

Milestones of Recovery Scale

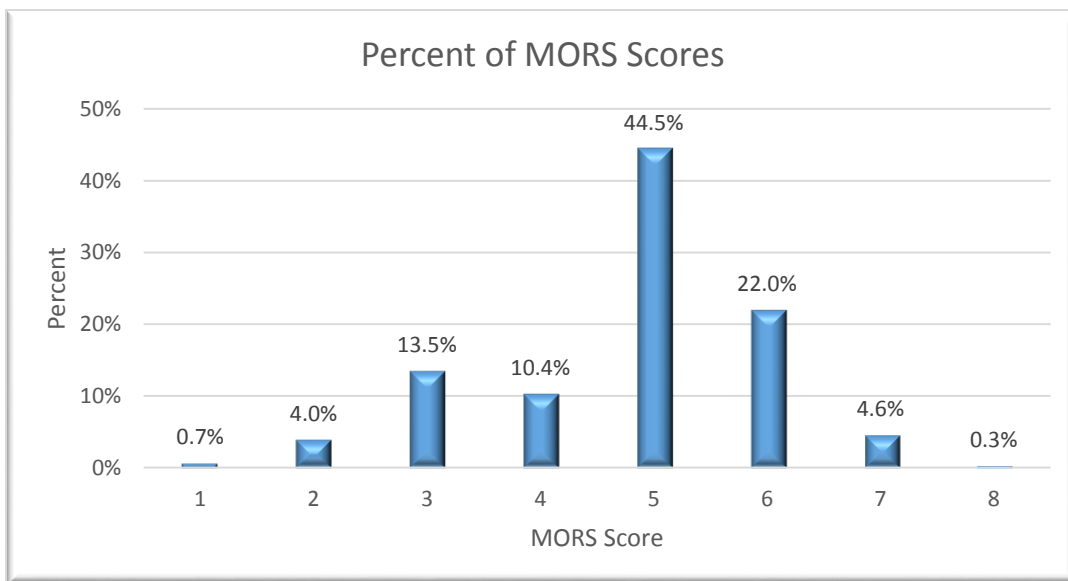
Recovery Questionnaire Emotional Health, Physical Health, and Hope Ratings 10/1/2014 to 9/30/2015

Introduction: The Milestones of Recovery Scale (MORS) has been in use by the Health and Human Services, Adult Services since October 2014. During the report period of October 1, 2014 to September 30, 2015 staff completed 1,176 MORS on 720 unduplicated clients.

Table 1: Count of MORS ratings

MORS									
	Extreme Risk	Experiencing High Risk, Not Engaged	Experiencing High Risk, Engaged	Not Coping Successfully, Not Engaged	Not Coping Successfully, Engaged	Coping Successfully, Rehabilitating	Early Recovery	Advanced Recovery	Total
	1	2	3	4	5	6	7	8	
Count	8	47	159	122	523	259	54	4	1,176

Figure 1: Percent of MORS ratings



The MORS rating showed a statistically significant increase from 4.60 to 4.88 (+0.28, $p = 0.0087$). The statistically significant quarterly change is highlighted in green.

Table 2: Quarterly averages for MORS, the n value, the average change per quarter and the p values for each change

n=	FY14-15 Q2 (n=9)	FY14-15 Q3 (n=12)		FY14-15 Q4 (n=50)		FY15-16 Q1 (n=114)	
	221	274	Change	266	Change	415	Change
MORS	4.60	4.84	+0.24 ($p = 0.0327$)	4.80	-0.04 ($p = 0.7006$)	4.88	+0.08 ($p = 0.4124$)

290 clients had more than one MORS in the reporting period. 456 follow-up MORS were completed on these clients, and the average change from the previous MORS was +0.11. Of the 456 follow-up MORS, 15.4% were lower than the previous score, 61.2% were the same, and 15.6% were higher. The difference between the percent that went up to the percent that went down was not statistically significant (p=0.155).

Table 3: Count of each change in rating from previous MORS

	Change from Previous MORS									Total
	-4	-3	-2	-1	0	1	2	3	4	
Count	1	7	18	44	279	71	27	6	3	456
Average Change	0.11									

Table 4: Percent of follow-up ratings that increased, stayed the same or decreased

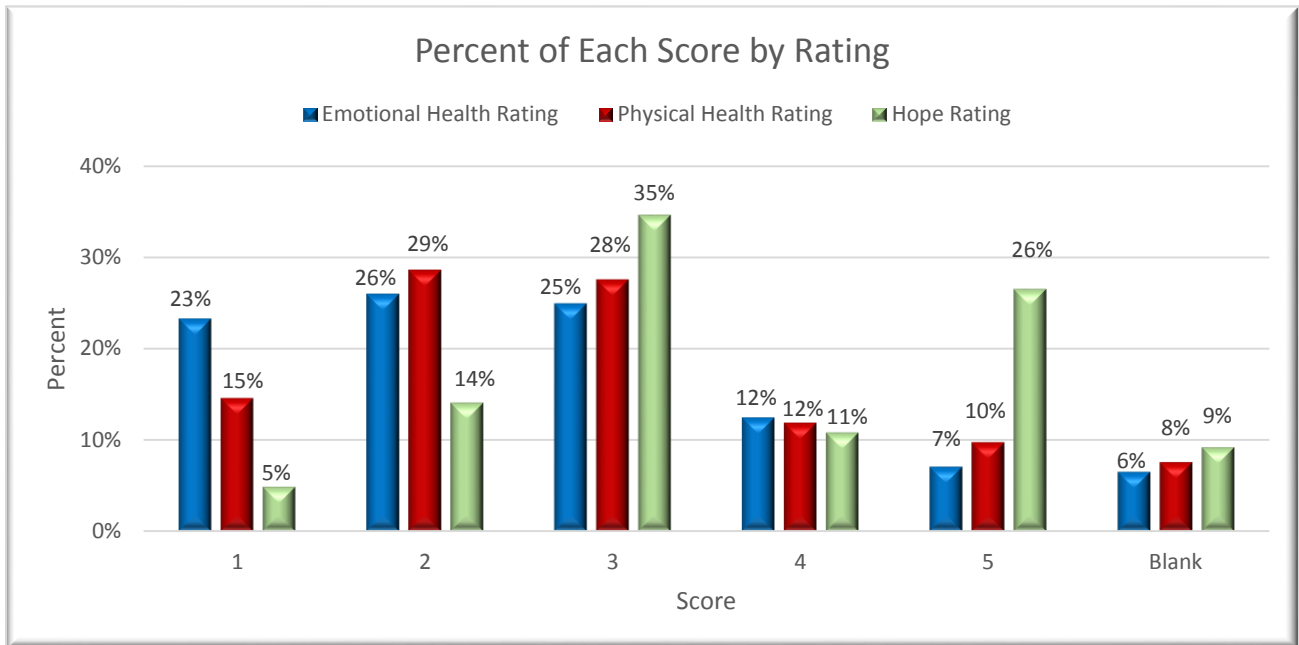
Lower than Previous MORS	15.4%
Same as Previous MORS	61.2%
Higher than Previous MORS	15.6%

The Recovery Questionnaire was developed by the Advancing Recovery PIP and began to be recorded in FY2014-15 Q2. Nine questionnaires were conducted that quarter, twelve were conducted in Q3, 50 in Q4, and 114 in FY2015-16 Q1 for a total of 185 Recovery Questionnaires completed in the reporting period. An additional five questionnaires are contained in the data base that are missing the date they were completed. Without this date, it is not possible to verify whether or not they were completed in the reporting period nor whether any MORS may have been completed within 30 days of the questionnaire. These have been excluded from this report.

Table 5: Count of each score for Emotional Health, Physical Health, and Hope

	Poor	Fair	Good	Very Good	Excellent	Blank	Total
	1	2	3	4	5		
Emotional Health Rating	43	48	46	23	13	12	185
Physical Health Rating	27	53	51	22	18	14	185
	Not hopeful	A little hopeful	Hopeful	Somewhat hopeful	Very hopeful	Blank	Total
	1	2	3	4	5		
Hope Rating	9	26	64	20	49	17	185

Figure 2: Percent of each score for Emotional Health, Physical Health, and Hope

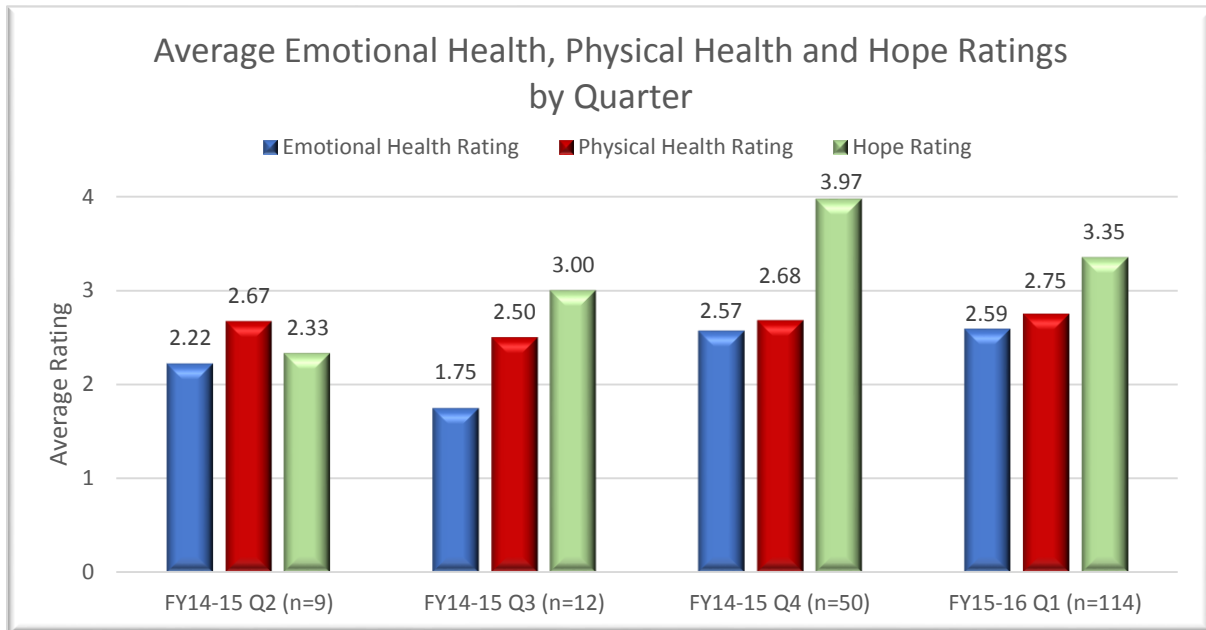


While all three ratings showed increases from the beginning of the reporting period to the end, the Emotional Health and Physical Health increases were slight and not statistically significant (Emotional Health +0.37, $p = 0.3568$; Physical Health +0.08, $p = 0.7675$). Only the Hope rating showed a statistically significant increase from 2.33 to 3.35 (+1.02, $p = 0.0419$). The statistically significant quarterly changes are highlighted in green.

Table 6: Quarterly averages for Emotional Health, Physical Health, and Hope ratings, the n value, the average change per quarter and the p values for each change

	FY14-15 Q2	FY14-15 Q3		FY14-15 Q4		FY15-16 Q1	
	n= 9	12	Change	50	Change	114	Change
Emotional Health Rating	2.22	1.75	-0.47 ($p = 0.3812$)	2.57	+0.82 ($p = 0.0461$)	2.59	+0.02 ($p = 0.9264$)
Physical Health Rating	2.67	2.50	-0.17 ($p = 0.7471$)	2.68	+0.18 ($p = 0.7121$)	2.75	+0.07 ($p = 0.7356$)
Hope Rating	2.33	3.00	+0.67 ($p = 0.2360$)	3.97	+0.97 ($p = 0.0183$)	3.35	-0.62 ($p = 0.0024$)

Figure 3: Quarterly averages for the Emotional Health, Physical Health, and Hope ratings



There were only thirteen clients who completed more than one Recovery Questionnaire that included Emotional Health, Physical Health and Hope ratings. Primarily because of the low sample size, the differences between the percent that went up to the percent that went down for each rating were not statistically significant (Emotional Health $p = 1.0000$, Physical Health $p = 0.0902$, and Hope $p = 0.6660$).

Table 7: Recovery Questionnaire Emotional Health, Physical Health, and Hope average change and percent that went up, stayed the same, and went down

n = 13	Emotional Health Rating	Physical Health Rating	Hope Rating
Average Change	0.000	-0.308	0.077
Percent that went down	30.8%	23.1%	23.1%
Percent that stayed the same	38.5%	76.9%	46.2%
Percent that went up	30.8%	0.0%	30.8%

Comparison of MORS score with Recovery Questionnaire Emotional Health, Physical Health, and Hope scores and results

Methodology: Of the 185 Recovery Questionnaires in the database, two were for the same client, were dated the same day, and were identical in content. Only one of these questionnaires was counted. Another eleven pairs (22 questionnaires) for the same clients were dated the same day, but did not contain identical data. All of these were excluded, as it was unclear which questionnaire contained the correct data. The final count of useable questionnaires is 162.

Of these 162, 69 clients did not have any MORS on record and another 26 did not have an associated MORS that had been conducted within 30 days. Of the 67 questionnaires that had an associated MORS within 30 days, four were missing the Emotional Health Rating, and three each were missing the Hope Rating and the Physical Health Rating.

All MORS in the sample were between 2 and 7. There were no scores of 1 or 8.

This section of the report uses linear regression and the Spearman’s rank correlation to assess possible correlations between the Recovery Questionnaires and associated MORS that were conducted within 30 days of each other.

The Spearman’s rank correlation coefficient (r_s) describes the level of correlation between two ordinal variables (i.e. Likert scales). The coefficient can be from -1 to +1. The closer that the coefficient is to either extreme, the more exact the correlation. Values of +/- .00 to .19 are considered very weak, .20 to .39 are considered weak, .40 to .59 are considered moderate, .60 to .79 are considered strong, and .80 to 1.0 are considered very strong. Positive values indicate that as X increase, Y also increases, while negative correlation values indicate that as X increases, Y decreases.

Report Summary: Linear Regressions and Spearman's correlations were run separately to assess the relationship between MORS and the Emotional Health, Physical Health, and Hope Ratings. The sample sizes were 64, 63, and 63 clients respectively who completed Recovery Questionnaire that included the relevant score and who also has a MORS conducted within 30 days of the questionnaire date.

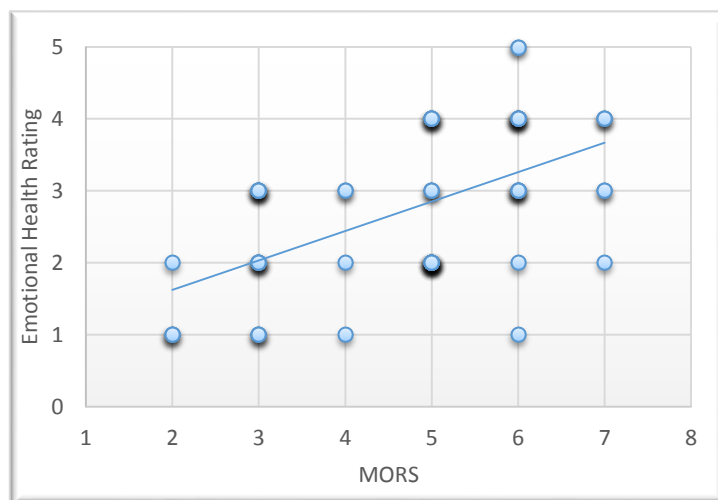
Positive, moderate, statistically significant correlations were found between the MORS and Recovery Survey ratings for Emotional Health and Hope. A very weak, positive, but non-statistically significant correlation was also found between the MORS and the Physical Health rating.

Findings: There was a moderate, statistically significant, positive correlation between MORS and the Emotional Health Rating ($r_s = .5531$, $p < .0001$). The linear regression showed a 0.4091 point increase in Emotional Health for every 1 point increase in MORS (95% confidence interval 0.2662 to 0.5520).

Table 7: Individual Count of MORS by Emotional Health Rating

Emotional Health	MORS					
	2	3	4	5	6	7
5					2	
4				6	7	3
3		6	2	3	5	2
2	1	5	1	11	1	1
1	3	3	1		1	
Blank		2		1		

Figure 4: MORS by Emotional Health Rating (n=64)

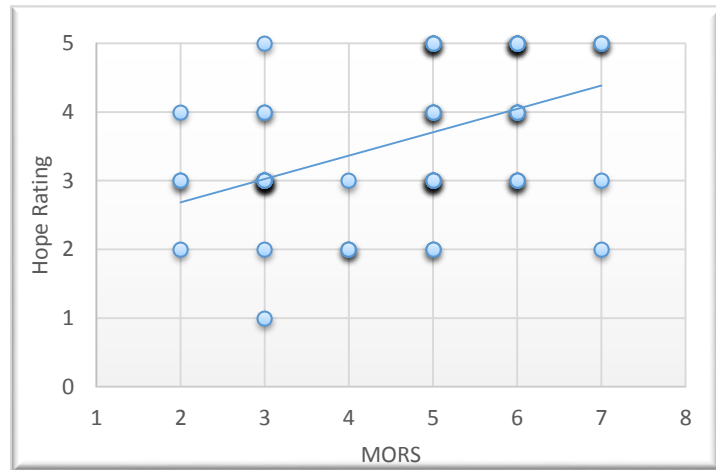


The correlation between MORS and Hope Rating was also moderate, positive and statistically significant ($r_s = .4607$, $p = .0001$). The linear regression showed a 0.3404 point increase in Hope for every 1 point increase in MORS (95% confidence interval 0.1712 to 0.5096).

Table 8: Individual Count of MORS by Hope Rating

Hope	MORS						
	2	3	4	5	6	7	
5		1		6	8	4	
4	1	2		4	4		
3	2	9	1	7	4	1	
2	1	1	3	2		1	
1		1					
Blank		2		2			

Figure 5: MORS by Hope Rating (n=63)

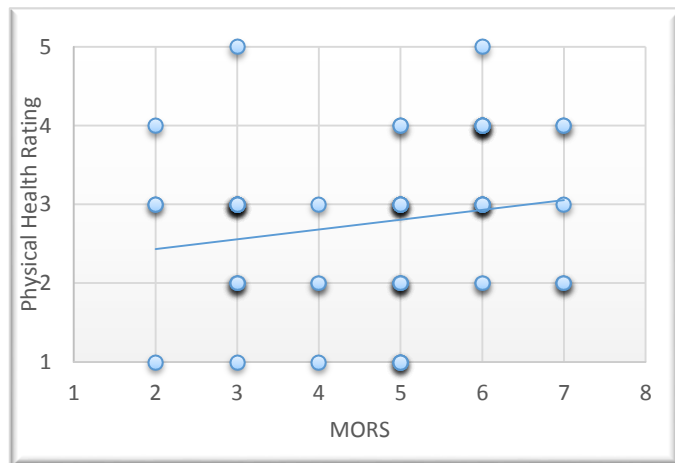


The linear regression showed a non-statistically significant 0.1246 point increase in Physical Health for every 1 point increase in MORS (95% confidence interval -0.0472 to 0.2964). The Spearman's correlation between MORS and Physical Health was very weak and positive, but not statistically significant ($r_s = .2308$, $p = .0687$).

Table 9: Individual Count of MORS by Physical Health Rating

Physical Health	MORS						
	2	3	4	5	6	7	
5		1			1		
4	1			2	7	2	
3	2	8	1	8	6	1	
2		4	2	5	2	3	
1	1	1	1	4			
Blank		2		2			

Figure 6: MORS by Physical Health Rating (n=63)



Conclusions: there was a statistically significant increase in overall MORS scores from the first quarter in the reporting period to the last, but the data does not support any trend over time for those clients who received multiple MORS or multiple Recovery Questionnaires. In the latter case, however, the sample size was extremely small (n=13). There were slight increases in all three Recovery Questionnaire measures from the first quarter to the last in the study period, but only the Hope rating increase was statistically significant.

The study found moderate, positive, statistically significant correlations between MORS and the Emotional Health rating, and between MORS and the Hope rating on the Recovery Questionnaire. The correlation between MORS and the Physical Health rating was very weak and positive, but was not statistically significant.

As the number of Recovery Questionnaires that are completed continues to increase going forward, the trends in the data and the correlations between the measures should be easier to determine with higher levels of accuracy.