used in the National Contact Centre trial.
- An IT investment cost will be required to put a statistical risk model into operation.
- Any implementation of the statistical risk model will require an assessment of associated privacy and ethics issues.