

# Prevention and Recovery Care (PARC) Service Research Project Update

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May 2015

## Acknowledgments

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We would like to thank the consumers of the Northern and Arion PARCs for participating and also thank the staff for supporting this project.

## Contact us

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# Contents

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Key points (one-page summary) .....	4
1. What is the Project?.....	5
2. Why is this Project important? .....	5
3. How are we conducting the Project?.....	5
How are we measuring consumer outcomes? .....	6
Limitations in the Project.....	10
4. Who participated? .....	11
5. What did we discover?.....	14
5.1 Changes in psychological distress .....	14
5.2 Changes in unmet needs.....	16
5.3 Changes in recovery .....	17
5.4 Stressors and coping strategies of consumers.....	25
5.5 What participants said on exit? .....	27
6. Conclusion.....	29
Works Cited.....	30
More information .....	30

## Key points (one-page summary)

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- Neami National with cohealth and North Western Mental Health are conducting a project to evaluate the effectiveness of the Northern and Arion Prevention and Recovery Care (PARC) services in Victoria.
- The effectiveness of these services has been measured by collecting information on psychological wellbeing at pre, post and follow-up time points, and through service utilisation data.
- There were 106 participants in the project, with 53 from Northern and 53 from Arion PARC. The participation rate was 29% at Northern PARC and 40% at Arion PARC.
  - Mean age = 41 years
  - Female = 54.7%; Male = 45.3%
  - Step-up = 53.1%; Step-down = 63.0%
- There was a notable difference in the distribution of primary diagnosis of consumers based on referral type. Over two-thirds (67.3%) of step-up consumers had a primary diagnosis of schizophrenia compared with less than a third (29.6%) for step-down consumers.
- There was a statistically significant decrease in K10 scores from entry (mean=28.03) to exit (mean=20.14). The changes in mean K10 scores indicate that the level of psychological distress of participants decreased from moderate to mild.
  - Looking at the results of K10 scores by age and by site on entry indicated that consumers were experiencing a greater range in the level of psychological distress they were experiencing compared with when they were exiting.
- There was a statistically significant decrease in the mean number of unmet needs reported by both participants and staff from entry to exit. The mean number of participant unmet needs on entry was 4.30 compared with a mean of 2.85 unmet needs at exit. Consistent with previous findings, participants rated having fewer unmet needs than staff ratings.
- Based on the results for the Stages of Recovery Instrument-30 and the Recovery Assessment Scale (RAS) pre and post their stay, there were statistically significant changes in a positive direction from entry to exit. There were no significant changes for any of the subscales from exit to follow-up. This could indicate that participants, after a 2-3 month period following the exit from a PARC, were able to sustain the positive changes that may have occurred during the time they were staying in a PARC.
- The overwhelming majority of participants were satisfied with their stay, with 95% rating their satisfaction as either satisfied or very satisfied. The participants rated the support provided by the teams at the PARCs highly and the majority of participants felt safe or very safe during their stay.
- Participants were also asked what might improve their stay. Many did not have any suggestions saying everything was good. The most common suggestion was to have more group and structured activities, especially in the afternoons.

# 1. What is the Project?

Neami National with cohealth (previously Doutta Galla Community Health) and North Western Mental Health are conducting a project to evaluate the effectiveness of the Northern and Arion Prevention and Recovery Care (PARC) services in Victoria.

This report provides an update of the data collected so far.

# 2. Why is this Project important?

On the continuum of mental health care provided in Victoria, PARC services sit between clinical / inpatient care and community care.

...for researchers

As the PARC service model is relatively new, this project will add to the body of evidence regarding its effectiveness for supporting the recovery of consumers. It will provide more data on what outcomes the PARCs are achieving for consumers.

...for governments

Governments in Australia are facing constrained fiscal outlook for the foreseeable future. This is compounded by increasing costs of health care. The PARC service model is an innovative approach to deliver mental health care for consumers. This project will assist in determining the cost effectiveness of the PARC service in preventing and reducing the length of stay in hospital for consumers.

...for staff

The project will provide a snapshot of who is using the service, their characteristics and what outcomes the consumers have achieved in their time at the PARC. This information will be useful for staff as it will not only demonstrate the results of the support they are providing to consumers but also highlight areas where they may like to make changes.

...and for consumers

We hope that this project will provide consumers with some evidence on whether the PARC services are effective in supporting their recovery and what impact it may have on their mental health and wellbeing. The project may assist consumers in deciding whether they will decide to use a PARC service if a need arises for them. Feedback received from the Project may also assist in making changes where appropriate.

# 3. How are we conducting the Project?

We are using a mixed methods research design to collect data at various time points through a variety of methods. The effectiveness of these services is being measured by collecting information on psychological wellbeing pre, post and follow-up time points. The Project does not compare the

outcomes achieved by the two services with each other as combining the data creates a larger sample to draw from and analyse.

Service utilisation data such as, the number and length of psychiatric inpatient admissions for 12 months pre and 12 months post first admission to PARC and the number and length of PARC admissions for 12 months following their first admission is still to be collected and analysed.

- An analysis of consumer information from databases used at the PARC services to gather demographic and service usage data, such as inpatient and PARC service admissions
- Upon entry to and exit from the PARC service, participants complete a range of assessments administered by the staff at the PARC
- Participants’ Active Health Plans photocopied at exit and analysis of its content
- Within 7–10 days of exiting a PARC, participants complete a phone interview with a member of the Research Team, exploring their experiences of the PARC service
- A follow-up is completed with participants 2–3 months after exiting, in which participants complete a range of assessments with the Research Team
- If a participant nominates a care during the consent process, the Research Team will make contact with them to discuss the study. If the carer agrees to participate, an interview is conducted with them 7–10 days after their family member/friend exits the PARC service to gather information about their experiences and perceptions of the service

## How are we measuring consumer outcomes?

In order to gain an understanding of the experience of consumers and what impact a stay in the PARC may have had, we used several assessment tools and additional measures. The following table provides a summary of these tools:

Assessment tools	What does it measure?	Who completed it?	When was it completed?
Camberwell Assessment of Need Short Appraisal Schedule – Staff ( <b>CANSAS-S</b> )	Staff perception of met and unmet need	Clinician / support worker	Entry and Exit from the PARC
Camberwell Assessment of Need Short Appraisal Schedule – Participant ( <b>CANSAS-P</b> )	Participants’ perceptions of met and unmet needs	Participant	Entry and Exit
Kessler Psychological Distress Scale ( <b>K10</b> )	Psychological distress	Participant	Entry and Exit
The Stages of Recovery Instrument ( <b>STORI 30</b> )	Recovery	Participant	Entry, Exit and Follow-up (2-3 months after exit)
Recovery Assessment Scale ( <b>RAS</b> )	Recovery	Participant	Entry, Exit and Follow-up (2-3 months after exit)

Additional measures	Aim	Who completed it?	When was it completed?
Exit Questionnaire	Consumer satisfaction	Participant via phone interview	7-10 days following exit
Active Health Plans	Wellness planning tool	Participant	During participants' stay in the PARC.
Clinical data	Aim	Who completed it?	When was it completed?
Health of the Nation Outcomes Scales ( <b>HoNOS</b> )	Health and social functioning	Clinician	Entry and Exit
Hospital usage – length and number of admissions	Use of clinical services	Hospital data	-

## CANSAS

The CANSAS is a 22-item measure which assesses ‘met’ versus ‘unmet’ needs across a range of life domains. This measure can be completed by both the consumer and the support worker, and aims to facilitate a conversation and goal setting around identified unmet needs. There are two versions of the CANSAS that was used in this project—the CANSAS-P (completed by the consumer) and CANSAS-S (completed by the staff member). Both the consumer and staff member complete the relevant version of the CANSAS tool and then meet to discuss any differences between them. The following domains are assessed:

- Accommodation
- Food
- Looking after the home
- Self-care
- Daytime activities
- Physical health
- Psychotic symptoms
- Information on condition and treatment
- Psychological distress
- Safety to self
- Safety to others
- Alcohol
- Drugs
- Company
- Intimate relationships
- Sexual Expression
- Child care
- Basic education
- Telephone
- Transport
- Money
- Benefits

Unmet needs are of most interest in a practice context as they provide an opportunity for workers to tailor support specifically to the consumer’s individual needs. The CANSAS can be reviewed every 6 months.

## K10

The K-10 is a 10-item questionnaire which asks questions about the level of nervousness, agitation, psychological fatigue and depression the consumer is feeling for the previous three days. The response options are on a 5-point scale ranging from ‘1=None of the time’ to ‘5=All of the time’. The responses are added together and the result is a score between 10 and 50; the higher the score the higher the level of distress. We are looking for scores to reduce from entry to exit.

The breakdown of the K10 scores mean is below:

- 10–19: Not experiencing significant levels of distress

- 20–24: Mild levels of distress
- 25–29: Moderate levels of distress
- 30–50: Severe levels of distress

## STORI-30

Stages of Recovery Instrument-30 (STORI-30) is based on the 50-item STORI and consist of 30 items. These items represent one of the four components processes of recovery, which represent one's mental state as one progresses through the stages of recovery (Andresen, Caputi, & Oades, 2006):

- Hope: finding and maintaining hope
- Identity: restabilising a positive identity
- Meaning: finding meaning in life
- Responsibility: taking responsibility for one's life

There are five stages of recovery (Andresen, Caputi, & Oades, 2006):

1. Moratorium: a time of withdrawal characterised by a profound sense of loss and hopelessness
2. Awareness: realisation that all is not lost, and that a fulfilling life is possible
3. Preparation: taking stock of strengths and weaknesses regarding recovery, and starting to work on developing recovery skills
4. Rebuilding: actively working towards a positive identity, setting meaningful goals and taking control of one's life
5. Growth: living a full and meaningful life, characterised by self-management of the illness, resilience and a positive sense of self

STORI-30 is divided into 5 subscales which correspond to the five stages of recovery. The subscale with the highest total score is the person's stage of recovery. Where the highest score is equal for two stages, the 'higher' stage is used. Each subscale has a total potential score of 30. There is no 'total STORI score'.

## RAS

The Recovery Assessment Scale (RAS) is recovery-oriented measure with some published data exploring its validity (McNaught, Caputi, Oades, & Deane, 2007). The RAS aims to assess recovery with a particular emphasis on hope and self-determination (Burgess, Pirkis, Coombs, & Rosen, 2010). A factor analysis from a previous study found five unique subscales in the RAS (Corrigan, Saltzer, Ralph, Sangster, & Keck, 2004). The names of each subscale and their associated ranges on the 24-item RAS, which was used in this project, are below:

- Personal confidence and hope (0-45)
- Willingness to ask for help (0-15)
- Goal and success orientation (0-25)
- Reliance on others (0-20)
- Not dominated by symptoms (0-15)

Higher scores on these subscales indicate increased levels of self-esteem, self-empowerment, positive relationships with social support and quality of life. The 24-item RAS has been shown to be sufficient to assess recovery (Corrigan, Saltzer, Ralph, Sangster, & Keck, 2004).

## Exit Questionnaire

Around a week after participants exited the PARCs, a member of the research team contacted them on the telephone and completed an exit questionnaire which asked the participants to rate:

- Level of support provided during their stay
- Experience of engaging with other consumers
- Experience of being involved in group work
- Experience of daily routine
- Feelings of safety
- Confidence in using health plan
- What was valuable about the stay
- What could improve, and
- Overall satisfaction

## Active Health Plan

In the Northern and Arion PARCs, Optimal Health Program (OHP) forms one of the methods of delivering support to consumers. OHP provides tools to consumers to set their own priorities and then support working towards these priorities. The program supports consumers to identify the stresses and vulnerabilities in their life and how to manage these with strategies based on the strengths of the consumer. As part of OHP, consumers develop 'Active Health Plans'—individual wellbeing plans— which covers:

- Identifying strengths and strategies to manage everyday health and wellbeing
- Monitoring stress and vulnerability and identifying collaborative partners and personal support network, and
- Managing episodes of acute illness and responding with identified strategies

The research team analysed the available Active Health Plans of the participants for common themes.

## Clinical data

In addition to the above outcome measures, the project plans to incorporate clinical data which will provide additional evidence of the outcomes achieved with consumers. These clinical data will include:

- The Health of Nation Outcome Scales (HoNOS)
- Hospital usage data: length and number of hospital admission and emergency department presentations, reason for admission/presentation and related data

This report does not include these clinical data. A future report will analyse the results from this report with the clinical data.

## Limitations in the Project

Limitations of the Project included:

- Participation rate in the project at the Northern PARC was 29% and at Arion PARC 40%.
- Only around a third of participants were able to be contacted and complete the questionnaires.
- Only 4 carers were able to be contacted to participate in the Project. One of the initial aims of the Project was to collect extensive feedback from carers but this could not be pursued.

## 4. Who participated?

During the period the project was running at the two PARCs (from December 2011 to December 2013), 183 consumers stayed the Northern PARC and 134 consumers stayed the Arion PARC. Of these consumers, 106 people participated in the Project. Half (53 people) were from the Northern PARC and the other half (53 people) from the Arion PARC. This means that the participation rate in the Project at the Northern PARC was 29% and at Arion PARC was 40%.

Just over half of the participants were female (54.7 % female and 45.3% male).

### Age

The mean age of participants was 41 years (Standard Deviation = 10.75, median = 42). We calculated the age of participants based on the age they entered into the PARC. The breakdown of the age groups by gender is in Table 1.

**Table 1 - Age of participants by gender**

Age group	Male		Female		Total	
	<i>N</i>	(%)	<i>N</i>	(%)	<i>N</i>	(%)
Under 30 years	6	(12.5)	14	(24.1)	20	(18.9)
31–40 years	20	(41.7)	10	(17.2)	30	(28.3)
41–50 years	13	(27.1)	20	(34.5)	33	(31.7)
51 years and over	9	(18.8)	14	(24.1)	23	(21.7)
<b>Total</b>	48	(100)	58	(100)	106	(100)

The participants at Arion were on average older than at Northern. The mean age of participants from Arion was 42 years (SD=10.68) compared with 39 years (SD=10.69) at Northern.

### Referral type

When consumers enter a PARC service, they are classified as one of two referral types:

- **Step-up** refers to consumers who are living in the community but are becoming unwell, and without an intervention and more intensive support, could risk being hospitalised
- **Step-down** refers to consumers who are being discharged from hospital / clinical care but are in need of support before they can transition back into the community

Just under half (47.6%) of participants were step-up and the rest (52.4%) were step-down.

Males were more likely to be step-up while females participants were more likely to enter via a step-down referral. Just over half (53.1%) of 'step-up' consumers were male and just under two-third (63.0%) of 'step-down' consumers were women.

At the Northern PARC, just over half (52.9%) the consumers were step-up, however at the Arion PARC more than half (57.7%) of the consumers were step-down.

### Length of stay

Usually, consumers are offered a stay in the PARCs for a maximum of 28 days. However, this can vary depending on the needs of the consumers. In addition, Arion PARC routinely has consumers

who were long-stay consumers. Arion has long stay 4 beds with up to 6 months stay. This is reflected in the participants.

The mean length of stay for the project participants was 28.6 days (SD = 29.28). At Arion, the mean was 33.0 days (SD = 40.25) compared with 24.1 days (SD = 8.47) at Northern. Arion had more consumers who stayed longer than 29 days: 20 consumers (37.7% of participants at Arion) compared with 6 consumers (11.3% at Northern). In addition, there were 3 participants at Arion whose length of stay was considerably longer than others (146 days, 185 days and 228 days). If we exclude these three consumers, the mean length of stays at Arion becomes 23.8 days (SD =11.13) with a minimum of 4 days and a maximum of 55 days; total means reduces to 23.95 (SD=9.81)

### Cultural background

The overwhelming majority of participants did not identify as either as an Aboriginal and/or Torres Strait Islander. Only 3 consumers identified as Aboriginal and/or Torres Strait Islander. However, 16 consumers (15.1% of participants) were born in a non-English speaking country.

### Primary diagnosis

Of the participants that had a primary psychological diagnosis recorded (103 people), almost half (48.5%) had schizophrenia. The next most frequent diagnosis was depression (17.5%), followed by bipolar disorder (15.5%) and schizo-affective disorder (11.7%). Three consumers did not have a recorded diagnosis.

There was a notable difference in the distribution of primary diagnosis of consumers based on their referral type. For example, over two-thirds (67.3%) of step-up consumers had a primary diagnosis of schizophrenia compared with less than a third (29.6%) for step-down consumers. The full distribution of diagnoses is in Table 2. Of note is that, the diagnoses that participants had recorded were more evenly spread for step-down consumers compared with step-up.

There were no participants in the Project who had a recorded diagnosis of personality disorder. Looking at all consumers who stayed at the Northern PARC to date for example, around 7% had a diagnosis of personality disorder.

**Table 2 – Primary diagnosis of participants by referral type**

Primary diagnosis	Step-up		Step-down		All participants*	
	N	(%)	N	(%)	N	(%)
Schizophrenia	33	(67.3)	16	(29.6)	50	(47.2)
Depression	3	(6.1)	14	(25.9)	18	(17.0)
Bipolar disorder	6	(12.2)	10	(18.5)	16	(15.1)
Schizo-affective disorder	3	(6.1)	8	(14.8)	12	(11.3)
Anxiety	1	(2.0)	-		1	(0.9)
Other psychiatric diagnosis	2	(4.1)	4	(7.4)	6	(5.7)
Missing	1	(2.0)	2	(3.7)	3	(2.8)
<b>Total</b>	<b>49</b>	<b>(100)</b>	<b>54</b>		<b>106</b>	<b>(100)</b>

*\*includes 3 consumers with no referral type recorded*

## Other disabilities

Around one-fifth of participants were recorded as having additional disabilities to their primary diagnosis. A very small number was recorded as having more than one disability. The other disabilities recorded for consumers include:

- 3 people had an acquired brain injury / head injury
- 16 people had drug and/or alcohol related disability
- 1 person had an intellectual disability
- 2 people had a hearing disability
- 1 person had a specific learning / attention deficit disorder

## 5. What did we discover?

The following section provides an update on the data from the outcome measures used in this project. It provides a breakdown of the data as:

- Changes in psychological distress
- Changes in unmet needs
- Changes in recovery
- Stressors and coping strategies for consumers
- What consumers say on exit

### 5.1 Changes in psychological distress

Participants were asked to complete the Kessler 10 (K10) on entry and exit from the PARCs to measure changes in their levels of psychological distress. There were n=65 completed pairs of K10 available for analysis that were completed by the same participants on both entry and exit from the PARCs.

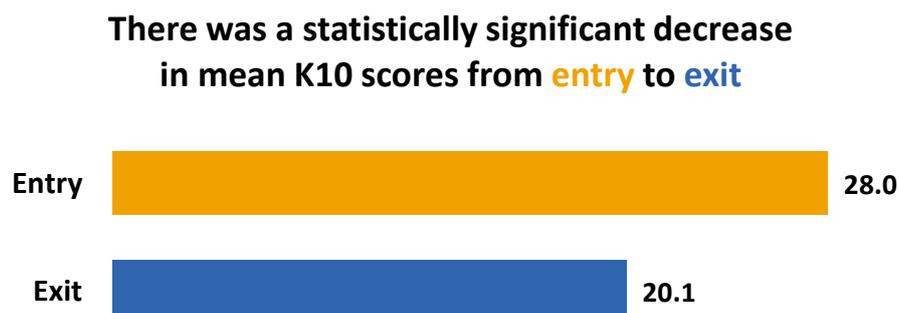
A paired sample t-test was conducted to evaluate changes in K10 scores. There was a statistically significant decrease in K10 scores from entry (mean=28.03, standard deviation=8.80) to exit (M=20.14, SD=7.23),  $t(64) = 7.44, p < .0005$  (two-tailed). The mean decrease in K10 scores was 7.89 with a 95% confidence interval ranging from 5.77 to 10.01. The eta squared statistic (.46) indicated a large effect size. Graph 1 shows the mean scores for the match pairs at entry and exit.

**Table 3 – What do the K10 scores mean?**

K10 Score	Level of psychological distress
10–19	None
20–24	Mild
25–29	Moderate
30–50	Severe

The changes in mean K10 scores indicate that the level of psychological distress of participants decreased from moderate to mild.

**Graph 1 – Mean K10 scores at entry and exit**



There was no statistically significant difference in K10 scores between males and females or between ‘step-up’ and ‘step-down’ consumers.

## Age

A one-way between-groups analysis of variance was conducted to explore differences between the age groups on their K10 scores. Participants were divided into four age groups (30 years or under, 31–40 years, 41–50 years, and 51 years and above). There was a statistically significant difference between the entry K10 scores the four age groups: Welch’s  $F(3, 53.94) = 6.082, p = .001$ . Despite reaching statistical difference, the actual difference in mean scores between many of the groups was quite small. The effect size, calculated using eta squared was moderate to large (.01). Post-hoc comparison using Tukey HSD test indicated that the mean scores for the under 30 year age group ( $M = 32.35, SD = 6.77$ ) was significantly different on entry from the 31–40 year age group ( $M = 23.37, SD = 8.03$ ). There were no significant differences in the mean scores between the other groups.

**Table 4 – Mean K10 scores by age group**

Age group	Entry			Exit		
	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>N</i>	<i>Mean</i>	<i>SD</i>
Under 30 years	20	32.35	6.77	15	22.53	6.52
31–40 years	30	23.37	8.03	16	18.31	6.91
41–50 years	33	29.24	10.75	23	19.17	7.46
51 years and over	23	28.43	10.22	11	21.55	7.92
<b>Total</b>	<b>106</b>	<b>27.99</b>	<b>9.67</b>	<b>65</b>	<b>20.14</b>	<b>7.23</b>

This result could indicate that on entry younger participants were experiencing a higher level of distress compared with older participants. On exit, there was no statistically significant difference in mean scores for the different age groups which could indicate that participants were exiting the PARCs with a similar level of mild distress on (mean=20.14).

## Sites

There was a statistically significant difference in K10 score on entry between the two sites: Northern PARC,  $M = 30.09, SD = 9.15$ ; Arion PARC,  $M = 25.89, SD = 9.799$ ;  $t(104) = 2.26, p = .024$  (two-tailed). The magnitude of the difference in the means (mean difference = 4.21, 95% CI: .56 to 7.86) was small to medium (eta squared=.05). This could indicate that on entry, participants were experiencing a higher level of distress at the Northern PARC compared with the Arion PARC. On exit, there was no statistically significant difference in K10 scores between the two sites.

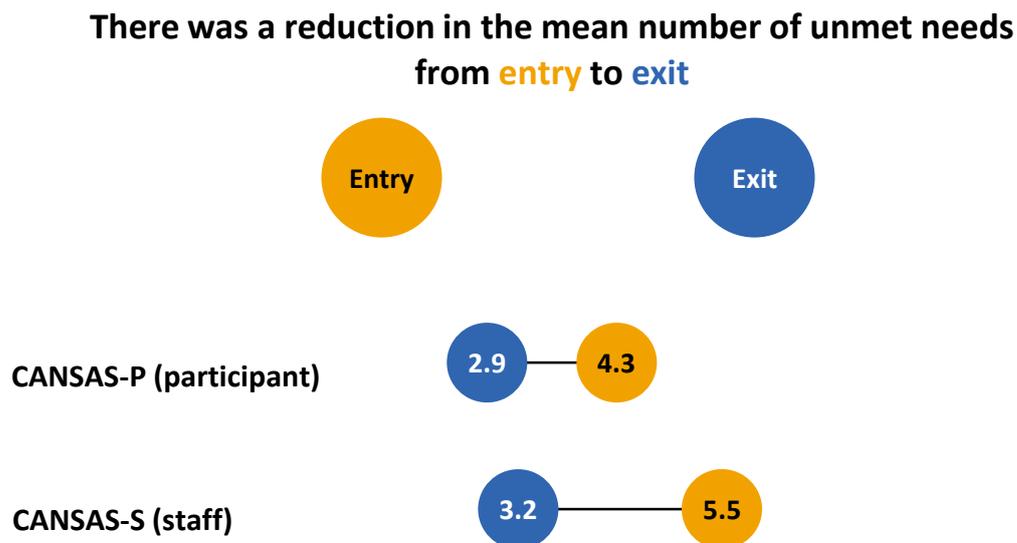
As a whole, these results could indicate that on entry, consumers were experiencing a greater range in the level of psychological distress compared with when they were exiting. Consumers were exiting with relatively similar levels of psychological distress compared with on entry.

## 5.2 Changes in unmet needs

To assess changes in the unmet needs of participants in the Project, consumers completed the CANSAS-P and their support workers completed the CANSAS-S at entry and exit from the PARCs. Graph 2 shows the mean number of unmet needs as assessed by both consumers and staff.

Paired sample t-test were conducted to evaluate changes in CANSAS scores completed by both participants and staff, and to compare the scores between participants and staff (Graph 2).

**Graph 2 – Mean number of unmet needs at entry and exit for CANSAS-P and CANSAS-S**



There was a statistically significant decrease in the mean number of unmet needs identified by both participants and staff from entry to exit. Participants on entry had a mean=4.30 (SD=2.95) number of unmet needs compared with mean=2.85 (SD=2.86) number of unmet needs on exit;  $t(53) = 3.27$ ,  $p = .002$  (N=54). The mean decrease in the number of unmet needs of participants was 1.44 with a 95% confidence interval ranging from .56 to 2.33. The eta squared statistic (.17) indicated a large effect size.

Staff identified that on entry participants had a mean=5.48 (SD=2.97) number of unmet needs compared with mean=3.20 (SD=2.36) number of unmet needs on exit;  $t(39) = 4.98$ ,  $p < .000$  (N=40). The mean decrease in the number of unmet needs reported by staff was 2.28 (SD=2.89) with a 95% confidence interval ranging from 1.35 to 3.20. The eta squared statistic (.39) indicated a large effect size.

A comparison of how participants and staff identified unmet needs revealed that participants usually identified having fewer number of unmet needs compared with staff. This is consistent with previous findings (Trauer & Tobias, 2004; Helyer, Tobias, & Trauer, 2008). On entry, there was a statistically significant difference in the number of participant unmet needs (M=4.19, SD= 2.92) compared with staff (M=5.71, SD=3.38);  $t(51) = -2.88$ ,  $p = .006$  (N=52). The mean difference in the number of unmet needs between participants and staff on entry was -1.52 (SD=3.80) with a 95% confidence interval ranging from -2.58 to -0.46. The eta squared statistics (.14) indicated a large effect size. There was no statistically significant difference on exit between the unmet needs reported by participants compared with staff.

## 5.3 Changes in recovery

To measure changes in the recovery of consumers while they were staying at the PARCs, the project utilised the two outcomes measures:

- Stages of Recovery Instrument-30 (STORI-30)
- Recovery Assessment Scale (RAS)

Below presents the analysis of these outcomes measures.

### Stages of Recovery Instrument-30 (STORI-30)

Participants were asked to complete the STORI-30 on entry, exit, and in follow-up (2-3 months after exiting). STORI-30 is divided into 5 subscales which correspond to the five stages of recovery. The subscale with the highest total score is considered to be the person's state of recovery. Each subscale has a potential maximum score of 30.

The following shows the number of completed STORI-30s at entry, exit and follow-up:

- Entry: 103 completed
- Exit: 63 completed
- Follow-up: 32 completed.

There were 24 participants who completed the STORI-30 at entry, exit and follow-up. The following analysis uses the data from these participants.

A one-way repeated measures ANOVA was conducted to compare scores on the STORI-30 at entry, exit and follow-up. The means and standard deviations are presented in Table 5. There was significant effect over time for all but one of the five stages of recovery (Table 6).

**Table 5 – STORI-30 mean scores by stage of recovery**

Stage of recovery	N	Entry		Exit		Follow-up	
		Mean	(SD)	Mean	(SD)	Mean	(SD)
Moratorium	24	13.79	(7.32)	8.00	(5.52)	7.42	(7.07)
Awareness	23	19.00	(5.37)	23.13	(5.98)	22.65	(6.02)
Preparation	23	16.22	(4.90)	22.22	(5.45)	22.39	(5.18)
Rebuilding	24	17.89	(7.39)	23.75	(5.00)	24.17	(4.95)
Growth	23	13.78	(6.20)	20.87	(4.76)	23.09	(3.98)

For most of the subscales there were significant changes from entry to exit. There were no significant changes for any of the subscales from exit to follow-up. These findings could indicate that participants, after a 2-3 month period following the exit from a PARC, are able to sustain the positive changes that may have occurred during the time they were staying in a PARC.

Participants reported a decrease in scores for the Moratorium stage of recovery from entry to exit and reported an increase in mean scores for the other stages of recovery (Graph 3). This is a positive shift as we are looking to see Moratorium scores decrease and for scores in the other subscales to increase. A decrease in Moratorium scores indicates a decrease in feelings of loss and hopelessness while increase in scores for the other subscales indicates a greater sense of hope and meaning in life and recovery.

Graph 3 – Mean STORI-30 scores at entry, exit and follow-up

There were statistically significant (\*) changes in mean STORI-30 scores for most of the stages of recovery from **entry** to **exit**. There were no statistically significant changes in mean scores from **exit** to **follow-up**.

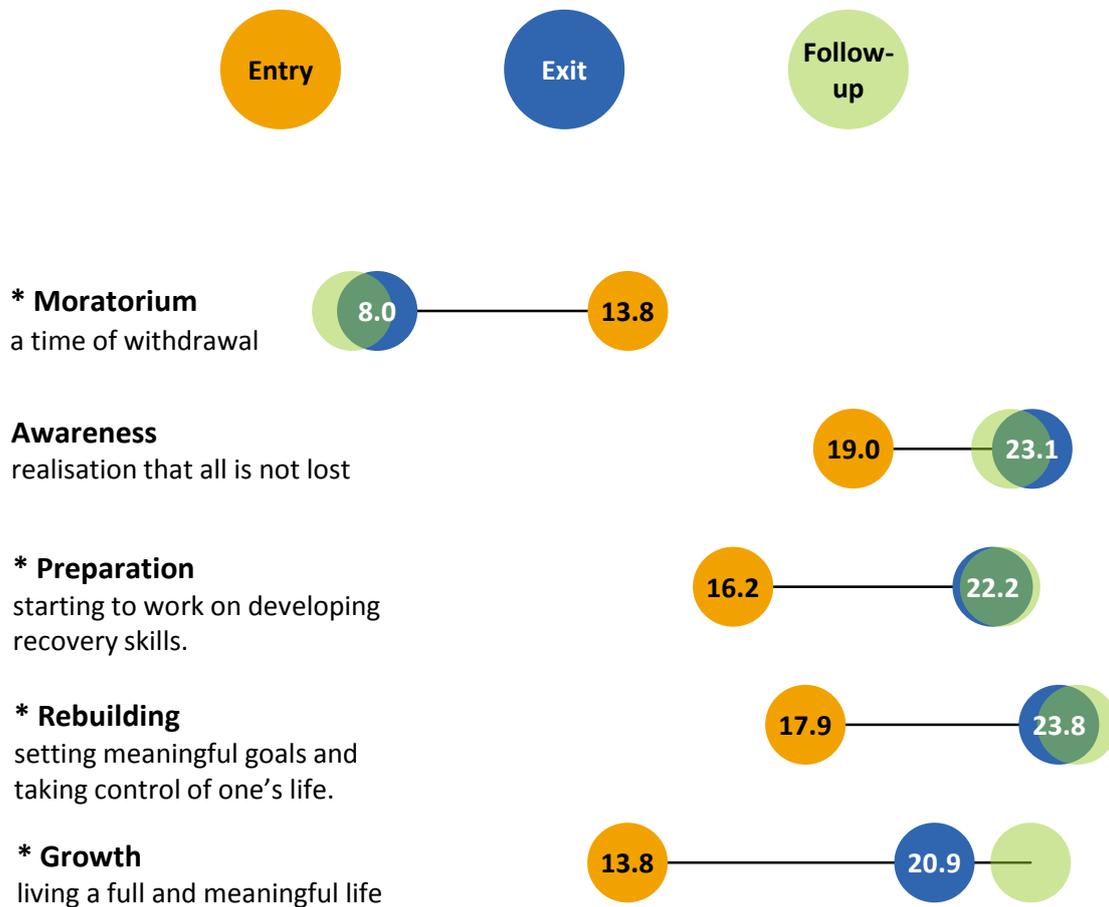


Table 6 – One-way repeated ANOVA for STORI-30 subscales scores for entry, exit and follow-up

Stage of recovery	One-way repeated ANOVA
* Moratorium	Wilk's Lambda = .64, F (2, 22) = 6.32, p = .007 multivariate partial eta squared = .37
Awareness	Wilk's Lambda = .70, F (2, 21) = 4.56, p = .023 multivariate partial eta squared = .30
* Preparation	Wilk's Lambda = .48, F (2, 21) = 11.25, p < .0005 multivariate partial eta squared = .52
* Rebuilding	Wilk's Lambda = .52, F (2, 22) = 10.15, p = .001 multivariate partial eta squared = .48
* Growth	Wilk's Lambda = .34, F (2, 21) = 20.83, p < .0005 multivariate partial eta squared = .67

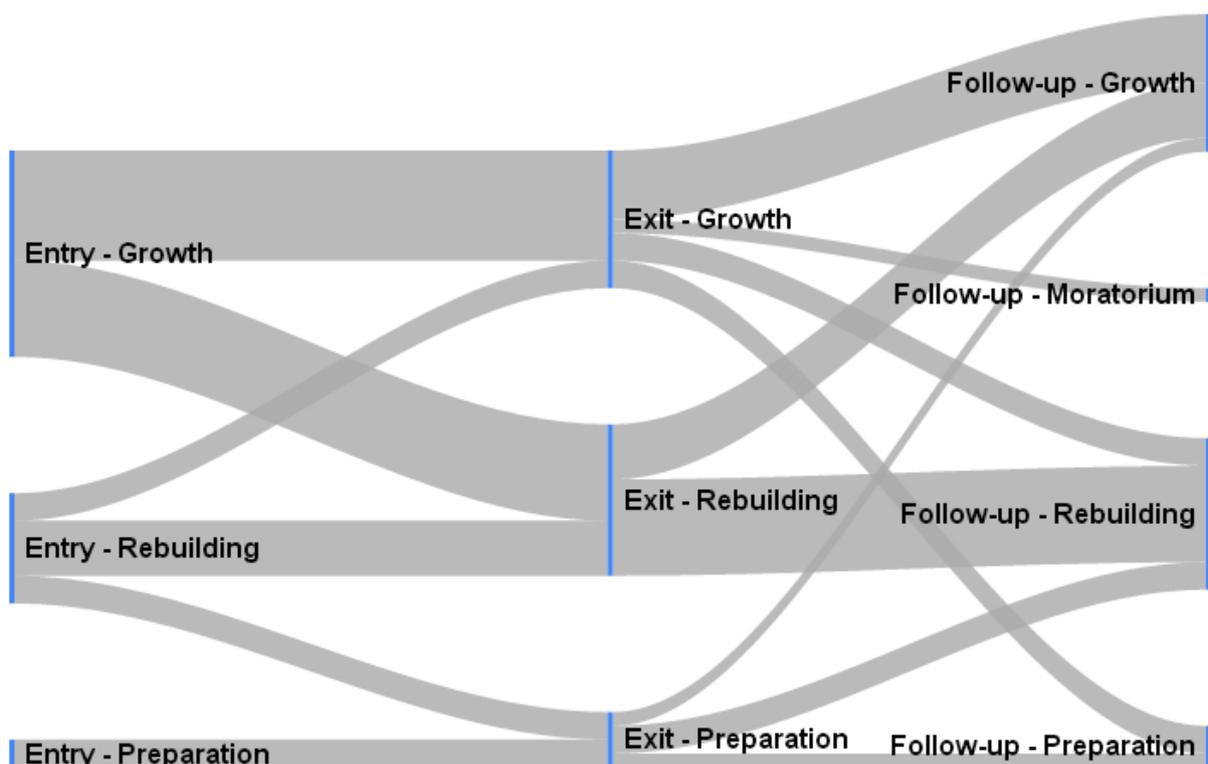
\*significant at a Bonferroni adjusted alpha level of .01 (.05/5)

An additional way to analyse the data from the STORI-30 is to look at which stage of recovery the participants are at when completing the measure. In scoring the STORI, each subscale is given a total score. The stage of recovery with the highest total score is counted as the person’s stage of recovery at the time.

On entry, no consumer was at the Moratorium or Awareness states. Even though some consumers reported very high levels of psychological distress, according to this analysis, no consumers had a profound sense of hopelessness or loss (indicated by being at the Moratorium stage).

We were able to follow the changes in the stage of recovery of 25 participants from entry to exit to follow-up. For example, on entry 60% of participants (15 people) were at the Growth stage of recovery. On exit, 40% of consumers (10 people) were at the Growth stage and on follow-up it was 40% of participants as well. From entry to exit, 8 people remained at the Growth stage. However, 7 people moved from Growth to Rebuilding and 2 people moved from Rebuilding to Growth. Graph 4 maps out the movements from the various stages of recovery from entry to exit to follow-up. The thickness of the bars in the graph indicates the proportion of participants at that stage of recovery rated at entry, exit and follow-up. Table 7 also tells the proportion of participants at that stage of recovery. For example, at entry 60% of participants were at the Growth stage and this is also indicated in Graph 4 as the Growth stage has the thickest bars.

**Graph 4 – Transition of participants between the stages of recovery from entry to exit to follow-up**



**Table 7 – Proportion of participants at entry, exit and follow-up by stage of recovery**

Stage of recovery	Entry		Exit		Follow-up	
	<i>N</i>	(%)	<i>N</i>	(%)	<i>N</i>	(%)
Growth	15	(60.0)	10	(40.0)	10	(40.0)
Rebuilding	8	(32.0)	11	(44.0)	11	(44.0)
Preparation	2	(8.0)	4	(16.0)	3	(12.0)
Awareness	-		-		-	
Moratorium	-		-		1	(4.0)
<b>Total</b>	<b>25</b>	<b>(100)</b>	<b>25</b>	<b>(100)</b>	<b>25</b>	<b>(100)</b>

### STORI-30 and K-10

On entry, there was a strong positive link between scores on the K10 and the STORI subscales, with high psychological distress associated with high score for the Moratorium subscale ( $r = .68$ ,  $n = 99$ ,  $p < .0005$ ), whereas low psychological distress was associated with high scores for the Growth subscale ( $r = -.58$ ,  $n = 103$ ,  $p < .0005$ ).

At exit, there was also links between the scores on the K10 and the STORI subscales with again high psychological distress associated with high score for the Moratorium subscale ( $r = .69$ ,  $n = 60$ ,  $p < .0005$ ), whereas there was a strong link between low psychological distress with high scores on the Growth subscale ( $r = .67$ ,  $n = 61$ ,  $p < .0005$ ) and a moderate link with high scores on the Preparation subscale ( $r = .35$ ,  $n = 63$ ,  $p = .005$ ) and Rebuilding subscale ( $r = .48$ ,  $n = 63$ ,  $p < .0005$ ).

## Recovery Assessment Scale (RAS)

Participants were asked to complete the RAS on entry, exit, and in follow-up (2-3 months after exiting).

The RAS has 5 subscales each with different maximum scores. Table 8 shows the potential maximum score for each RAS subscales. Higher scores in these subscales indicate increased levels of self-esteem, self-empowerment, positive relationships with social support and quality of life.

**Table 8 – Potential maximum scores for each RAS subscale**

RAS subscale	Potential maximum score
Personal confidence and hope	Max. 45
Willingness to ask for help	Max. 15
Goal and success orientation	Max. 25
Reliance on others	Max. 20
Not dominated by symptoms	Max. 15

The following shows the number of completed RASs at entry, exit and follow-up:

- Entry: 105 completed
- Exit: 64 completed
- Follow-up: 32 completed.

There were 25 participants who completed the RAS at entry, exit and follow-up. The following analysis uses the data from these participants.

A one-way repeated measures ANOVA was conducted to compare scores on the RAS scores at entry, exit and follow-up. The means and standard deviations are presented in Table 9. There was significant effect for time for two of the RAS subscales (Graph 5 and Table 10)—personal confidence and hope and not dominated by symptoms. The changes were significant from entry to exit (and for entry to follow-up). There were no significant changes for any of the subscales from exit to follow-up. This could indicate that from entry to exit, participants experienced an increase personal confidence and hope, a greater clarity and focus around personal goals and decrease in feeling dominated by symptoms associated with mental health difficulties.

However, participants did not report any statistically significant change in two of the RAS subscales—willingness to ask for help and reliance on others.

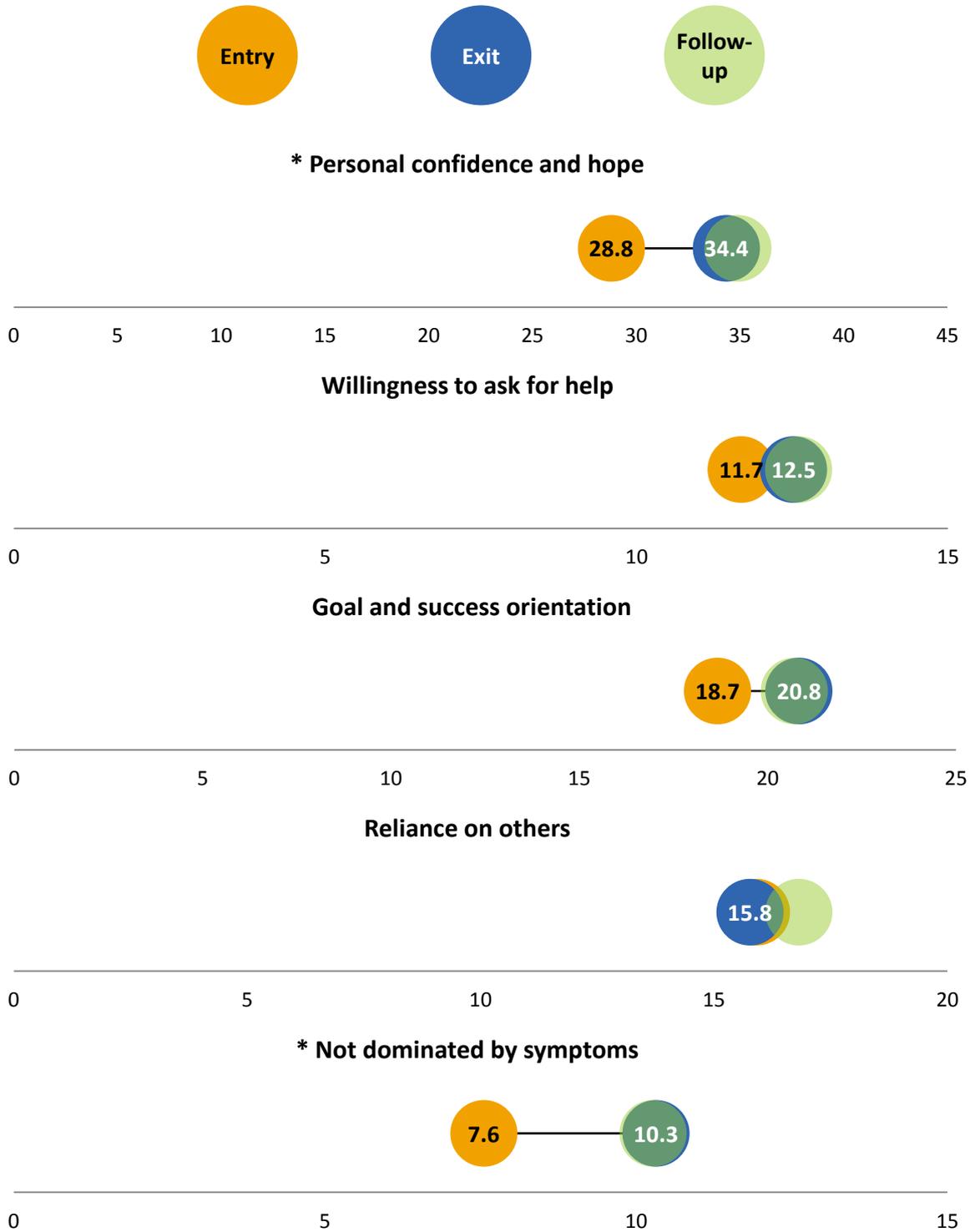
**Table 9 – RAS mean scores by subscales**

RAS subscale	N	Entry		Exit		Follow-up	
		Mean	(SD)	Mean	(SD)	Mean	(SD)
Personal confidence and hope	20	28.80	(5.50)	34.35	(4.73)	34.90	(3.45)
Willingness to ask for help	25	11.68	(2.23)	12.52	(2.14)	12.60	(1.80)
Goal and success orientation	24	18.67	(3.47)	20.83	(2.70)	20.71	(2.65)
Reliance on others	22	15.91	(2.84)	15.77	(2.56)	16.82	(2.92)
Not dominated by symptoms	22	7.55	(2.74)	10.32	(2.77)	10.27	(2.14)

Graph 5 – Mean RAS subscale scores at entry, exit and follow-up

**There was a statistically significant change in mean scores from entry to exit for two of the RAS subscales**

\* indicates significance at the 0.01 level



**Table 10 – One-way repeated ANOVA for RAS subscales scores for entry, exit and follow-up**

RAS subscale	One-way repeated ANOVA
* Personal confidence and hope	Wilk's Lambda = .44, F (2, 18) = 11.69, p = .001 multivariate partial eta squared = .57
Willingness to ask for help	Wilk's Lambda = .83, F (2, 23) = 2.36, p = .117 multivariate partial eta squared = .17
Goal and success orientation	Wilk's Lambda = .73, F (2, 22) = 4.17, p = .029 multivariate partial eta squared = .28
Reliance on others	Wilk's Lambda = .78, F (2, 20) = 2.78, p = .086 multivariate partial eta squared = .22
* Not dominated by symptoms	Wilk's Lambda = .58, F (2, 20) = 7.31, p = .004 multivariate partial eta squared = .42

\*significant at a Bonferroni adjusted alpha level of .01 (.05/5)

### RAS and K10

On entry, there was a strong correlation between low psychological distress on the K10 and higher personal confidence and hope subscale score ( $r = -.59$ ,  $n = 91$ ,  $p < .0005$ ). There was also moderate correlation between low psychological distress and higher goal and success orientation subscale score ( $r = .46$ ,  $n = 102$ ,  $p < .0005$ ) and higher not dominated by symptoms subscale score ( $r = .43$ ,  $n = 103$ ,  $p < .0005$ ).

These results are reinforcing each other as people who reported low psychological distress on the K10 also reported higher scores on not being dominated by symptoms on the RAS.

Feelings of confidence, hope and success could have been impacted by psychological distress as low psychological distress was also associated with higher personal confidence and hope and higher goal and success orientation.

On exit, there was a strong correlation between low psychological distress on the K10 and higher personal confidence and hope subscale score ( $r = -.68$ ,  $n = 60$ ,  $p < .0005$ ) and higher goal and success orientation subscale score ( $r = .57$ ,  $n = 63$ ,  $p < .0005$ ).

### RAS and STORI

Prior to commencing the Project, it was hypothesised that high scores on the RAS subscales would be positively correlated with scores on later stages of the STORI. An analysis

On entry and mostly on exit and follow-up, there were strong positive correlation between the RAS subscales of Personal confidence and hope, and Goal and success orientation and the later stages of the STORI—Preparation, Rebuilding and Growth. There was also a strong negative correlation between these two RAS subscales and the Moratorium subscale of the STORI for entry and exit. In addition, there were moderate positive correlations on entry, exit and follow-up between the other three RAS subscales and the later stages of the STORI. Table 11 lists all the correlations.

**Table 11 – Correlations between STORI and RAS subscales at entry, exit and follow-up**

Green = strong correlation (r = .50–1)		Yellow = moderate correlation (r = .30–.49)		Grey = weak correlation / not significant (r = .10–.29)	
<b>Entry</b>					
	STORI subscale 1 Moratorium	STORI subscale 2 Awareness	STORI subscale 3 Preparation	STORI subscale 4 Rebuilding	STORI subscale 5 Growth
<b>RAS subscale 1</b> Personal confidence and hope	r = -.63, n = 84 p < .0005	r = .21, n = 88 p = .054	r = .59, n = 87 p < .0005	r = .66, n = 88 p < .0005	r = .80, n = 89 p < .0005
<b>RAS subscale 2</b> Willingness to ask for help	r = -.27, n = 98 p = .007	r = .24, n = 102 p = .014	r = .44, n = 101 p < .0005	r = .47, n = 102 p < .0005	r = .37, n = 102 p < .0005
<b>RAS subscale 3</b> Goal and success orientation	r = -.57, n = 95 p < .0005	r = .17, n = 99 p = .090	r = .56, n = 98 p < .0005	r = .75, n = 99 p < .0005	r = .74, n = 99 p < .0005
<b>RAS subscale 4</b> Reliance on others	r = -.31, n = 91 p = .002	r = .27, n = 95 p = .008	r = .34, n = 94 p = .001	r = .32, n = 95 p = .001	r = .29, n = 96 p = .004
<b>RAS subscale 5</b> Not dominated by symptoms	r = -.42, n = 96 p < .0005	r = .13, n = 100 p = .192	r = .43, n = 99 p < .0005	r = .45, n = 100 p < .0005	r = .58, n = 100 p < .0005
<b>Exit</b>					
	STORI subscale 1	STORI subscale 2	STORI subscale 3	STORI subscale 4	STORI subscale 5
<b>RAS subscale 1</b>	r = -.73, n = 55 p < .0005	r = .36, n = 58 p = .006	r = .58, n = 58 p < .0005	r = .73, n = 58 p < .0005	r = .82, n = 56 p < .0005
<b>RAS subscale 2</b>	r = -.40, n = 59 p = .007	r = .50, n = 62 p < .0005	r = .44, n = 62 p < .0005	r = .48, n = 62 p < .0005	r = .49, n = 60 p < .0005
<b>RAS subscale 3</b>	r = -.66, n = 58 p < .0005	r = .22, n = 61 p = .087	r = .41, n = 62 p = .001	r = .64, n = 61 p < .0005	r = .80, n = 59 p < .0005
<b>RAS subscale 4</b>	r = -.36, n = 57 p = .005	r = .29, n = 60 p = .023	r = .42, n = 60 p = .001	r = .44, n = 60 p = .001	r = .49, n = 58 p < .0005
<b>RAS subscale 5</b>	r = -.40, n = 59 p = .002	r = .08, n = 62 p = .549	r = .27, n = 62 p = .037	r = .30, n = 62 p = .018	r = .41, n = 60 p = .001
<b>Follow-up</b>					
	STORI subscale 1	STORI subscale 2	STORI subscale 3	STORI subscale 4	STORI subscale 5
<b>RAS subscale 1</b>	r = -.26, n = 28 p = .177	r = .47, n = 27 p = .013	r = .67, n = 27 p < .0005	r = .62, n = 27 p = .001	r = .75, n = 27 p < .0005
<b>RAS subscale 2</b>	r = -.18, n = 32 p = .322	r = .54, n = 30 p = .002	r = .45, n = 30 p = .014	r = .39, n = 30 p = .034	r = .29, n = 30 p = .127
<b>RAS subscale 3</b>	r = -.31, n = 31 p = .091	r = .46, n = 29 p = .012	r = .64, n = 29 p = .001	r = .66, n = 29 p < .0005	r = .73, n = 29 p < .0005
<b>RAS subscale 4</b>	r = -.22, n = 29 p = .251	r = .26, n = 28 p = .176	r = .46, n = 28 p = .015	r = .35, n = 28 p = .071	r = .43, n = 28 p = .024
<b>RAS subscale 5</b>	r = -.028, n = 29 p = .889	r = .25, n = 29 p = .194	r = .42, n = 29 p = .022	r = .35, n = 29 p = .064	r = .35, n = 29 p = .062

## 5.4 Stressors and coping strategies of consumers

As part of completing the Optimal Health Program—the main service delivery framework at the Northern and Arion PARCs—consumers develop an Active Health Plan. As part of this project, there were 40 Active Health Plans available for analysis. The Active Health Plan is a wellness planning tool designed to clarify:

- Stressors
- Coping strategies
- Early warning signs, and
- Possible actions to take when becoming unwell, amongst others.

Each plan was unique for the individual. Many included specific people to contact for support. The table on the next page provides a summary of the most common responses for each section of the plans.

Although the plans were individualised, many had common elements:

### Stressors

- Family / friends: relationship issues were the most common stressor for many of the participants
- Money: lack of money or being unable to pay bills
- New people / new situations: unfamiliar people, situations or tasks were a cause of stress

### Signs of becoming/ being unwell

- Withdrawal: not speaking to people, avoiding crowds
- Sleeping problems: lack of / poor sleep, or sleeping too much for some people
- Changes in mood: lack of motivation or energy, feeling angry, paranoid thoughts

### Coping strategies

- Social contact: talking with friends, family or support person
- Music: listening or playing music
- Walking: walking outside or other types of exercise
- Planning: creating routines, planning ahead

The following table presents the most common responses for each category in the plan. The layout of the table reflects the design on the plan. The numbers next to each item indicates the number of responses that fall under that category.

**Most common response for the Active Health Plans – *the number indicates the count of responses***

**My Daily Coping Plan: Things ‘I can do’ for myself**

**Signs I’m under stress:**

- Feeling anxious / nervous / worried **(13)**
- Withdrawn / disengaged / isolating myself **(11)**
- Angry / short temper / irritable **(10)**

**Things that stress me out:**

- Family / friends / relationships **(13)**
- Money / lack of money / bills **(11)**
- New tasks / new people / new places **(5)**
- Crowds / shopping centres **(5)**

**Helpful coping strategies:**

- Family / friends / social contact **(20)**
- Listening to music / playing music **(12)**
- Walking **(12)**
- Planning / routine / organising **(9)**
- Own space / “time-out” **(9)**

**Becoming unwell**

**My early warning signs:**

- Withdrawal / not speaking to people / avoiding crowds **(15)**
- Lack of sleep / poor sleep **(12)**
- Lack of motivation / lack of energy / procrastination **(7)**

**What I can do:**

- Social contact / talk to support person (family, friends, psychologist) **(24)**
- Relaxation / deep breathing **(6)**
- Medication **(5)**

**What others can do:**

- Listen / make time for me / check-in **(20)**
- Give advice / support / suggestions **(11)**
- Be patient / polite / respectful **(3)**

**Who has agreed to help:**

*Participants wrote the name and contact details of specific support people.*

**My Action Plan: What I can do if I need more assertive action and support**

**Signs I am unwell:**

- Withdrawal / disconnected **(10)**
- Paranoid thoughts (people talking about me, trying to hurt me, not trusting) **(9)**
- Lack of sleep / poor sleep **(8)**
- Feeling angry / becoming violent **(7)**

**My Action Plan:**

For all participants the three action items included contact support person / clinical services. Participants also included actions individual to them like walking, listening to music, etc. It varied considerably between the plans.

**Who has agreed to help:**

*Participants wrote the name and contact details of specific support people / hospital.*

## 5.5 What participants said on exit?

Out of the 106 participants, 40 completed an exit interview. These were completed around a week after they left the PARCs. Table 12 has a summary of the responses to exit interview questions. Overall, the overwhelming majority of participants were satisfied with their stay, with 95% rating their satisfaction with their stay as either satisfied or very satisfied. The participants rated the support provided by the teams at the PARCs highly and the majority of participants felt safe or very safe during their stay. There were no discernible differences between the two sites for the exit interview responses.

**Table 12 - Exit interview responses**

Exit interview					
Selected questions	Very Good (%)	Good (%)	Average (%)	Poor (%)	Very Poor (%)
How would you rate the level of support provided by the team during your stay?	72.5	25.0	2.5	-	-
How would you rate your experience of engaging with other consumers during your stay?	32.5	45.0	17.5	5.0	-
How would you rate your experience of being involved in group work with other consumers during your stay?	38.5	38.5	20.5	2.6	-
How did you find the daily routine/structure during your stay?	42.5	37.5	20.0	-	-
How safe did you feel?	62.5 (Very Safe)	35.0 (Safe)	2.5 (Undecided)	-	-
How would you rate your level of confidence in now using your Health Plan to help you with keeping well?	24.2 (Very confident)	54.5 (Confident)	3.0 (Unsure)	18.2 (Somewhat confident)	-
Overall how satisfied were you with your stay?	47.5 (Very Satisfied)	47.5 (Satisfied)	2.5 (Neither satisfied or dissatisfied)	2.5 (Dissatisfied)	-

Participants were asked to elaborate on what they find valuable about their stay. Many participants appreciated the support given by the staff. Many also valued talking and being able to relate to the other consumers. Some valued the peace and rest their stay allowed while others valued the social interactions in the services. Below is a selection of some of the responses participants gave on what they found valuable about their stay:

- “Finding out what my triggers are for depression”
- “Contact with staff”
- “Peace to rest...quiet time to reflect on what has happened and repair physically and mentally”
- “Group sessions in the morning: talking and listening to other people’s problems”

- “Being able to come and go”
- “Group meals”
- “Eating together with consumers”
- “I felt very comfortable, cared for, staff were just wonderful”
- “Less fast paced than unit at hospital”

Participants were also asked what might improve their stay. Many did not have any suggestions saying everything was good. The most common suggestion was to have more group and structured activities, especially in the afternoons. Below is a selection of their responses:

- More group activities, e.g. morning walk before meeting
  - Nothing structured on the weekends
  - Got bored: not enough activities
  - More activities as a group not just OHP
  - More activities after lunch time
- Leaving the TV off until night time
- Bed was uncomfortable

## 6. Conclusion

Overall, the data collected to date provides an indication that staying in the PARC service can be beneficial to increasing participants' wellbeing across a number of domains.

Participants experienced a reduction in the psychological distress they reported from entry to exit at the PARCs. They reported a decrease in the number of unmet needs. They also reported positive changes in their recovery during the time they stayed at the PARCs. Even though the two PARCs in this project are managed by different organisations, the results are similar. At both PARCs consumers reported that they were satisfied with their stay.

### What's next?

More detailed information on the participants, including detailed demographic details and information about in-patient and PARC service usage will be extracted from the CMI database stored with the North Western Mental Health for PARC residents. This data will then be analysed and reported.

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## More information

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