An Evaluation of Health Improvements for Bowen Therapy Clients

Document prepared on behalf of

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1 Introduction

The results presented in this report are derived from data from 5 Occupational Health programmes in which individuals were allocated Bowen Therapy. A full sample of 778 Bowen Therapy clients are derived by pooling the data across the 5 different Occupational Health initiatives. The data was collected during the period February 2006 to September 2010 reflecting the differing time period in which each Occupational Health initiative was implemented. A total of 643 differing primary presenting conditions were

identified at entry. The 643 conditions were reclassified into 5 broad illness categories:

- Musculoskeletal and rheumatic conditions
- Mental health and behavioural disorders
- Injury
- Nervous system
- Other

It is, perhaps, not surprising that musculoskeletal and rheumatic conditions account for over two-thirds of the full sample of Bowen Therapy clients. Mental health and behavioural disorders include individuals experiencing an episode of depression as well as clients with a dependency on drugs or alcohol. The residual illness category of 'Other' includes primary presenting conditions not defined by the other four illness groups. Common primary presenting conditions included within the 'Other' illness group includes diabetes, skin and respiratory conditions.

Clients were asked to assess their health using the Canadian Occupational Performance Measure (COPM) at both entry and discharge.

2 Demographics of Bowen Therapy Clients

Table 1 presents summary statistics for the age of Bowen Therapy clients for the full sample and the five primary presenting conditions. The mean age for the full sample of individuals is 46.6 years, ranging from 19 to 67 years of age.

Table 1: Summary Statistics for Age by Primary Presenting Condition

Sample	Mean	Std. Dev	Min	Max
Full Sample	46.6	9.9	19	67
Musculoskeletal	47.5	9.7	19	67
Mental Health	44.6	8.8	20	62
Injury	42.1	11.3	19	62
Nervous System	45.8	11.4	25	59
Other	44.9	10.8	19	63

The summary statistics for age across the five primary presenting conditions are uniform relative to the full sample. Although Injury and Nervous System show a greater deviation from the full sample average, this is largely a manifestation of the much smaller sample size within these two illness groups.

Figure 1 presents the male and female age distributions for individuals receiving Bowen Therapy. The left-skewed distribution for both male and female clients illustrate that individuals allocated to receive Bowen therapy are among the upper tail of the age distribution. In this setting, there are

a greater percentage of Bowen therapy clients among the older age range of the working-age population.

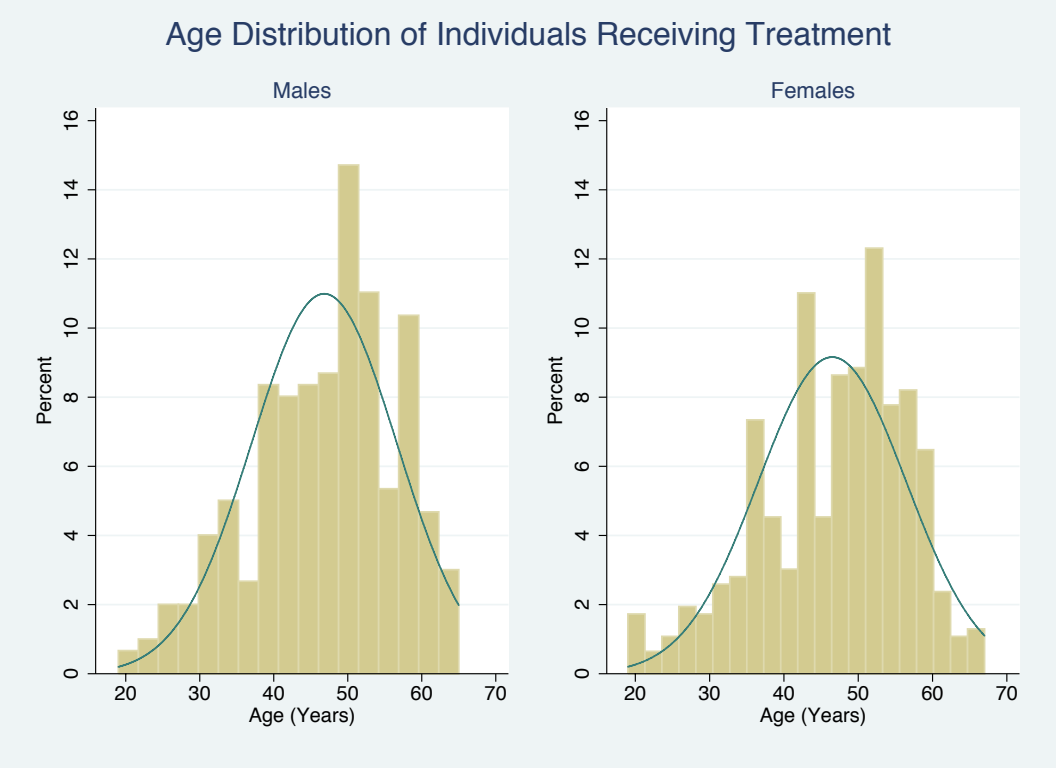

Figure 1: Age Distribution of Bowen Therapy Clients

Female clients account for just over 60 percent (60.9%) of the full sample of individuals allocated Bowen Therapy. Figure 2 presents the breakdown of primary presenting conditions by gender. As observed for the full sample, Musculoskeletal, Mental health, Other and Nervous system all report a greater percentage of females within each illness group. In contrast, there are

a greater percentage of males within the Injury group. This can be partly attributable to the small sample size of the Injury group. Nonetheless, the Injury group sample size is similar in magnitude to the Nervous system group. Instead, the Injury group can be considered to be comprised of a greater percentage of younger male clients relative to the other illness categories.

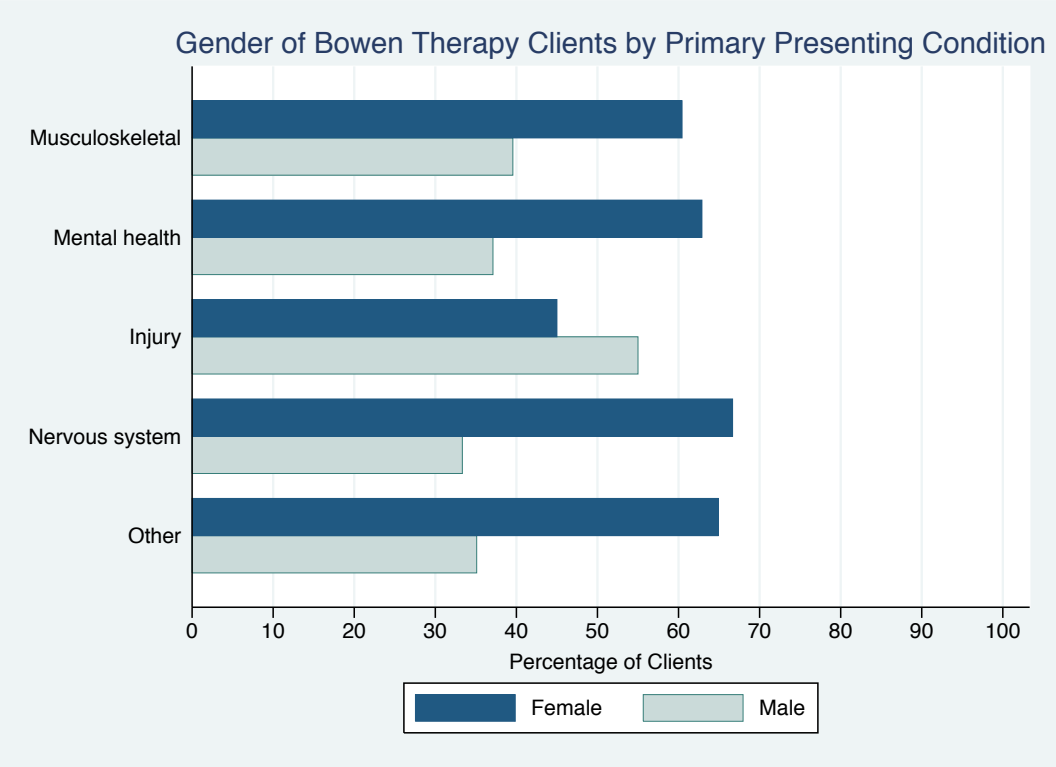

Figure 2: Gender of Bowen Therapy Clients by Primary Presenting Condition

Clients were offered and attended an average of 5 sessions. A slightly higher percentage of female (59%) clients missed at least one session com-

pared to male clients. Despite being offered the same number of sessions on average, 1 in 5 (19.5%) clients receiving treatment due to mental health conditions missed at least one session. The corresponding figure for musculoskeletal conditions is 16.5%, illustrating that 1 in 6 of musculoskeletal clients missed at least one session.

3 Health Dynamics of Bowen Therapy Clients

In order to capture changes in self-reported health, clients assess their health limitations using the Canadian Occupational Performance Measure (COPM) at both entry and discharge. COPM represents a standardised assessment tool in which clients are asked to consider their occupational capabilities in terms of performance and satisfaction. The COPM Performance score can be classified as measuring an individual's ability to perform occupational tasks. Furthermore, the COPM Satisfaction score measure requires an individual to self-assess their performance. A higher score on each COPM measure is associated with increased occupational capability and satisfaction. Clinically significant improvements in health are represented by a change of 2 points or greater on the COPM score from entry to discharge.

Figure 3 presents the COPM Performance scores at entry and discharge by primary presenting condition. The mean COPM Performance score at entry for the full sample was 15.5, rising to 26.2 at discharge. A paired-samples t-test confirms that this change in COPM Performance score is statistically significant ($t(777)=-34.02$; $p<0.01$). There are also large improvements in COPM Performance scores from entry to discharge across all primary presenting conditions. For example, musculoskeletal conditions which account for 71% of the sample, show an increase from 15.6 to 26.3.

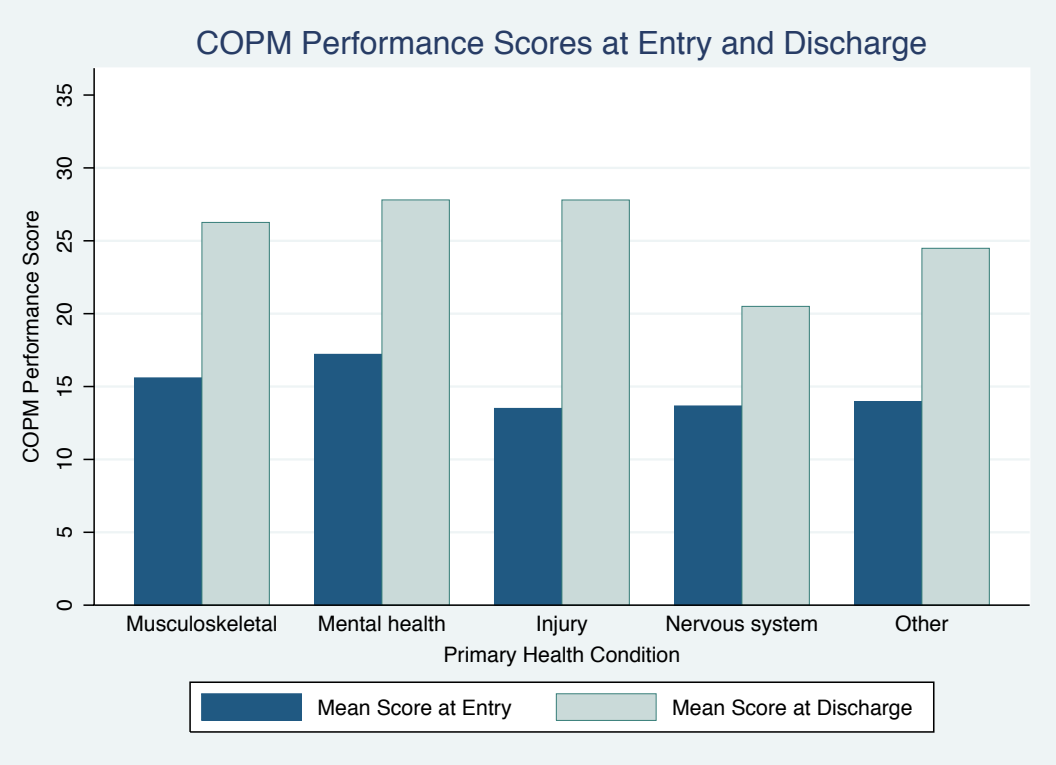

Figure 3: Raw COPM Performance Scores at Entry and Discharge

Figure 4 presents the COPM Satisfaction scores at entry and discharge by primary presenting condition. The mean COPM Satisfaction score at entry for the full sample was 8.1, rising to 23.5 at discharge. A paired-samples t-test confirms that this change in COPM Satisfaction score is statistically significant ($t(777)=-35.91$; $p<0.01$). There are also large improvements in COPM Satisfaction scores from entry to discharge across all primary presenting conditions.

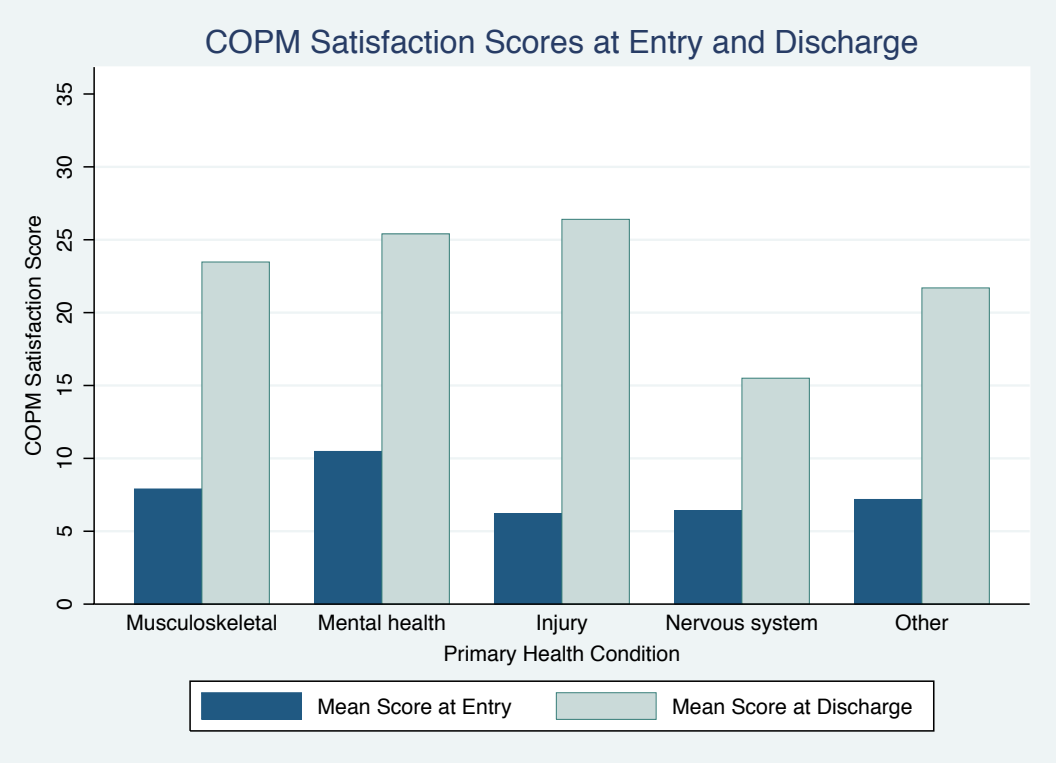

Figure 4: Raw COPM Satisfaction Scores at Entry and Discharge

The raw COPM Performance and Satisfaction scores illustrate that there have been a statistically significant improvement in self-assessed health from entry to discharge. Another important consideration is whether this change in health status can also be defined as clinically significant. The COPM requires clients to identify five occupational performance problems for both Performance and Satisfaction. By dividing the raw COPM scores presented in Figures 3 and 4 by the number of occupational performance problems identified by the client, then it is possible to define a clinically significant improvement as a score of 2 or more. Figure 5 presents this relationship between the change in COPM scores from entry to discharge for both Performance and Satisfaction by gender.

The mean COPM change for the primary presenting conditions by gender illustrate a general trend in which Bowen Therapy clients report clinically significant improvements in their health status and wellbeing. Male and female clients allocated Bowen Therapy due to Musculoskeletal, Mental health and Injury conditions all report clinically significant improvements in the COPM Performance and Satisfaction scores. It is important not to place too much emphasis on the gender disparities observed for the COPM scores among clients within the Nervous system group due to the relatively small sample

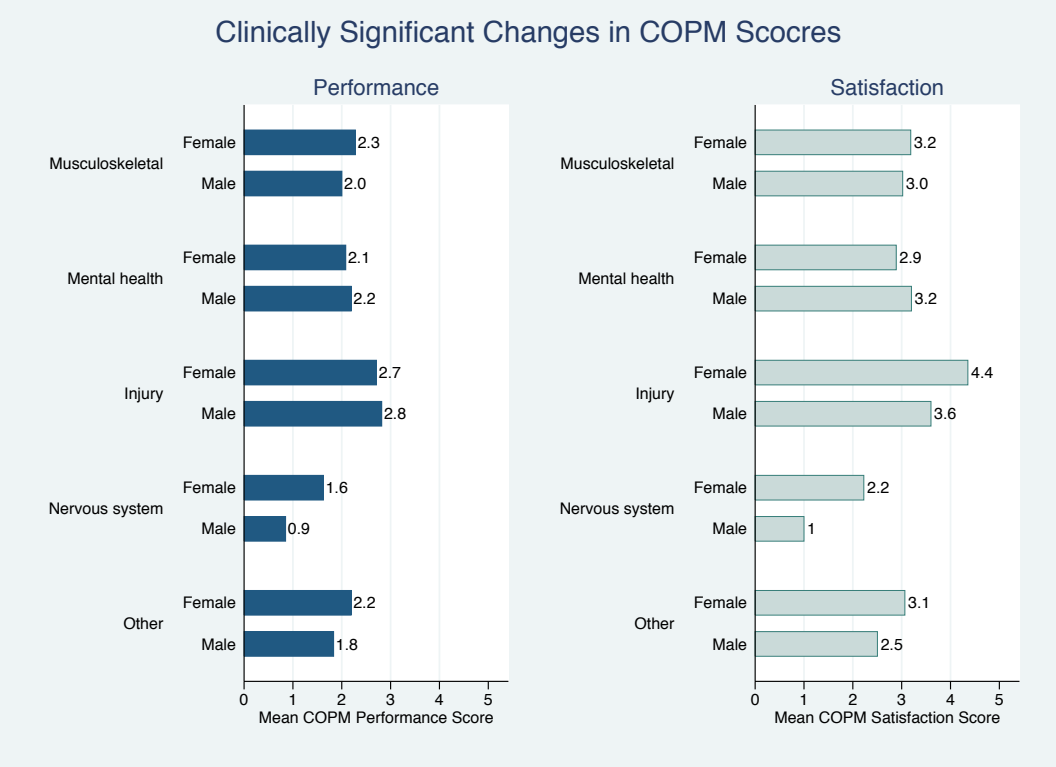

Figure 5: Clinically Significant Changes in COPM Scores

for this illness group. In contrast, there is a moderate gender disparity in clinically significant COPM scores for the Other illness group. For example, females, on average, achieve clinically significant improvements in COPM performance scores from entry to discharge whereas the average male client within the same group falls short of the clinically significant improvement.

The clinical and statistically significant changes in COPM scores illustrate an improvement in the average health of Bowen Therapy clients. One important caveat is that the analysis so far has been concerned with the mean performance of client health improvements. Although the figures show improvements in the mean scores from entry to discharge, it is also important to consider whether there has been a reduction in health inequalities within the client base. That is, whether there has been a shift in the distribution of COPM scores from entry to discharge.

Figure 6 presents the distribution of COPM Performance scores at entry and discharge. The distributional shape at entry was largely confined to the lower tail of the Performance score distribution. At discharge, there is a clear change in the distributional shape with a shift in the mean COPM performance score and a greater concentration of clients reporting higher COPM scores. A central question, therefore, concerns the identification of

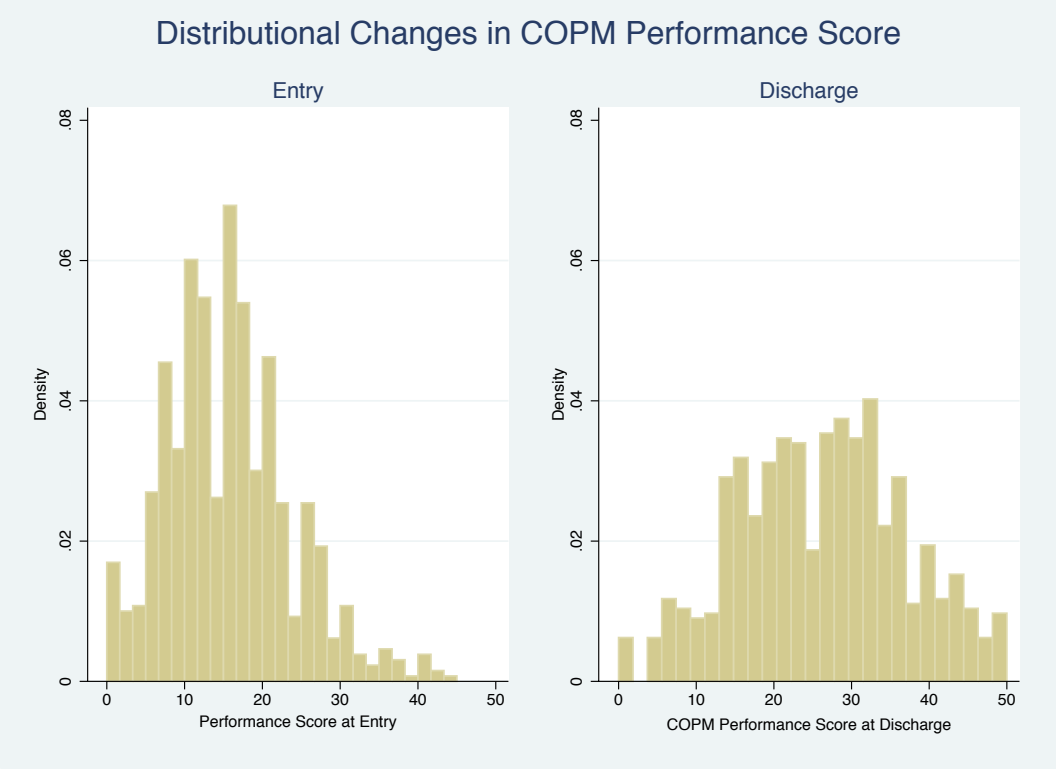

Figure 6: Distribution of COPM Performance Scores at Entry and Discharge

clients that yield the greatest change in COPM scores. To illustrate this point further, Figure 7 plots the relationship between the change in COPM performance score and the COPM performance score at entry.

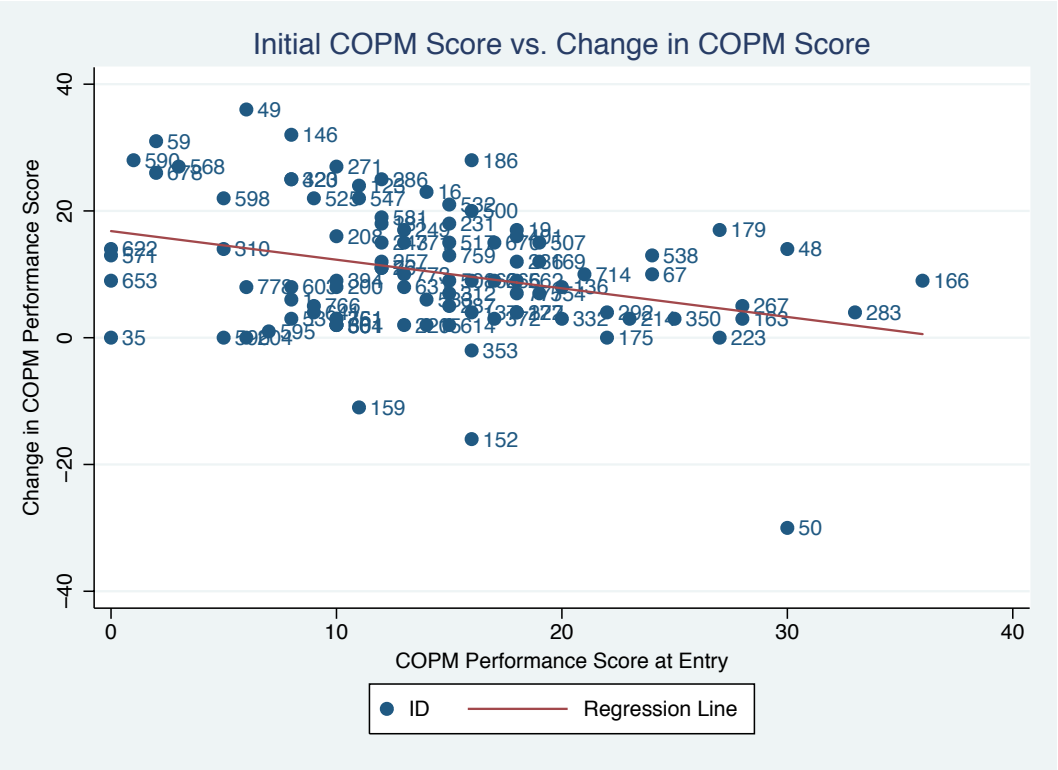

Figure 7: Association between Change in COPM Score and COPM Score at Entry

The downward sloping regression line in Figure 7 illustrates that individuals with the highest COPM Performance score at entry experienced a smaller relative change in COPM scores. In this setting, there is a reduction in health inequalities within the COPM client base as the individuals

reporting the lowest COPM scores at entry experienced the largest relative gains. To analyse the health dynamics further, it is possible to characterise the Bowen Therapy clients into three groups based upon their health status at entry. By truncating the distribution of COPM Performance scores at entry (as depicted in the left-hand panel of Figure 6), clients can be classified as entering the programme with either poor, moderate or high self-reported health status relative to the full sample mean at entry. In this setting, the three classifications correspond to the inter-quartile range of the COPM Performance score at entry.

Table 2: Transition Probability Matrix

Relative Health State	**Poor**	**Moderate**	**High**
Poor	21.23%	36.73%	42.04%
Moderate	2.06%	22.06%	75.88%
High	0.94%	1.42%	97.64%

Table 2 presents the transition probabilities for the three health groups from entry to discharge. The transition probability matrix is concerned with the mobility of individuals within each group from entry to discharge. For example, 21.23% of clients with poor self-reported health at entry remain within the poor health group at discharge. It is clear, therefore, that almost 80% of clients with poor self-reported health at entry improved on their

position at discharge. Indeed, 42.04% of clients within the poor health group at entry moved to within the high health group at discharge. Within the moderate health group, 75.88% of clients improved on their relative position by moving to within the high self-reported health category. Despite the general trend of upward mobility, some clients report losses in their relative position. This situation is polarised with almost 1% (0.94%) of clients within the high health group at entry moving to within the poor health group at discharge. Nonetheless, the general trend remains in which there is upward mobility within the poor and moderate groups and persistence within the high income group. For example, 97.64% of clients with high self-reported health at entry remained within the high health category at discharge.