Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.
THE SEARCH FOR A
ROUTINE OUTCOME MEASURE FOR
MULTIDISCIPLINARY INTERVENTIONS
WITH YOUNG PEOPLE
IN NEW ZEALAND

A thesis presented in partial fulfilment of the requirements for the degree of
Doctor of Clinical Psychology
at Massey University, Manawatu campus, New Zealand.

Amber Barry
2011
Routine outcome measurement in mental health services is becoming standard practice around the world and has benefits for the public, researchers, funders, managers, and most importantly clinicians and clients. New Zealand's child and adolescent mental health services mandated the use of the *Health of the Nation Outcome Scale for Children and Adolescents* in 2005. Unfortunately, this decision was not based on a systematic or comprehensive review of available measures, as had been the case overseas. This research aimed to identify and recommend a measure that was psychometrically robust, feasible, and useful to multidisciplinary practitioners in New Zealand. The six studies conducted also contributed to the scarce literature on practitioner's opinions about routine measurement and the suitability of an overseas measure for a New Zealand population. A postal survey and focus groups with practitioners indicated mixed support for outcome measurement, with few measures identified or recommended by participants. Although many barriers were endorsed, the reasons to use measures were generally rated as more important. An extensive search of the international literature provided an up-to-date review of outcome measures for young people. From the initial 1665, six short-listed measures were reviewed by experts and practitioners before the *Ohio Youth Problems, Functioning, and Satisfaction Scales* was recommended as most suited for multidisciplinary interventions. Two further studies provided preliminary data about the Ohio Scales' (developed in the USA) suitability for use in New Zealand. Consultation with clinicians, parents, and young people indicated minor wording changes would improve its appropriateness for New Zealand. Then, a New Zealand field-test indicated the psychometric properties of the measure were preserved, but significantly different scale scores were found in comparison to a community sample from Ohio, USA, although this could have been a product of the small sample size. The Ohio Scales offers clinicians the necessary balance between breadth of content, brevity, and psychometric strength for its use to benefit their practice and the organisations they work in.
This thesis has involved many people and I am grateful for their assistance, support, and guidance. Bringing together the variety of studies that make up this research could not have happened without the input of university staff, research and clinical colleagues, family, friends, and, most importantly, the organisations and individuals who took part. I would like to acknowledge their input here.

Thank you to my thesis supervisors, Prof. Ian Evans, Dr Shane Harvey, and Ms Cheryl Woolley, and the university staff who assisted me through this process. I am grateful for the financial support that made this research possible. This included funding from the High and Complex Needs Unit, the School of Psychology (Graduate Assistantship and doctoral research funding), the Doctoral Research Committee (Massey Doctoral Scholarship), and the Vic Davis Memorial Trust (Post-graduate Mental Health Practitioner Training Scholarship). Research and clinical colleagues have provided valuable suggestions, mentoring, and support over the last few years. Thank you particularly to John Fitzgerald, Simon Bennett, Don Baken, Ella Kahu, Jan Dickson, and Sarah Malthus. I would also like to thank Ben Ogles (developer of the Ohio Scales) for his generosity in allowing me to adapt his outcome measure for this research.

My appreciation for the unwavering encouragement, patience, and faith of my family and friends is huge. There are too many people to name specifically, but my special thanks go to Felicity, Josh, Mishka, Jake, Trudy, Sylvia, Sarah, Jo, Claire, Renee, Mel,
Di, John, Liesje, Laura, Rif, Melanie, Liz, Ana and Annette. I would like to especially acknowledge those who shared with me the internship, thesis retreat, and TAG meetings; you've been wonderful.

Finally, I am so grateful for the help of everyone around New Zealand who took part in this research. The High and Complex Needs Unit and the practitioners who participated in the survey or focus groups were so generous with their time. Thanks also to the school principals and teachers who kindly distributed the Ohio Scales. To the anonymous students and parents who completed those forms, thank you for your willingness to advance applied psychological research by sharing your personal information. Similarly, the carefully considered feedback on the Ohio Scales that was supplied by clinicians, parents, and young people was very much appreciated. I am so pleased and thankful that you helped fill the pages that follow with your contributions.

*Thank you very much to everyone mentioned here, and to those who are not, but who were part of the process in small, but important ways.*
This thesis presents six studies on the topic of outcome measurement with young people in New Zealand. The first four studies were funded by a research contract with the High and Complex Needs Unit (HCN). The HCN Outcome Measurement Project was undertaken by a team of five clinical psychology researchers, of which I was a part. These studies were presented in a final report to HCN (Harvey, Barry, Fitzgerald, Evans, & Bennett, 2007), which is now publically available on their website. I would like to acknowledge the work of the team and make clear my contribution to the project and its connection to this thesis. It should be noted that from the outset of the project, it was agreed by the Principal Investigators (Prof. Evans and Dr Harvey) that the work I contributed would be considered suitable for submission as my doctoral thesis.

I was involved in all aspects of the project from writing the initial proposal to the oral presentation of the findings to HCN staff. While individual team members worked on specific studies, I was involved in all four, to varying degrees, as follows:

- **Practitioner Survey** – involved in the design of the survey and analysis of the data
- **HCN Advisor Focus Groups** – involved in the development of the questions and recruitment of participants, was one of three facilitators, conducted independent analysis of the transcripts
- **HCN Practitioner Focus Groups** – involved in the development of the questions and recruitment of participants, was one of two facilitators, conducted independent analysis of the transcripts
- **Measure Review** – (led this study) completed the search in its entirety, was one of two researchers screening the results, one of four reviewers of the final measures
In addition, the written work presented in the HCN report is not replicated exactly in this thesis. The chapters here were written by me using the data and analysis from the original project (in addition, the introductory chapters, the two additional Ohio studies, and the concluding chapter are my own work, independent of the HCN project/report). Parts of Chapter 8 are drawn from a second contracted report completed for HCN (Barry, Baken, Fitzgerald, Evans, & Harvey, 2007), which is not publicly available. Those parts were written by me originally, and small, relevant portions have been adapted for use in this thesis. The two reports referred to in this note are:


# Table of Contents

**Abstract** ........................................................................................................................................... I  
**Acknowledgments** ................................................................................................................................. II 
**Author’s Note** ........................................................................................................................................ IV 
**Table of Contents** ..................................................................................................................................... VI 
**List of Tables** .......................................................................................................................................... XIII 
**List of Figures** .......................................................................................................................................... XIV 
**List of Abbreviations** ............................................................................................................................ XVI 

**Chapter 1 – Outcomes and their Measurement** .................................................................................. 1  

*The rise of outcomes* ................................................................................................................................. 2  
Early mental health services: Therapy is un-measurable ................................................................. 2  
A shift: Symptoms and therapy are measurable ................................................................................. 2  
Economics and the provision of effective treatments ....................................................................... 3  
From effective services to effective people ......................................................................................... 4  

*Outcome measurement* .......................................................................................................................... 5  
Definitions .................................................................................................................................................. 5
Outcome measures .................................................................................................... 6
The benefits of measuring outcomes ........................................................................ 8
Research, policy, and funding...................................................................................... 8
Organisation, agency, or service ............................................................................... 10
Clinicians, young people, and their families ............................................................ 11

CHAPTER 2 - ROUTINE OUTCOME MEASUREMENT ............................................. 15

Routine outcome measurement ................................................................................ 15
Requirements of a good outcome measure ............................................................... 16
Psychometric profile.................................................................................................. 17
Usefulness.................................................................................................................... 17
Feasibility..................................................................................................................... 19

Current practices ....................................................................................................... 21
International experience ............................................................................................ 21
United Kingdom ......................................................................................................... 21
Australia ...................................................................................................................... 22
United States of America ............................................................................................ 25
New Zealand’s experience .......................................................................................... 27
MH-SMART and CAOS ............................................................................................... 27
Merry and colleagues’ report ...................................................................................... 29
Implementation of routine outcome measurement in New Zealand ....................... 31

Introduction to the present research ......................................................................... 32

CHAPTER 3 - OUTCOME MEASUREMENT IN MULTIDISCIPLINARY SETTINGS ......... 35

Outcome measures for young people and multidisciplinary teams ....................... 35
The High and Complex Needs Strategy ....................................................................... 36
The High & Complex Needs Unit ............................................................................... 37
HCN’s request for tenders ......................................................................................... 38
The HCN Outcome Measurement Project ................................................................. 40

Introduction to the HCN studies ............................................................................... 40

CHAPTER 4 - STUDY ONE: CURRENT HCN MEASUREMENT PRACTICE .............. 42

Method ....................................................................................................................... 44
Participants ............................................................................................................... 44
Materials ..................................................................................................................... 45
Procedure ................................................................................................................... 46

Results ....................................................................................................................... 46
Characteristics of participants and their clients .................................................... 46
  Participant characteristics .................................................................................... 46
  Client characteristics .......................................................................................... 47
Participants’ current outcome measurement practice ............................................. 49
  Experience using outcome measures for HCN .................................................. 49
  Indicators to practitioners of client progress ..................................................... 51
  Indicators to practitioners of client readiness to transition ................................ 52
  Reasons for using outcome measures ................................................................ 53
  Barriers to using outcome measures .................................................................. 54
  Perceived usefulness of outcome measures ....................................................... 56
Ideal outcome measurement practice .................................................................... 57
  Preparation required ............................................................................................ 57
  Domains where measurement would be useful .................................................. 59
  Ideal approach ..................................................................................................... 59
Recommended outcome measures ......................................................................... 61
Additional issues ..................................................................................................... 63
  Cautions and reservations .................................................................................... 63
  Advice about measure selection ......................................................................... 64
  Advice about implementation .............................................................................. 65

Summary .................................................................................................................. 65
  Characteristics of participants and their clients .................................................. 65
  Participants’ current practice ................................................................................ 66
  Participants’ ideal approach .................................................................................. 68
  Participants’ recommendations for measures ....................................................... 68
  Additional issues .................................................................................................... 69
  Conclusions ............................................................................................................ 70

CHAPTER 5 – STUDY TWO: CURRENT HCN MEASUREMENT PRACTICE ............... 72

Perspectives of HCN Advisors .............................................................................. 73
Method ...................................................................................................................... 73
  Participants ............................................................................................................ 73
  Discussion questions ............................................................................................. 73
  Procedure ................................................................................................................ 74
Results ...................................................................................................................... 74
  a. Current outcome measurement is problematic ........................................... 75
  b. Barriers to outcome measurement ................................................................. 76
  c. Perceptions of the HCN teams’ views ............................................................. 78
  d. Ideal outcome measurement ........................................................................... 78
Summary ................................................................................................................... 80
CHAPTER 6 – STUDY THREE: THE SEARCH FOR SUITABLE MEASURES

Parameters of the search
The nature of the work of HCN
Domains of outcome
Criteria for the ideal measure

The search for measures
Identifying potential measures
Search of electronic sources
Search of catalogues
Search of published reviews
Screening the search results
The first screen
The second screen
The third screen

Brief review of measures
Measures of culture
1. Multigroup Ethnic Identity Measure
Measures of education
2. Canadian Achievement Tests – Third edition
Measures of family
3. Family Environment Scale
4. Index of Family Relations
5. McMaster Family Assessment Device – Version 3

Perspectives of HCN practitioners
Method
Participants
Discussion questions
Procedure
Results
a. Spotting change
b. Methods and tools
c. Accountability
d. Monitoring and management
e. Feedback from the client/family
Summary

Conclusions
7. Self-report Family Inventory ................................................................. 111

Measures of mental health ........................................................................ 112

8. Hua Oranga ...................................................................................... 112

9. Pediatric Symptom Checklist ............................................................... 113

10. Strengths and Difficulties Questionnaire ............................................ 114

Measures of physical health ...................................................................... 115

11. Child Health and Illness Profile ............................................................ 115

Measures with several areas of focus .......................................................... 116


13. Child Health Questionnaire ................................................................. 117

14. Clinical Assessment Package for Risks and Strengths ............................... 118

15. Health of the Nation Outcome Scales for Children and Adolescents ........ 119

16. Ohio Youth Problems, Functioning & Satisfaction Scales ....................... 120

17. Youth Outcome Questionnaire .............................................................. 121

Summary .................................................................................................... 122

CHAPTER 7 – STUDY FOUR: CONSULTATION AND SELECTION OF AN OUTCOME MEASURE ................................................................. 125

Expert consultation .................................................................................... 126

Expert discussion of the short-listed measures ............................................ 126

Expert recommendations ............................................................................ 128

Practitioner consultation ........................................................................... 129

Focus groups: Part II .................................................................................. 129

Practitioner discussion of the short-listed measures ..................................... 129

North Carolina Family Assessment Scale ................................................... 130

The Ohio Youth Problems, Functioning, and Satisfaction Scales .................. 131

Pediatric Symptom Checklist ..................................................................... 133

Strengths and Difficulties Questionnaire .................................................... 134

Youth Outcome Questionnaire ................................................................... 135

Practitioner recommendations .................................................................... 137

Summary of expert & practitioner consultation ........................................... 138

Selection of an appropriate outcome measure ............................................ 139

Issues to consider for implementing routine measurement .......................... 140

Final selection and recommendation ......................................................... 141

CHAPTER 8 – ADAPTING OVERSEAS MEASURES FOR LOCAL USE................................................................. 142

The Ohio Youth Problems, Functioning, & Satisfaction Scales .................... 142

Development and current use ...................................................................... 142
Content and structure ................................................. 143
Psychometric properties ........................................... 145

**Preparation of measures for use in New Zealand** ................. 146
Assessment of suitability ........................................... 146
Preliminary local data .................................................. 147

**Introduction to the Ohio Scales’ studies** .......................... 147

**CHAPTER 9 – STUDY FIVE: PRELIMINARY LOCAL DATA FOR THE OHIO SCALES** .......................... 149

**Method** .................................................................. 150
Participants ................................................................. 150
Materials ................................................................. 151
Procedure ................................................................. 151

**Results** .................................................................. 152
Missing data ............................................................... 152
Scale performance .........................................................
  Reliability ............................................................... 152
  Validity ................................................................. 153
Comparative analysis .....................................................
  Demographic information ...........................................
  Problem Severity and Functioning ................................. 154

**Summary** .................................................................. 157

**CHAPTER 10 – STUDY SIX: INFORMANT FEEDBACK ON THE APPROPRIATENESS OF THE OHIO SCALES FOR NEW ZEALAND** .......................... 160

**Method** .................................................................. 161
Participants ................................................................. 161
  Workers ................................................................. 162
  Parents/caregivers ..................................................... 162
  Youth .................................................................. 162
Materials ................................................................. 162
Procedure ................................................................. 163

**Results** .................................................................. 163
Client details section .................................................. 164
Problem Severity scale items ........................................ 164
“ROLES” section ........................................................ 164
Hopefulness and Satisfaction scale items ......................... 165
Functioning scale items ................................................. 165
Bicultural appropriateness .......................................................... 166
General feedback ........................................................................ 166

Summary .................................................................................. 167

CHAPTER 11 – SUMMARY AND CONCLUSIONS.............................. 170

Summary of research findings ...................................................... 170
  Aim 1 .................................................................................... 170
  Aim 2 .................................................................................... 172
  Aim 3 .................................................................................... 173

Discussion ................................................................................ 174

REFERENCES............................................................................. 180

APPENDIX A – STUDY ONE: HCN PRACTITIONER SURVEY ............ 198
APPENDIX B – STUDY TWO: HCN FOCUS GROUPS ....................... 208
APPENDIX C – STUDY FOUR: EXPERT AND PRACTITIONER CONSULTATION..... 214
APPENDIX D – STUDY FIVE: COLLECTION OF NZ DATA FOR THE OHIO SCALES...... 238
APPENDIX E – STUDY SIX: INFORMANT FEEDBACK ON THE APPROPRIATENESS OF THE OHIO SCALES FOR NZ ................................................................. 246
LIST OF TABLES

Table 1  Proportions of Participants* Stating Each Reason to Use/Not Use (a) Any of the Measures Identified, (b) HoNOS-CA, and (c) SDQ ........................................... 30
Table 2  Professional Discipline of Survey Participants .................................................. 47
Table 3  Characteristics of Participants' HCN Clients ....................................................... 48
Table 4  Proportion of Participants Indicating Outcome Measures Would be Useful in Each Domain of Functioning ................................................................. 59
Table 5  Participants' Comments about Outcome Measures They Recommended .......................... 61
Table 6  HCN's Seven Domains of Well-being and Associated Key Areas of Outcome ......................................................... 97
Table 7  Keywords Used to Search Electronic Databases .................................................... 100
Table 8  Search Results: Measures Remaining After the Screening Process ...................... 104
Table 9  Comparison of the 17 Reviewed Measures Against the Requirements of a "Good Routine Outcome Measure" .................................................... 124
Table 10  Reliability Estimates Reported for the Ohio Scales' Parallel Informant Forms .......................................................... 145
Table 11  Internal Consistency Estimates for the Ohio Scales with a NZ Sample ........................................................................................................... 153
Table 12  Correlation Between Problem Severity and Functioning Scale Scores .................. 153
Table 13  Comparison of Gender and Age for the Ohio and NZ Samples .................................. 154
Table 14  Comparison of Mean Scale Scores for the Ohio and NZ Samples ....................... 155
LIST OF FIGURES

Figure 1. Illustration of the increase in outcome literature by comparing the number of citations in a PsychInfo search, indexed on 1986................................. 4

Figure 2. Proportion of participants rating the significance of each presenting issue for the HCN clients they have worked with. Rated on a scale from 1 (not significant at all) to 5 (very significant issue), and ranked top to bottom by mean rating................................................................. 49

Figure 3. Proportion of participants rating the importance of each source of information for determining the progress of HCN clients they have worked with. Rated on a scale from 1 (not important at all) to 5 (very important indicator), and ranked top to bottom by mean rating................................................................. 51

Figure 4. Proportion of participants rating the importance of each source of information for determining whether HCN clients they have worked with are ready to transition back to mainstream services. Rated on a scale from 1 (not important at all) to 5 (very important indicator), and ranked top to bottom by mean rating................................................................. 53

Figure 5. Proportion of participants rating the importance of each reason why practitioners should use outcome measures. Rated on a scale from 1 (not important at all) to 5 (very important reason), and ranked top to bottom by mean rating................................................................. 54

Figure 6. Proportion of participants rating the importance of each barrier to practitioners using outcome measures. Rated on a scale from 1 (not
important at all) to 5 (very important reason), and ranked top to bottom by mean rating................................................................. 55

**Figure 7.** 95% confidence intervals for mean Problem Severity scale score for the three informant groups in the New Zealand and Ohio samples............ 156

**Figure 8.** 95% confidence intervals for mean Functioning scale score for the three informant groups in the New Zealand and Ohio samples ............... 157
LIST OF ABBREVIATIONS

ABAS  Adaptive Behavior Assessment Scale
ACC  Accident & Compensation Corporation
BDI  Beck Depression Inventory
BES3  Behavior Evaluation Scale – 3rd edition
BYIs  Beck Youth Inventories
CAMHS  Child & Adolescent Mental Health Services
CAOS  Classification & Outcomes Study
CASPARS  Clinical Assessment Package for Risks and Strengths
CAT3  Canadian Achievement Tests – 3rd edition
CBCL  Child Behavior Checklist
CDI  Child Depression Inventory
CHIP  Child Health & Illness Profile
CHQ  Child Health Questionnaire
Conners’  Conners’ Rating Scale-Revised
CORS  Child Outcome Rating Scale
CYF  Child, Youth & Family
DHB  District Health Board
DSM-IV  Diagnostic & Statistical Manual of Mental Disorders – 4th edition
FACES  Family Adaptability & Cohesion Evaluation Scales
FAD  Family Assessment Device
FES  Family Environment Scale
GAF  Global Assessment of Functioning
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HCN</td>
<td>High &amp; Complex Needs Unit</td>
</tr>
<tr>
<td>HCN Strategy</td>
<td>Intersectoral Strategy for Children &amp; Young People with High &amp; Complex Needs</td>
</tr>
<tr>
<td>HoNOS</td>
<td>Health of the Nation Outcome Scales</td>
</tr>
<tr>
<td>HoNOS-CA</td>
<td>Health of the Nation Outcome Scales for Children &amp; Adolescents</td>
</tr>
<tr>
<td>IFR</td>
<td>Index of Family Relations</td>
</tr>
<tr>
<td>IQ</td>
<td>Intelligence Quotient</td>
</tr>
<tr>
<td>KORS</td>
<td>Kaupapa Outcome Rating Scale</td>
</tr>
<tr>
<td>LSC</td>
<td>Local Service Coordinator</td>
</tr>
<tr>
<td>MEIM</td>
<td>Multigroup Ethnic Identity Measure</td>
</tr>
<tr>
<td>MH-SMART</td>
<td>Mental Health Standard Measures of Assessment &amp; Recovery Initiative</td>
</tr>
<tr>
<td>MMYBO</td>
<td>Mental Measurements Yearbook Online</td>
</tr>
<tr>
<td>NCFAS</td>
<td>North Carolina Family Assessment Scale</td>
</tr>
<tr>
<td>NZ</td>
<td>New Zealand</td>
</tr>
<tr>
<td>Ohio Scales</td>
<td>The Ohio Youth Problems, Functioning, &amp; Satisfaction Scales</td>
</tr>
<tr>
<td>ORS</td>
<td>Outcome Rating Scale</td>
</tr>
<tr>
<td>PSC</td>
<td>Pediatric Symptom Checklist</td>
</tr>
<tr>
<td>ROLES</td>
<td>Restrictiveness of Living Environments Scale</td>
</tr>
<tr>
<td>RTLB</td>
<td>Resource Teacher of Learning &amp; Behaviour</td>
</tr>
<tr>
<td>SDQ</td>
<td>Strengths &amp; Difficulties Questionnaire</td>
</tr>
<tr>
<td>SFI</td>
<td>Self-report Family Inventory</td>
</tr>
<tr>
<td>SRS</td>
<td>Session Rating Scale</td>
</tr>
<tr>
<td>SSA</td>
<td>Social Services Abstracts</td>
</tr>
<tr>
<td>TRF</td>
<td>Teacher Report Form</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>USA</td>
<td>United States of America</td>
</tr>
<tr>
<td>WISC</td>
<td>Wechsler Intelligence Scales for Children</td>
</tr>
<tr>
<td>YOQ</td>
<td>Youth Outcome Questionnaire</td>
</tr>
<tr>
<td>YSR</td>
<td>Youth Self Report</td>
</tr>
</tbody>
</table>