Outcomes Star™ Psychometric Factsheet: Independent Living Star™

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Background

The Independent Living Star is for services older people, people with physical disabilities and others needing additional support to stay living independently in their own homes for as long as possible.

It was developed by Triangle alongside Staffordshire Housing Association, who contributed to the outcome areas and Journey of Change and provided feedback on the tool as part of an iterative process or development and refinement. They also piloted the draft version of this Star.

More information about the principles behind the development of the Outcomes Star are described in MacKeith (2011).

Method and analytic strategy

Independent Living Star data routinely collected and entered onto the Star Online was analysed by Triangle to test its validity as an outcomes measurement tool. These psychometric analyses used anonymised data form 2109 service users with at least one review Star reading.

A full explanation of the analytic strategy is provided in the accompanying document – Outcomes Star Psychometric Factsheets: Overview.

Results

> ### *Does it make sense for the different outcome areas of the Star to be included in the same tool?*
>
> **Factor Structure:** All but one of the inter-items correlations were above .30, and a Kaiser-Meyer-Olkin value exceeding the recommended minimum value of 0.60 (Kaiser 1970, 1974) and a significant Bartlett's Test of Sphericity (Bartlett, 1954) supported the suitability of the data for factor analysis. This analysis yielded a unidimensional factor structure explaining 64% of the real variance in the data. The areas Where you live and Being treated with dignity were weakly correlated (see appendix 1).
>
> **Internal Consistency:** Internal consistency was very good (Cronbach's α = 0.86).

Is each outcome area measuring a unique aspect of the service user's situation?

Item redundancy: No inter-item correlation exceeded the 0.7 threshold, suggesting no redundancy between areas (see Table 1).

Does the Star detect change occurring within a service?

Responsiveness to change: Wilcoxen Signed Rank Test revealed a statistically significant increase in readings in all outcome areas. There was a medium-large effect size for Where you live, and small-medium effect sizes for all other areas apart from Being treated with dignity (which had a small effect size; see Table 2).

Conclusion

The results of these initial analyses are encouraging and suggest that the Independent living Star is a coherent outcomes measurement tool, with responsiveness to change and no item redundancy. A unidimensional factor structure appeared to fit the data, although readings in the Where service users live area was only weakly related to Being treated with dignity.

Research is planned to examine consistency in understanding of the scales (inter-rater reliability) and the relationship between Star readings and other measures (convergent and predictive validity).

Further research

External research about the Star as an outcomes and keywork measure can be found on our website:
http://www.outcomesstar.org.uk/about-the-star/evidence-and-research/research-library/#all

TABLE 1: Correlation matrix for outcome areas (N = 2109)

	1	2	3	4	5	6	7	8
1 Where you live								
2 Looking after yourself	.49							
3 Health	.30	.67						
4 Being treated with dignity	.15	.31	.26					
5 Meaningful activity	.30	.57	.56	.34				
6 Social life	.35	.55	.52	.36	.79			
7 Managing money	.28	.33	.30	.43	.34	.35		
8 How you feel	.40	.55	.55	.31	.58	.59	.32	

TABLE 2: Responsiveness of the Independent Living Star (N = 2109)

	First Star median	Final Star median	Z	Effect size r^1
1 Where you live	4	5	31.17***	0.48
2 Looking after yourself	4	4	23.07***	0.36
3 Health	3	4	21.01***	0.32
4 Being treated with dignity	5	5	8.60***	0.13
5 Meaningful activity	4	4	12.55***	0.19
6 Social life	4	4	9.70***	0.15
7 Managing money	5	5	13.86***	0.21
8 How you feel	3	4	28.56***	0.44

***$p < .001$

1 Cohen provided rules of thumb for interpreting these effect sizes, suggesting that an r of .1 represents a 'small' effect size, .3 represents a 'medium' effect size and .5 represents a 'large' effect size

References

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