



10 October 2012

C59531

Joshua Grainger
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Dear Mr Grainger

I am responding to your email of 18 August 2012, in which you seek under the Official Information Act information in relation to the RoC*RoI measure. As you are aware, the Department extended the timeframe while it was preparing its response.

It may be helpful if I first address two issues which you raise at the end of your email.

The first of these is that you quite correctly note that there are a number of factors such as drug and alcohol abuse which are associated with heightened risks of reoffending. There is a well-developed literature on the relationship between such factors, called dynamic risk factors, which are properties of the individual and their circumstances which have a bearing on future offending risk.

The RoC*RoI measure is based solely on basic demographic factors (such as age and gender) and a multiplicity of criminal history variables involving such matters as the type of offence, the seriousness, the number and length of imprisonments, and the time at liberty in the community between periods of imprisonment. These are usually termed *static* predictors of criminal behaviour and the RoC*RoI model was developed on a very large dataset – in total 133,000 criminal histories – and this permitted the use of quite sophisticated statistical manipulation which allowed us to not only calculate the degree to which each factor contributed unique predictive variance to the outcome of reoffending and future imprisonment, but also permitted the assessment of the complex interaction effects between a whole host of predictor variables and the ultimate outcomes which we wished to predict.

Having said that much, the RoC*RoI measure is used within a Corrections environment primarily as a screening tool which flags those individuals at high risk for more intensive intervention and allows for a sensible prioritising of scarce (and expensive) rehabilitative and other resources.

In fairness I should point out that there is still quite some debate in the criminal justice field as to the relative merits of static and dynamic factors in prediction with some practitioners, particularly those of the Canadian school, arguing that

risk assessment should primarily focus on this latter group of variables, as these are the ones that are amenable to change. Conversely, other researchers have pointed out, with some justification, that adding of dynamic factors to statistical prediction may decrease rather than increase accuracy.

With regard to the second point about a computer providing estimates of risk, I think it is now widely acknowledged that a structured, empirically based statistical approach to risks assessment invariably outperforms the judgements of experienced professionals, be they psychologists, psychiatrists, seasoned prison staff, or parole boards. The reason for that is that mathematical models can simultaneously consider the contribution of multiple variables, the varying degrees of influence which they bring to bear, and the often significant interaction effects between a wide variety of predictor variables.

In practice, of course, in the Department detailed risk assessments undertaken by staff will combine the information from well-validated risk measures, such as the RoC*RoI, with a structured assessment of those other personal, contextual, and reintegrative variables which have been empirically demonstrated to show a relationship to downstream reoffending.

To assist your understanding of the tool, I direct you to the following publication that provides further information regarding the use of RoC*RoI:

- Risk of Reconviction: Statistical Models which predict four types of re-offending

This is a Departmental publication on the measures, which was written for the intelligent layperson. The document provides a good background to the variables which were employed and also information as to the accuracy of these models when applied to novel data.

The following link will provide you with additional information about RoC*RoI and also contains a link to the above mentioned publication:

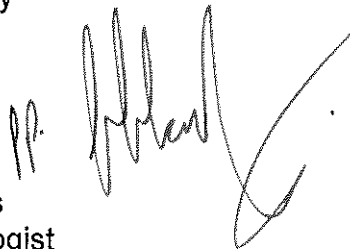
<http://www.corrections.govt.nz/research/risk-of-reconviction.html>

As mentioned in an email to you of 8 September 2012, we were considering providing you with a hard copy of a detailed statistician's report authored by Dr A J O'Malley (Statistical Model for Recidivism, 1996). This document provides an in-depth discussion of the detailed investigations which gave rise to the RoC*RoI, together with a much fuller description of the mathematics involved. The document is currently under copyright and we are therefore not prepared to provide you with an electronic copy.

We have not received a postal address from you so cannot provide you with a hard copy of the document. We are withholding this document under section 18(d) of the OIA as the document is publicly available. If you would like to read this document, you can place a request through your university library, as the document is available through inter-loan from the Department of Corrections information centre.

I trust this information is of assistance to you. However, if you are dissatisfied, you have the right to ask an Ombudsman to investigate the response. The contact details are Office of the Ombudsmen, PO Box 10152, Wellington 6143.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Nikki Reynolds', with a long horizontal flourish extending to the right.

Nikki Reynolds
Chief Psychologist
Service Development