

**In the Waitangi Tribunal  
Kei Mua I Te Roopuu Whakamana I Te  
Tiriti O Waitangi**

**WAI 2575**

**WAI 2003**

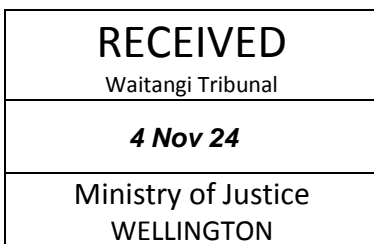
**Kei Raro I Te Mana O** te ture o Treaty of Waitangi Act  
1975

**AA**

**I Te Take O** the Health Services and Outcomes  
Inquiry

**AA**

**I Te Take O** teetahi kereeme naa Cheryl Turner  
raatou ko John Klaricich, Harerei  
Toia (kua mate), Ellen Naera, Fred  
Toi, Warren Moetara, Hone  
Taimona maa ngaa hapuu o Ngaati  
Korokoro raatou ko Ngaati Wharara,  
Te Pouka (Wai 2003)



**Summary Brief of Evidence of Dr Richard Meade  
in Reply to Crown Witness Dr Bronwyn Croxson  
Dated this 3<sup>rd</sup> day of September 2024**

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# Ki Te Hakaāae Mai I Te Roopuu Whakamana I Te Tiriti O Waitangi

## 1. Introduction

1. My full name is Richard Brent Meade. I am an economic consultant and researcher. I live in Epsom, Auckland.

### 1.1 Background and Experience

2. Details of my background and experience were set out in my primary brief of evidence (**Primary Brief**) dated 13 June 2022.
3. The only material changes in my credentials between filing that Primary Brief and now are that I was appointed an Adjunct Associate Professor at Griffith University in October 2023, and I retired as President of the Law & Economics Association of New Zealand in June 2024 (though remain on the LEANZ organising committee).

### 1.2 Code of Conduct for Expert Witnesses

4. As in my Primary Brief, I confirm that I have complied with the code of conduct for expert witnesses.

### 1.3 Scope of Evidence

5. In this brief of evidence in reply (**Reply Brief**), I have been asked to comment on a brief of evidence for these proceedings provided by Dr Bronwyn Croxson (**Croxson**

**Brief)** dated 25 January 2024.

## **1.4 Summary**

- 6.** By way of summary, in this Reply Brief I highlight important areas of agreement between Dr Croxson and myself, including our agreement:
  - a.** As to my basic approach for estimating disability support services (**DSS**) underfunding for Hauora Hokianga;
  - b.** That my omission (due to lack of definitive data) of certain Northland DSS funding streams from my underfunding estimates means those estimates are lower than they ought to be (all other things being equal);
  - c.** That it is important to use disability rates applicable in specific locales (i.e. Hokianga, and Northland excluding Hokianga), and also to apply disability rates appropriate to different age groups and ethnicities – all of which I have done despite Dr Croxson mistakenly stating that I had not;
  - d.** That linear interpolation is an appropriate way to estimate missing data for slow-moving variables (such as population);
  - e.** That converting historical underfunding estimates to their current (i.e. December 2021) value – allowing for

opportunity cost – requires those estimates to be compounded at some suitable rate;

**f.** That due to key uncertainties in certain input variables, it is important to test the robustness of my underfunding estimates using alternative assumptions and a range of estimates (which I have also done – despite Dr Croxson suggesting the contrary – and which I extend in this Reply Brief); and

**g.** That my DSS underfunding estimates should allow for any third-party (i.e. non-Hauora Hokianga) DSS funding in the Hokianga. However, I show below that my omission of funding for third parties that provide DSS in the Hokianga is largely immaterial for my DSS underfunding estimates because such third-party funding appears to be minimal.

**7.** I further show that uncertainties relating to gaps in Northland DSS funding data for 1996-2008 are relatively immaterial, but that uncertainties relating to Northland DSS funding that was not included in my underfunding estimates – which only suggest those estimates should be higher, and possibly considerably so – are much more likely to be material (which I demonstrate in this Reply Brief).

**8.** I then explain that while a number of my input variables (e.g. Hokianga population, and sub-national disability

rates) might have been measured with some imprecision, Dr Croxson has offered no evidence that this is the case (or evidence showing the extent of any such imprecision). I further explain why such uncertainties do not bias my underfunding estimates in any given direction (i.e. they might bias them downwards rather than upwards), and nor do they clearly invalidate my estimates or render them unreliable.

9. Likewise, I explain why my choice of estimating DSS underfunding by comparing disability funding at a sub-national population level rather than for comparable organisations serving similar populations also does not clearly invalidate my estimates or render them unreliable (Dr Croxson has not provided any evidence showing the contrary).
10. I also explain the well-established economic principles relevant to converting historical underfunding estimates to their current value (i.e. to reflect opportunity cost associated with underfunding), and further explain how the resulting approach of compounding those estimates at market interest rates understates their true current value, and hence is conservative. I also show that Dr Croxson's proposed CPI-only alternative is inconsistent with those principles.

## **1.5 Conclusions**

- 11.** In conclusion, any modelling exercise, such as the current exercise to estimate Hauora Hokianga’s historical DSS underfunding (if any), requires resort to data that may have been measured imprecisely or incompletely, requiring the modeller to adopt measures to address such shortcomings, including modelling approaches that are either robust to such uncertainties, or incorporate features to test the sensitivity of results to changes in uncertain key variables.
- 12.** The approach I adopted in my Primary Brief explicitly incorporated such measures to ensure my underfunding estimates were robust, first and foremost by adopting conservative assumptions for a range of key inputs, most important of which being my assumed DSS funding for Northland excluding Hokianga, which Dr Croxson and I agree omits certain key DSS funding sources, and hence which unambiguously under-states the relevant funding and therefore also my estimates of Hauora Hokianga’s DSS underfunding:

  - a.** Relatedly, I show that allowing for third-party DSS funding in the Hokianga has no material impact on my underfunding estimates.
- 13.** Secondly, in my Primary Brief, I tested the sensitivity of my results to both key assumptions (e.g. using smoothed Northland DSS funding instead of actual and interpolated funding) and also key modelling decisions (e.g. allowing

for opportunity cost arising from underfunding or not, and scaling national disability rates using the rates for Northland sub-populations or not). In this brief I present further sensitivity analyses which underline the (potentially substantial) conservatism of my underfunding estimates.

- 14.** Additionally, contrary to Dr Croxson's claim that it is "more usual" to adjust historical underfunding amounts by only CPI changes when converting historical underfunding to its current value, I show below that this approach is inconsistent with well-accepted economic principles and approaches, which latter principles and approaches I have applied.
- 15.** For these reasons, I continue to consider that my estimates of historical DSS underfunding for Hauora Hokianga are robust, and remain very conservative, even after adopting Dr Croxson's approach for treating uncertainties in Northland DSS funding data for 1996-2008.
- 16.** As such, I believe the Tribunal should be confident in relying on the underfunding estimates in my Primary Brief, being \$68.6 million in the Base Case (allowing for opportunity cost by compounding at deposit rates), as they are based on a sound methodology, use the best-available data, and are more likely to be too low than they are to be too high:



a. These estimates are as at December 2021, so will be even higher as at the date of this Reply Brief, and higher still by the date of any Tribunal decision.

17. Finally, I note that Dr Croxson has not tabled any alternative underfunding estimates, let alone estimates that are clearly more reliable than mine.

**Dated** at Auckland this 3<sup>rd</sup> day of September 2024

**Dr Richard Meade**