New Zealand Mental Health Consumers and their Outcomes

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The reports


• Plus separate outcomes reports for the 8 participating DHBs
NZ-CAOS Project

• Funded under the NZ Mental Health Research & Development Strategy four priority areas:
  – Epidemiology
  – Outcomes
  – Quality and Best Practice
  – Casemix

• Planning for a casemix study commenced in 1995 with three services expressing an interest in the equivalent Australian MH-CASC project.

• Based on a recognition of the need for casemix information tools in mental health.
Project Objectives

• **Primary Objective:** To develop the first version of a national casemix classification for specialist mental health services in New Zealand that builds on the classification developed in the Australian MH-CASC Project.

• **Secondary Objective:** To trial the introduction of outcome measurement into routine clinical practice.
8 participating DHB sites

- Northland
- Waitemata (forensics services only)
- Auckland
- Counties-Manukau (excl adult community)
- Waikato (excl adult community services)
- Lakes
- Capital & Coast
- Otago

NB: The study excluded all A&D and NGO services
Criteria for site selection:

1. The degree to which they were representative of New Zealand mental health services
2. The extent to which they provided a comprehensive range of services
3. Their combined capacity to provide a sufficient volume and mix of ‘consumer cases’
4. The suitability of information infrastructure to collect the required clinical data, track service utilisation at the individual consumer level and assign costs; and
5. The readiness of the organisations to absorb the demands arising from a casemix study.
The basic idea behind the study design

- **Consumer needs** - as measured by clinical attributes and demographic characteristics

- drives **resource utilisation** - as measured by clinician time, length of inpatient stay, pharmacy, pathology and other service use.
Consumer Profile

• 8 DHBs saw 12,576 consumers
• 98% of consumers received services from only one DHB
• 55% of consumers had one episode only, 39% had two, 6% had more than two
• 53% male, 47% female
• 19.8% Maori
• 4.9% Pacific Island
• 75.3% all other ethnicity groups
What clinical staff were involved?

Approx. 2,000 full time equivalent staff

Inpatient Services
- Nursing 83%
- Medical 8%
- Allied Health 9%

Community Services
- Nursing 40%
- Allied Health 46%
- Medical 14%
Age profile

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Females</th>
<th>Males</th>
</tr>
</thead>
<tbody>
<tr>
<td>00-04</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>05-09</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>10-14</td>
<td>0%</td>
<td>10%</td>
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<tr>
<td>15-19</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>20-24</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>25-29</td>
<td>0%</td>
<td>0%</td>
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<tr>
<td>30-34</td>
<td>0%</td>
<td>0%</td>
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<tr>
<td>35-39</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>40-44</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>45-49</td>
<td>0%</td>
<td>0%</td>
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<tr>
<td>50-54</td>
<td>0%</td>
<td>0%</td>
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<tr>
<td>55-59</td>
<td>0%</td>
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<tr>
<td>60-64</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>65-69</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>70-74</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>75-79</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>80-84</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>85-89</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>90-94</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>95+</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Profile of social deprivation

% of NZ-CAOS consumers in each decile

1st decile (lowest deprivation)
2nd decile
3rd decile
4th decile
5th decile
6th decile
7th decile
8th decile
9th decile
10th decile (highest deprivation)
High level ethnicity profile

- NZ European / Pakeha: 69%
- Maori: 20%
- All others: 7%
- Pacific Island: 5%

High level ethnicity grouping

- Number
- Percentage

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### Episode Profile
#### Diagnosis, all Episodes

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Schizophrenia and related</td>
<td>36.0%</td>
</tr>
<tr>
<td>Mood Disorders</td>
<td>32.4%</td>
</tr>
<tr>
<td>Disorders of Childhood/Adol Stress and Adjustment Disorders</td>
<td>7.4%</td>
</tr>
<tr>
<td>Anxiety Disorders</td>
<td>4.8%</td>
</tr>
<tr>
<td>Personality Disorders</td>
<td>3.6%</td>
</tr>
<tr>
<td>Organic Disorders</td>
<td>3.2%</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>2.6%</td>
</tr>
<tr>
<td>Disorders of Psychological Devt</td>
<td>1.2%</td>
</tr>
<tr>
<td>Eating Disorders</td>
<td>1.2%</td>
</tr>
<tr>
<td>Obsessive Compulsive Disorders</td>
<td>0.8%</td>
</tr>
<tr>
<td>Mental Retardation</td>
<td>0.8%</td>
</tr>
<tr>
<td>Behavioural Syndromes Assoc with Physical Factors</td>
<td>0.3%</td>
</tr>
<tr>
<td>Somatoform Disorders</td>
<td>0.2%</td>
</tr>
<tr>
<td>Sexual Disorders</td>
<td>0.1%</td>
</tr>
</tbody>
</table>
The Outcome Measures

• Compliance and completion
### The outcome measures

<table>
<thead>
<tr>
<th>Consumer Population</th>
<th>Clinical ratings of severity</th>
<th>Levels of functioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults</td>
<td><strong>Health of the Nation Outcome Scales (HoNOS)</strong>&lt;br&gt;The HoNOS is rated on a scale of 0 to 4. The higher the score, the greater the severity of the problem.</td>
<td><strong>Life Skills Profile (LSP-16)</strong>&lt;br&gt;The LSP is rated on a scale of 0 to 3. The higher the score, the greater the level of functional impairment.</td>
</tr>
<tr>
<td>Consumers over the age of 65 years</td>
<td><strong>Health of the Nation Outcome Scales for consumers over the age of 65 (HoNOS 65+)</strong>&lt;br&gt;The HoNOS 65+ is rated on a scale of 0 to 4. The higher the score, the greater the severity of the problem.</td>
<td><strong>Resource Utilisation Group Activities of Daily Living (RUG-ADL)</strong>&lt;br&gt;The RUG-ADL is rated on a scale from 1 to 4. The higher the score, the greater the level of functional impairment.</td>
</tr>
<tr>
<td>Children and adolescents</td>
<td><strong>Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA)</strong>&lt;br&gt;The HoNOSCA is rated on a scale of 0 to 4. The higher the score, the greater the severity of the problem.</td>
<td><strong>Children’s Global Assessment Scale (CGAS)</strong>&lt;br&gt;The CGAS is a single rating on a scale of 0 to 100. The lower the score, the lower the level of function</td>
</tr>
</tbody>
</table>

Plus 2 measures to aid interpretation - Focus of Care and FIHS
## Number of clinical ratings (compliance)

<table>
<thead>
<tr>
<th>All ratings</th>
<th>Start</th>
<th>End</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both start and end ratings</td>
<td>18,655</td>
<td>18,655</td>
<td>37,310</td>
</tr>
<tr>
<td>Start or end, but not both</td>
<td>10,206</td>
<td>993</td>
<td>11,199</td>
</tr>
<tr>
<td>Total</td>
<td>28,861</td>
<td>19,648</td>
<td>48,509</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Start</th>
<th>End</th>
<th>% total episodes</th>
</tr>
</thead>
<tbody>
<tr>
<td>HoNOS</td>
<td>7,805</td>
<td>7,805</td>
<td>57.5%</td>
</tr>
<tr>
<td>LSP</td>
<td>7,140</td>
<td>7,140</td>
<td>52.6%</td>
</tr>
<tr>
<td>HoNOSCA</td>
<td>1,716</td>
<td>1,716</td>
<td>52.6%</td>
</tr>
<tr>
<td>CGAS</td>
<td>1,994</td>
<td>1,994</td>
<td>61.2%</td>
</tr>
<tr>
<td>Total</td>
<td>18,655</td>
<td>18,655</td>
<td></td>
</tr>
</tbody>
</table>
Compliance affected by CAOS being a snapshot survey
Percentage of ratings with no missing items (completion)

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Start</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>HoNOS</td>
<td>90.1%</td>
<td>92.7%</td>
</tr>
<tr>
<td>LSP-16</td>
<td>98.1%</td>
<td>98.7%</td>
</tr>
<tr>
<td>HoNOSCA</td>
<td>95.8%</td>
<td>95.0%</td>
</tr>
<tr>
<td>FIHS</td>
<td>94.1%</td>
<td>94.3%</td>
</tr>
</tbody>
</table>
Do the Focus of Care and Factors Influencing Health Status help to interpret outcome ratings?
The HoNOS (at episode start) and FOC - inpatient
The HoNOS at episode start and FOC - community

HoNOS scales:
- Behaviour
- Impairment
- Symptoms
- Social
- Total

Percentage of maximum score

- Acute
- Functional Gain
- Intensive Extended
- Maintenance

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Change on the HoNOS

Mean HoNOS total score

- Acute
- Funct Gain
- Intensive Ext
- Maintenance

Start
End
%change

FoC category

Inpatient

Community

Intensive Extended
Maintenance

%change

-100 -80 -60 -40 -20 0 20 40 60 80 100
The LSP-16 at episode start and FOC community

Percentage of maximum score

Acute
Functional gain
Intensive Extended
Maintenance

Withdrawal Self care Compliance Antisocial Total

LSP-16 scales
Change on the LSP-16

Mean LSP-16 total score

End

Start

%change

Acute

Funct Gain

Intensive Ext

Maintenance

FoC category

% change
The HoNOSCA and FIHS - community

- Behaviour
- Impairment
- Symptoms
- Social
- Information
- Total

FIHS total score vs Percentage of maximum score

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Implications

• FIHS aids interpretation of the Child and Youth measures
• With the exception of ‘Intensive extended’ in the community, Focus of Care doesn’t help much
Relationships between clinical ratings and other variables

- Age, sex, diagnosis, legal status
Relationship between HoNOS scores & other variables

• Total score unrelated to age.
• No clinically significant sex differences.
• Highest HoNOS total scores - Substance misuse, Personality disorder & Organic disorders.
• Involuntary status - associated with higher scores on the Behaviour, Impairment, Social subscales and the total score.
  – Involuntary - higher scores on the Hallucinations / delusions item
  – Voluntary - higher scores on the depression related items.
Relationship between LSP-16 scores & other variables

• Only 1 item significantly correlation with age
  – Item 16: What sort of work is this person generally capable of?
• Males - worse ratings on 15 of 16 items, all subscales and total score. However, actual differences small on all 16 items.
• Higher scores - Organic, Substance misuse, Schizophrenia & Personality Disorders
• Lower scores - Mood, Anxiety, Obsessive-Compulsive, Stress and Eating Disorders
• Involuntary - higher scores on all four LSP-16 subscales and the total score.
Relationship between HoNOSCA scores & other variables

• Total score unrelated to age, but differences at the item level.
• On average, males total scores about one point higher than females.
• Higher scores - Retardation, Schizophrenia, Developmental and Substance Misuse
• Lower scores - Eating Disorders.
Relationship between CGAS, FIHS & other variables

- CGAS scores unrelated with age.
- Males - higher (better) ratings in inpatient settings and
- Females - higher ratings in community.
- Lower (worse) CGAS ratings - Retardation, followed by diagnoses of Schizophrenia and Developmental disorder.
- Negligible correlation between the FIHS total score and age.
- Most frequent problem - Item 4 (Problems related to primary support group, including family circumstances)
- 6 of the 7 FIHS items more common for females
- Highest (worse) FIHS scores - Substance misuse and Stress disorders.
The problems with the LSP-16 and the RUG-ADL for older people

• And why a better measure is required
Functional hierarchy - early loss and late loss ADLs

• People lose functional abilities in the opposite order to which they acquire them
• ‘Early loss’ ADLs like housework, transport, handling money, managing medicines (domestic functioning) are gained last and lost first
• ‘Late loss’ ADLs like dressing, toileting, feeding and bed mobility (self-care) are gained 1st and lost last
  – the RUG-ADL measures only very late loss ADLs
  – the LSP-16 does not capture where consumers sit on this functional hierarchy
Profile of the HACC population on the functional assessment

Any level of problem reported  No problem reported
Implications

• The measures
The measures - implications

- The HoNOS, the LSP-16, the HoNOSCA and the CGAS all work OK technically
- LSP-16 not acceptable
  - an alternate measure of function is required
  - consider both mainstream and mental health specific measures of function
- Work needed on the Focus Of Care
  - refine definitions – Acute, Functional Gain, Intensive Extended and Maintenance.
- Training, training, training!
- Need complementary consumer-rated and family/carer-rated measures.
Do consumers change over the course of an episode?

• Yes, but amount of change depends on the measure and the setting
HoNOS, inpatient, schizophrenia

Mean HoNOS score

% change

HoNOS item

End  Start  %change
HoNOS, inpatient, mood

Mean HoNOS score

HoNOS item

% change

End
Start
% change

1 2 3 4 5 6 7 8 9 10 11 12
HoNOS, community, schizophrenia

Mean HoNOS score

HoNOS item

End

Start

% change

% change
HoNOS, community, mood

- Mean HoNOS score
- % change
LSP-16, community, schizophrenia and mood

[Bar chart showing the percentage of maximum score for various subscales of LSP-16 related to schizophrenia and mood disorders.]
## Sensitivity to change

<table>
<thead>
<tr>
<th>Measure</th>
<th>Average percentage change from episode start to episode end</th>
</tr>
</thead>
<tbody>
<tr>
<td>HoNOS in inpatient settings</td>
<td>50%</td>
</tr>
<tr>
<td>HoNOS in community settings</td>
<td>11%</td>
</tr>
<tr>
<td>LSP-16 in community settings</td>
<td>6%</td>
</tr>
<tr>
<td>HoNOSCA in community settings</td>
<td>17%</td>
</tr>
<tr>
<td>CGAS in community settings</td>
<td>9%</td>
</tr>
</tbody>
</table>
Implications

- How much change you get depends on where you start.
- The measures are sensitive to change and appear suitable for use in benchmarking.
- However, outcomes achieved by different mental health services need to be casemix-adjusted to take into account the unique mix of consumers at each DHB.
Comparison between outcomes for Maori, Pacific and Other Consumers

• But, first, a caveat on the data!
HoNOS, inpatient

![HoNOS item graph](image)
HoNOS subscales, inpatient

HoNOS alternative subscales

- Behaviour
- Impairment
- Depression
- Halluc/del
- Social

% of maximum score

- Maori
- Pacific Island
- All Other
HoNOS, community

Mean HoNOS score by HoNOS item for Maori, Pacific Island, and All Other groups.
HoNOS subscales, community

HoNOS alternative subscales

% of maximum score

Maori
Pacific Island
All Other

Behaviour
Impairment
Depression
Halluc/del
Social

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HoNOS start and end scores

- Inpatient Start
- Inpatient End
- Community Start
- Community End

- Maori
- Pacific Island
- All Other

HoNOS total score
LSP-16, community

Withdrawal Self Care Compliance Antisocial Total

Maori Pacific Island All Other

% of maximum score

 Withdrawal  Self Care  Compliance LSP-16 scale  Antisocial  Total
HoNOSCA, community

Mean HoNOSCA score

HoNOSCA item
HoNOSCA sub-scales

HoNOSCA subscale

% of maximum score

Maori
Pacific Island
All Other

Behaviour
Impairment
Symptoms
Social
Information

% of maximum score

HoNOSCA subscale
HoNOSCA start and end scores

- **Maori**
- **Pacific Island**
- **All Other**
CGAS, start and end scores

Start:
- Maori: 55
- Pacific Island: 50
- All Other: 50

End:
- Maori: 60
- Pacific Island: 55
- All Other: 60
Summary of differences - 1

• Like the casemix analysis, differences between Maori, Pacific Island and other adult consumers.
• Unlike the casemix results, also differences between child and youth consumers.
• Overall, Maori & Pacific Island consumers are rated as having higher levels of symptom severity and lower levels of functioning than other consumers.
Summary of differences - 2

• Overall, no ethnicity differences in the amount of change achieved during an episode of mental health care.

• Because any differences are due to differences in the ratings recorded at the start of an episode of care.

• Once these are taken into account, all three high-level ethnicity groupings - Maori, Pacific Island and All Other - achieve about the same level of improvement.
Outcomes, ethnicity and deprivation

- Complicated!
- Meaningful?
- Not enough Pacific Island Child and Youth episodes, so analysis only on Adult episodes
HoNOS total scores by deprivation quintile and ethnicity grouping

Social deprivation quintiles

Mean HoNOS total score

1-2 (least deprivation) 3-4 5-6 7-8 9-10 (most deprivation)

Maori HoNOS
Pacific Island HoNOS
All Other HoNOS

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LSP-16 total scores by deprivation quintile and ethnicity grouping

![Graph showing mean LSP-16 total scores by deprivation quintile and ethnicity grouping. The graph compares the scores for Maori, Pacific Island, and All Other ethnicities across different deprivation quintiles. The x-axis represents social deprivation quintiles ranging from 1-2 (least deprivation) to 9-10 (most deprivation), and the y-axis represents the mean LSP-16 total score. The graph indicates variations in scores across different deprivation levels and ethnic groups.]
Summary of findings

• Overall, consumers living in areas of higher social deprivation have higher levels of severity and lower function than those living in areas of lower social deprivation.
• But reverse for Maori & Pacific Island.
• Ethnicity differences (both severity and functioning) are more marked when deprivation is least and less marked when deprivation is greatest.
Possible reasons?

• Ethnic/social class stereotypes
• Threshold for treatment differs by both ethnicity and area of residence.
  – Differences in relation to when consumers get treatment
  – eg, Maori & Pacific Island consumers living in socially advantaged areas do not get into treatment until they are more unwell
• A statistical aberration
  – particularly because this is not about change, simply the mean score
• Are these results meaningful & important?
Casemix Adjusted Relative Mean Improvement (CARMII)

• A method to take account of the unique mix of consumers at each DHB
Average HoNOS improvement by DHB
Why the differences?

• DHB 1 either:
  – achieves the best outcomes or/and
  – has a mix of consumers that happen to be the most likely group to improve

• Need to standardise for the consumer mix (ie, the casemix) to make the comparison meaningful
Types of variation

1 variation due to differences in the ways that health services treat patients

2 variation due to differences in the kinds of patients treated
The challenge

• We must be able to control for one type of cause of variation in order to understand the other
• If casemix classifications can be used to help to control for variations between patients...
• then we start to produce information which helps us to understand the differences between providers
Controlling for differences in the mix of consumers between DHBs

• The casemix classification is the measurement tool
• Assigns episodes to a 'casemix class'
  – Similar consumers in the same class.
  – Different consumers in different classes.
• When outcomes results are standardised to take account the mix of consumers, any remaining differences can be attributed to differences between the DHBs.
  – Akin to 'risk-adjustment’ by an insurer.
Variables used in the classification

• Length of stay (Complete vs Ongoing inpatients)
• Age
• Ethnicity (adults)
• HoNOS start scores (adult inpatient)
• Diagnosis (child/youth inpatient)
• HoNOSCA start scores (child/youth)
• Legal status (adults)
• Focus of Care (adults)
Improvement on the HoNOS by inpatient class

Average HoNOS

Avg Start HoNOS  Avg End HoNOS  Avg change
Improvement on the HoNOS by community class

Average HoNOS

- AVG Start HoNOS
- AVG End HoNOS
- AVG improvement
The CARMI Score

• For each episode, calculate the difference between their change and the average change for their casemix class.
• Average across the DHB.
• CARMI of 1 point
  – on average, consumers improved by 1 point more than expected.
• Negative CARMI
  – consumers achieved less improvement than similar consumers in the study.
HoNOS CARMi

Casemix-adjusted relative mean improvement

average improvement expected
average improvement achieved

DHB 1  DHB 2  DHB 3  DHB 4  DHB 5  All  DHB 6  DHB 7  DHB 8

Improvement expected/achieved

-1.25 -0.75 -0.25 0.25 0.75 1.25

0.25 0.75 1.25
Improvement on the LSP-16 by community class
Improvement on the HoNOSCA by community class

Average HoNOSCA

CC5 Youth, problem hallucinations
CC6 Youth, problem self-injury
CC2 Child w school prob
CC7 Youth, problem school attendance
CC4 Child w no school prob, high HoNOSCA tot
CC8 Youth, with CC9 Youth, of these prob.
CC9 Youth, none of these problems
CC3 Child w no school prob, low HoNOSCA tot

Average start HoNOSCA  Average end HoNOSCA  Average improvement
HoNOSCA CARMI

The graph shows the casemix-adjusted relative mean improvement for different DHBs. The x-axis represents the DHBs, and the y-axis shows the improvement expected/achieved. The graph includes:

- A line indicating the average improvement expected.
- Bars representing the average improvement achieved.
- X markers showing the casemix-adjusted relative mean improvement.

The data indicates a trend where some DHBs have achieved improvement within the expected range, while others have shown varying degrees of deviation.

The key points are:

- DHB 1, DHB 2, DHB 3, DHB 4, DHB 5, and DHB 6 are compared.
- Casemix-adjusted relative mean improvement is shown for each DHB.

The slide number is 78.
Improvement on the CGAS by community class

Average CGAS

Average improvement

<table>
<thead>
<tr>
<th>Class Description</th>
<th>Average Start CGAS</th>
<th>Average End CGAS</th>
<th>Average CGAS Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYI1 High cost diagnoses</td>
<td>0.0</td>
<td>2.0</td>
<td>0.0</td>
</tr>
<tr>
<td>CYI2 Mid cost diagnoses</td>
<td>4.0</td>
<td>6.0</td>
<td>2.0</td>
</tr>
<tr>
<td>CYI4 Ongoing episodes</td>
<td>8.0</td>
<td>10.0</td>
<td>2.0</td>
</tr>
<tr>
<td>CC6 Youth, problem self-injury</td>
<td>12.0</td>
<td>14.0</td>
<td>2.0</td>
</tr>
<tr>
<td>CYI3 Low cost diagnoses</td>
<td>16.0</td>
<td>18.0</td>
<td>2.0</td>
</tr>
<tr>
<td>CC5 Youth, problem hallucinations</td>
<td>20.0</td>
<td>22.0</td>
<td>2.0</td>
</tr>
<tr>
<td>CC8 Youth, with emotional prob</td>
<td>24.0</td>
<td>26.0</td>
<td>2.0</td>
</tr>
<tr>
<td>CC7 Youth, problem school attendance</td>
<td>28.0</td>
<td>30.0</td>
<td>2.0</td>
</tr>
<tr>
<td>CC4 Child w no school prob, high HoNOSCA tot</td>
<td>32.0</td>
<td>34.0</td>
<td>2.0</td>
</tr>
<tr>
<td>CC3 Child w no school prob, low HoNOSCA tot</td>
<td>36.0</td>
<td>38.0</td>
<td>2.0</td>
</tr>
<tr>
<td>CC2 Child w school prob</td>
<td>40.0</td>
<td>42.0</td>
<td>2.0</td>
</tr>
<tr>
<td>CC9 Youth, none of these problems</td>
<td>44.0</td>
<td>46.0</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Legend:
- **Average start CGAS**
- **Average end CGAS**
- **Average CGAS improvement**
CGAS CARMi

Casemix-adjusted relative mean improvement

Average improvement expected
Average improvement achieved
Casemix-adjusted relative mean improvement
When outcomes meet casemix

• Drawing the 2 studies together
Ethnicity results (from the casemix analysis)

<table>
<thead>
<tr>
<th>Ethnicity Grouping</th>
<th>Cost per episode (raw)</th>
<th>Average case complexity</th>
<th>CW=1</th>
<th>Diff.</th>
<th>% diff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maori</td>
<td>$7,032</td>
<td>1.49</td>
<td>$4,719</td>
<td>$39</td>
<td>0.8%</td>
</tr>
<tr>
<td>Pacific Island</td>
<td>$9,235</td>
<td>1.93</td>
<td>$4,792</td>
<td>$111</td>
<td>2.4%</td>
</tr>
<tr>
<td>Euro</td>
<td>$3,776</td>
<td>0.81</td>
<td>$4,662</td>
<td>-$19</td>
<td>-0.4%</td>
</tr>
<tr>
<td>All</td>
<td>$4,681</td>
<td>1.00</td>
<td>$4,681</td>
<td>$0</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Diff. = difference from NZ casemix-adjusted average (the average cost per episode that is unexplained by the classification)
### Setting-specific cost weights

<table>
<thead>
<tr>
<th>Ethnicity Grouping</th>
<th>Average weight – inpatient-only weights</th>
<th>Average weight – community-only weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pacific Island</td>
<td>1.35</td>
<td>1.44</td>
</tr>
<tr>
<td>Maori</td>
<td>1.22</td>
<td>1.05</td>
</tr>
<tr>
<td>European/Other</td>
<td>0.86</td>
<td>0.96</td>
</tr>
<tr>
<td>All</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>
• The casemix analysis found:
  – significant differences in cost between Maori, Pacific Island and other episodes
  – Relative to the national study average:
    • Maori - 49% more costly
    • Pacific Island - 93% more costly
    • Other - 19% less costly

• The outcomes analysis found:
  – after adjusting for different starting points, no differences in the amount of change recorded
Conclusions and implications

• What does it all mean?
Conclusions - 1

- Outcome measurement in routine clinical practice is possible.
- But training and support is required.
Conclusions - 2

- The measures are OK technically
- An alternate measure of function for adults and older people is required
  - consider both mainstream and mental health specific measures of function
- Work needed on the Focus Of Care
  - refine definitions – Acute, Functional Gain, Intensive Extended and Maintenance
- Complementary consumer-rated and family/carer-rated measures are needed
Conclusions - 3

- The outcomes achieved by different mental health services need to be casemix-adjusted to take into account the unique mix of consumers at each DHB.
  - Crude numbers are misleading
  - The CARMI is useful
Conclusions - 5

- It costs different amounts to achieve the same outcomes
  - Maori - 49% more
  - Pacific Island - 93% more
  - Other - 19% less
Conclusions - 6

- Cultural competency remains a challenge
  - requires ongoing attention as part of the workforce outcomes development and training program.
- Further work required to understand the reasons for ethnicity differences and the relationship between ethnicity, deprivation and consumer outcomes.
  - National epidemiological study, further research and consultation with consumers, carers and clinicians.
• Routine outcome measurement is:
  – necessary, but insufficient, in developing and improving NZ mental health services
  – an important component of a bigger strategy