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May  
2011

# Benchmarks for Primary Care Counselling Services

## core Recovery & Improvement Rates

### CORE Partnership

The CORE Partnership consists of the CORE Benchmarking/User Network, the CORE System Trust (responsible for the copyright of CORE measures), CORE Information Management Systems Ltd (CORE IMS - responsible for change agency and software support) and associated researchers. This Occasional Paper provides an update to the previously published benchmarks on recovery and improvement rates (Mullin et al, 2006).

### Data source

Data were drawn from the updated version of the CORE National Research Database for Primary Care, collected between 1999 and 2008. The data was cleaned to remove clients with basic demographic details missing; aged less than 16 or over 65 years or with a therapy modality other than individual therapy. In addition, clients who did not have valid pre-post therapy data were omitted ( $n = 38\,143$ ). This yielded a total dataset of 26 467 clients, seen by 910 practitioners in 35 services.

Mean completion rates were calculated for each service. The service-level mean data was then analysed to obtain values for the 25<sup>th</sup>, 50<sup>th</sup> and 75<sup>th</sup> percentiles. These in turn were used to create service-level benchmarks.

### The sample

#### Services

The number of cases contributed by individual services ranged between 15 and 4 124 clients and the number of practitioners per service between 2 and 139. The mean number of practitioners per service was 26.0 (SD = 24.25; median = 19).

#### Clients

The majority of clients (71%) were female and the mean age was 40.0 years (SD 11.97). 92% of the sample were White/Caucasian.

#### Practitioners

There were 910 practitioners in the sample, and individual practitioners saw between 1 and 436 clients (median = 9). The mean number of clients per practitioner was 29.1 (sd = 48.20). In the mildly/moderately/moderate-to-severe group there were 872 applicable practitioners and in the severe group there were 618 practitioners.

#### Case mix adjustment

In line with the original benchmarking recovery and improvement paper (Mullin et al, 2006); case mix adjustment was conducted at a practitioner level based on severity of clients' scores at intake. Clients were grouped into non-distressed (<10); mild/moderate/moderate-to-severe (10 - 24.9) and severe (>25). In addition, only practitioners with at least 3 clients in the relevant group were included in this part of the analysis.

## Results

Table 1: Benchmarks for intake CORE-OM scores

	% above cut-off at intake
Mean (sd)	88.2 (3.12)
Minimum	80.8
25th percentile (95% CI)	86.8 (84.0 - 87.3)
Median (95% CI)	88.3 (86.8 - 89.1)
75th percentile (95% CI)	89.6 (88.9 - 92.4)
Maximum	94.5

Figure 1 and Table 1 show the percentages of clients scoring above cut-off (10) on the CORE-OM at intake. The mean and median percentages are very similar at 88.2 and 88.3 respectively. On average, 88% of clients score above cut-off at intake assessment. Services with proportions above cut-off in excess of 90% have 'high' entry score levels and those with proportions below 87% have 'low' entry level scores. Proportions scoring above cut-off range from 81% to 95% but the majority of services have proportions between 86% and 90%.

Tables 2 and 3 give full detail of the benchmark data, with 95% confidence intervals for each of the percentiles. The confidence interval gives upper and lower bounds within which the actual value for the population could be expected to fall. Despite the size of the data set, confidence intervals are fairly large and may overlap. It is useful to bear this in mind when considering the benchmarks.

Figures 3, 4 and 5 give a simple, visual way of interpreting the data. Quartiles (25th, 50th and 75th percentiles) are used to divide the data into 4 groups based on the relevant criteria. Colour-coding is used to aid interpretation. Thus, a service with a high percentage of clients improved will have a percentage which lies above the upper quartile and within the green section. Conversely, services whose percentage recovered falls within the red section are among the lowest performing services using this particular indicator.

Table 2: Benchmarks for services

	Reliable and clinically significant change: 'Recovered'	Reliable change only: 'Improved'	'Recovered' or 'Improved'	No reliable change	Reliable deterioration
Mean (sd)	51.1 (10.56)	20.3 (3.25)	71.4 (9.09)	26.9 (8.10)	1.7 (1.41)
Minimum	20.0	13.5	46.7	14.8	0
25th percentile (95% CI)	44.5 (39.8 - 47.6)	18.2 (15.7 - 19.7)	65.5 (61.9 - 69.3)	21.6 (17.3 - 22.5)	0.9 (0.2 - 1.1)
Median (95% CI)	49.6 (44.8 - 55.6)	20.8 (19.2 - 21.6)	71.6 (67.3 - 76.7)	27.9 (22.1 - 30.2)	1.3 (1.0 - 1.7)
75th percentile (95% CI)	56.9 (55.3 - 67.0)	22.1 (21.2 - 24.4)	77.9 (75.7 - 82.4)	31.6 (29.0 - 35.9)	2.4 (1.7 - 3.6)
Maximum	69.1	26.7	84.7	46.7	6.7

Figure 1: percentage of clients scoring above cut-off at intake

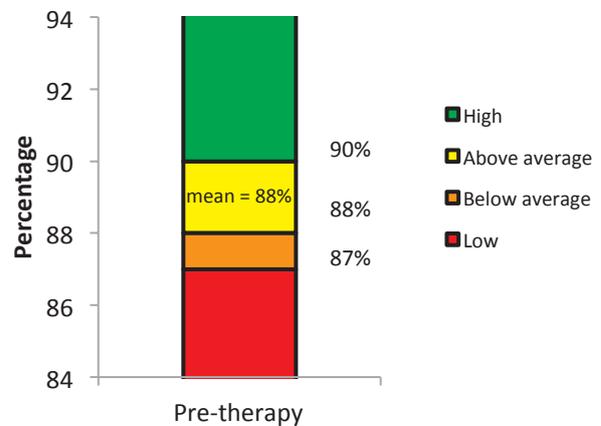


Figure 2a: percentage of clients recovered

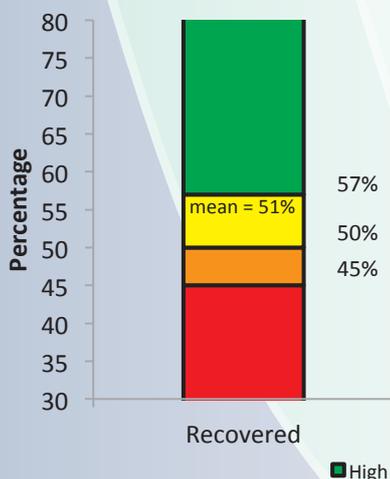


Figure 2b: percentage of clients improved

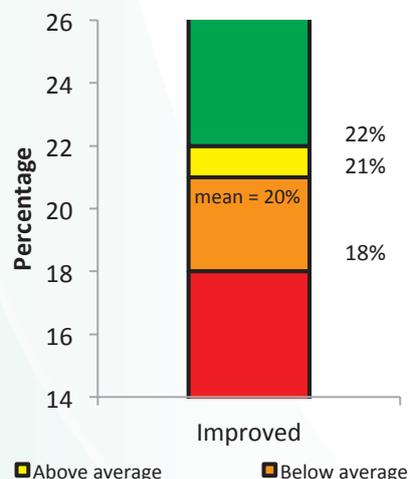


Figure 2c: percentage of clients showing recovery or improvement

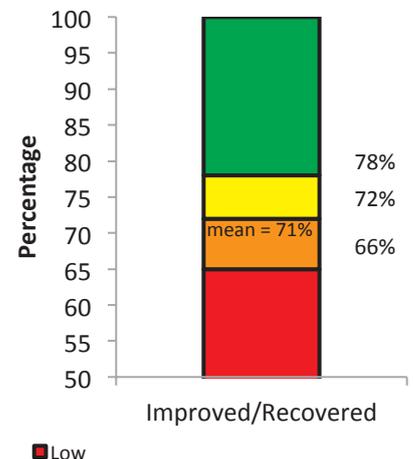


Figure 2 shows the percentages of clients 'recovered' (moving from above to below cut-off and score changed by 5 points or more), 'improved' (score changed by 5 points or more) and 'recovered or improved'. The average rate of recovery (Fig 2a) is 50% with services above 57% showing a relatively high rate of recovery and services below 45% showing a relatively low recovery rate. The service average was 72% of clients recovered or improved, with values in excess of 78% for those services in the top 25%. The bottom quarter of services had recovery or improvement rates below 66%.

Table 3: Benchmarks for practitioners according to severity and outcome group

Severity group		Reliable and clinically significant change: 'Recovered'	Reliable change only: 'Improved'	'Recovered' or 'Improved'	No reliable change	Reliable deterioration
Mild/Moderate/ Moderate-to-severe	Mean (sd)	60.3 (20.19)	15.7 (13.06)	75.9 (17.53)	22.7 (16.95)	1.3 (4.20)
	Minimum	0	0	0	0	0
	25th percentile (95% CI)	50.0 (46.7 - 50.0)	6.5 (0 - 7.9)	66.7 (66.7 - 68.4)	11.1 (10.0 - 12.8)	0 (0 - 0)
	Median (95% CI)	60.8 (59.6 - 62.8)	14.7 (14.0 - 15.8)	77.8 (75.7 - 79.6)	21.0 (20.0 - 22.2)	0 (0 - 0)
	75th percentile (95% CI)	73.3 (71.4 - 75.0)	22.3 (20.8 - 25.0)	87.5 (85.7 - 89.5)	31.4 (29.4 - 33.3)	0 (0 - 0.9)
	Maximum	100	80	100	100	33.3
Severe	Mean (sd)	37.1 (23.56)	42.9 (20.49)	79.9 (18.58)	19.8 (18.48)	0.3 (2.29)
	Minimum	0	0	0	0	0
	25th percentile (95% CI)	20.0 (16.7 - 25.0)	30.0 (26.1 - 33.3)	66.7 (66.7 - 71.4)	0 (0 - 3.7)	0 (0 - 0)
	Median (95% CI)	33.3 (33.3 - 36.4)	41.2 (38.9 - 44.4)	80.0 (77.8 - 83.3)	20.0 (16.7 - 21.4)	0 (0 - 0)
	75th percentile (95% CI)	54.2 (50.0 - 52.4)	57.1 (52.2 - 56.0)	100 (96.2 - 100.0)	29.9 (27.3 - 28.6)	0 (0 - 0)
	Maximum	100	100	100	100	33.3

Figure 3a: percentage of mild to moderate-to-severe clients recovered

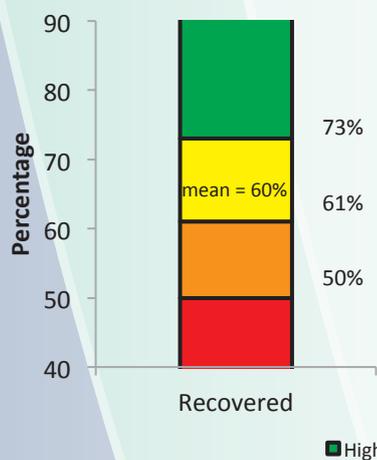


Figure 3b: percentage of mild to moderate-to-severe clients improved

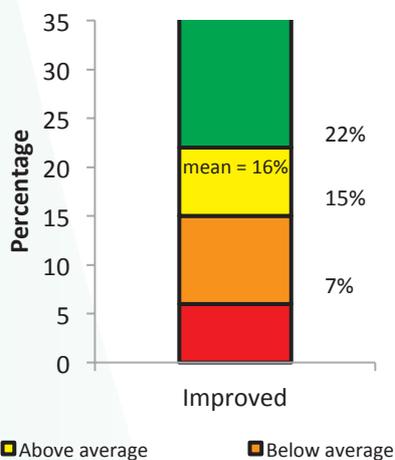
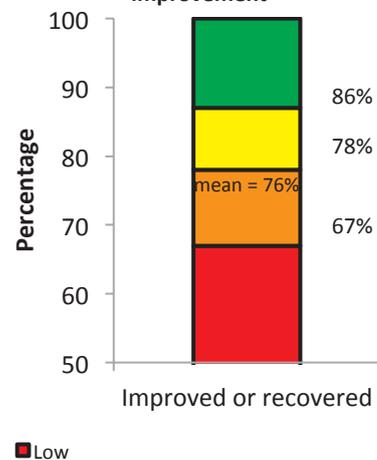


Figure 3c: percentage of mild to moderate-to-severe clients showing recovery or improvement



Figures 3 and 4 and Table 3 give details of benchmarks at a practitioner level, grouped according to severity of CORE-OM score at intake. Splitting the data in this way is very informative: we now have an average recovery rate of 61% for practitioners with clients in the mild/moderate/moderate-to-severe category (i.e. intake CORE-OM score 10-24.9) and only 33% for practitioners with clients in the severe category. However, improvement rates are much higher for the latter group (41% average vs 15% average), reflecting the fact that clients in the severe group may improve substantially over the course of therapy but remain above cut-off, in part due to their pre-therapy scores.

Figure 4a: percentage of 'severe' clients recovered

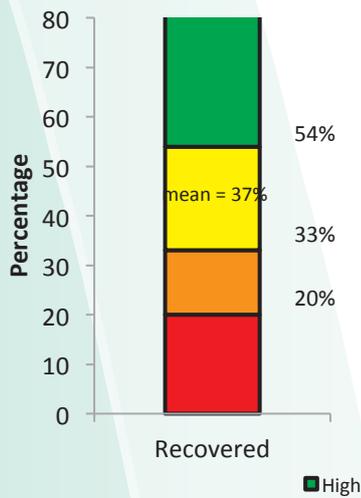


Figure 4b: percentage of 'severe' clients improved

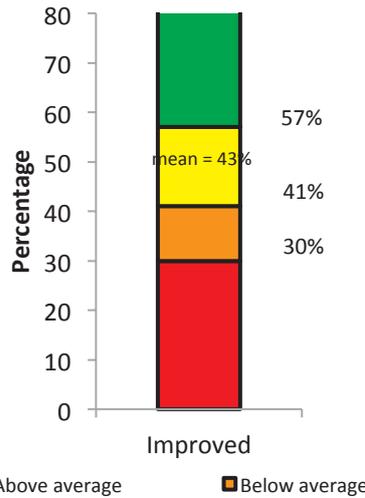
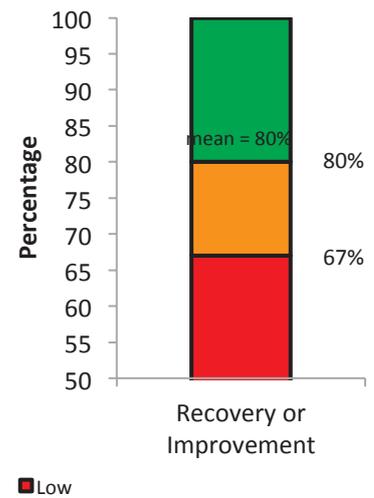


Figure 4c: percentage of 'severe' clients showing recovery or improvement



## Supplementary benchmarks for 'recovery' using IAPT cut-off and definition of recovery

CORE IMS defines recovery as clients who move from above cut-off before treatment to below cut-off at the end of treatment AND show a statistically reliable level of change (5 points). We have already detailed the levels of improvement and recovery following the standard CORE criteria but, with the advent of IAPT, appreciate that services would like to be able to compare their data with other services using the IAPT definition of recovery. The following analyses are therefore conducted using the IAPT definition:

$$\% \text{ recovered} = \frac{n \text{ patients moving from above to below cut-off}}{n \text{ patients with 2 measures} - n \text{ patients below cut-off at assessment}}$$

In addition, IAPT uses a cut-off of 13 on the CORE-OM.

## Percentages of clients scoring above cut-off at assessment

A total of 20 350 clients (76.9%) in the CORE NDB fulfilled the criteria previously outlined for inclusion in this part of the benchmarking analysis and scored above cut-off (13) at assessment. These included 5 758 males (75.5% of males) and 14 592 females (77.5% of females). An independent samples t-test revealed significant differences in the proportions of males and females scoring above IAPT cut-off at assessment ( $t = -3.48$ ,  $df=13 756$ ,  $p<.001$ ).

Figure 1: percentage of clients scoring above cut-off at intake

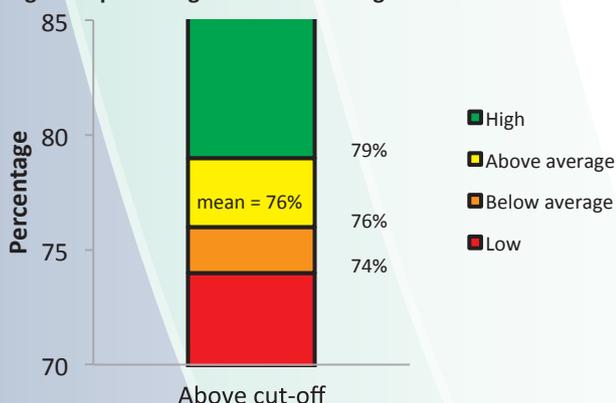


Table 1: Benchmarks for CORE-OM scores above IAPT cut-off at assessment

	% above cut-off at intake
Mean (sd)	76.3(4.21)
Minimum	67.1
25th percentile	74.3
Median	75.9
75th percentile	79.0
Maximum	86.9

The service-level average proportion of clients scoring above the IAPT cut-off of 13 is 76%. The service with the lowest proportion of clients above IAPT cut-off has 67.1% while the service with the highest proportion has 86.9%. Because of the higher IAPT cut-off, the proportion of clients scoring above cut-off is obviously lower than using the CORE-OM cut-off.

## Percentages of clients 'recovered' at the end of treatment

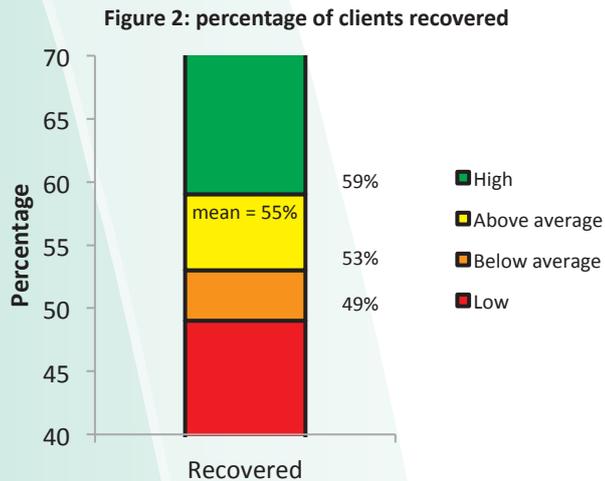


Table 2: Benchmarks for % clients 'recovered' using IAPT criteria for CORE-OM change

	% 'recovered'
Mean (sd)	55.0 (7.58)
Minimum	41.8
25th percentile	48.5
Median	53.4
75th percentile	59.1
Maximum	70.5

The average percentage of clients recovered by IAPT criteria, i.e. having moved from a CORE-OM score of above to below 13, is 55.0%. There is a range of almost 30 between the service with the highest proportion (70.5% 'recovered') and the service with the lowest proportion (41.8%). However, 50% of services have between 49% and 59% recovered (between the 25th and 75th quartiles). The percentages 'recovered' are slightly higher using IAPT criteria for recovery than using CORE-OM criteria.

## Percentage of clients 'recovered' by severity of pre-therapy CORE-OM score

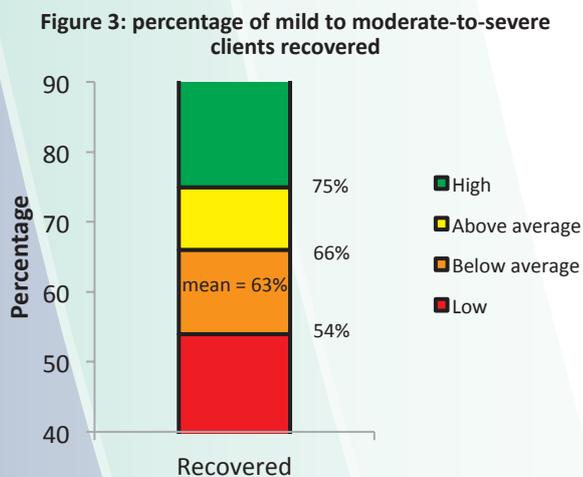
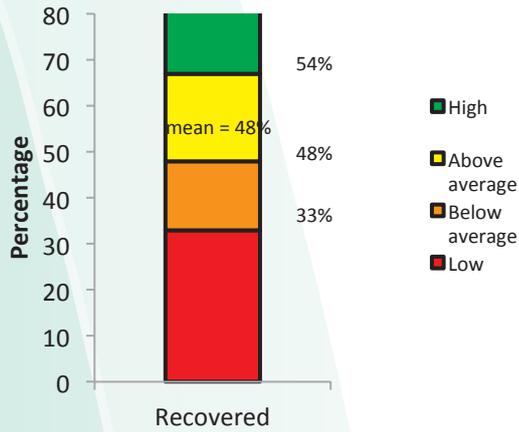


Table 3: Benchmarks for % mild/moderate/moderate-to-severe clients 'recovered' using IAPT criteria for CORE-OM change

	% 'recovered'
Mean (sd)	63.4 (18.6)
Minimum	0
25th percentile	54.0
Median	66.0
75th percentile	75.0
Maximum	100

Practitioner-level benchmarks for the proportion of clients 'recovered' grouped according to the severity of their CORE-OM score at intake are shown in Figures 3 & 4 and Tables 3 & 4. An average of 63% of mild/moderate/moderate-to-severe clients had recovered post-treatment, with the figure for severe clients being somewhat lower at 48%. The difference in levels of recovery using the two different criteria is much more marked for the 'severe' clients (48% average versus 37% average) than for the 'mild/moderate/moderate-to-severe' clients (63% versus 60%).

**Figure 4: percentage of 'severe' clients recovered**



*Table 4: Benchmarks for % severe clients 'recovered' using IAPT criteria for CORE-OM change*

	% 'recovered'
Mean (sd)	48.1 (25.41)
Minimum	0
25th percentile	33.3
Median	47.7
75th percentile	54.2
Maximum	100

**Reference**

Mullin, T., Barkham, M., Mothersole, G., Bewick, B.M. & Kinder, A. (2006). Recovery and improvement benchmarks for counselling and the psychological therapies in routine primary care. *Counselling and Psychotherapy Research*, 6 (1), 68-80.

