

INTRODUCTION

The RAND 36-Item Health Survey (Version 1.0) taps eight health concepts: physical functioning, bodily pain, role limitations due to physical health problems, role limitations due to personal or emotional problems, emotional well-being, social functioning, energy/fatigue, and general health perceptions. It also includes a single item that provides an indication of perceived change in health. These 36 items, presented here, are identical to the MOS SF-36 described in Ware and Sherbourne (1992). They were adapted from longer instruments completed by patients participating in the Medical Outcomes Study (MOS), an observational study of variations in physician practice styles and patient outcomes in different systems of health care delivery (Hays & Shapiro, 1992; Stewart, Sherbourne, Hays, et al., 1992). A revised version of the RAND 36-Item Health Survey (Version 1.1) that differs slightly from Version 1.0 in terms of item wording is currently in development.

SCORING RULES FOR THE RAND 36-ITEM HEALTH SURVEY (Version 1.0)

We recommend that responses be scored as described below. A somewhat different scoring procedure for the MOS SF-36 has been distributed by the International Resource Center for Health Care Assessment (located in Boston, MA). Because the scoring method described here (a simpler and more straightforward procedure) differs from that of the MOS SF-36, persons using this scoring method should refer to the instrument as the RAND 36-Item Health Survey 1.0.

Scoring the RAND 36-Item Health Survey is a two-step process. First, precoded numeric values are recoded per the scoring key given in Table 1. Note that all items are scored so that a high score defines a more favorable health state. In addition, each item is scored on a 0 to 100 range so that the lowest and highest possible scores are set at 0 and 100, respectively. Scores represent the percentage of total possible score achieved. In step 2, items in the same scale are averaged together to create the 8 scale scores. Table 2 lists the items averaged together to create each scale. Items that are left blank (missing data) are not taken into account when calculating the scale scores. Hence, scale scores represent the average for all items in the scale that the respondent answered.

Example: Items 20 and 32 are used to score the measure of social functioning. Each of the two items has 5 response choices. However, a high score

(response choice 5) on item 20 indicates extreme limitations in social functioning, while a high score (response choice 5) on item 32 indicates the absence of limitations in social functioning. To score both items in the same direction, Table 1 shows that responses 1 through 5 for item 20 should be recoded to values of 100, 75, 50, 25, and 0, respectively. Responses 1 through 5 for item 32 should be recoded to values of 0, 25, 50, 75, and 100, respectively. Table 2 shows that these two recoded items should be averaged together to form the social functioning scale. If the respondent is missing one of the two items, the person's score will be equal to that of the nonmissing item.

Table 3 presents information on the reliability, central tendency and variability of the scales scored using this method.

References

1. Ware, J.E., Jr., and Sherbourne, C.D. "The MOS 36-Item Short-Form Health Survey (SF-36): I. Conceptual Framework and Item Selection," *Medical Care*, 30:473-483, 1992.
2. Hays, R.D., & Shapiro, M.F. "An Overview of Generic Health-Related Quality of Life Measures For HIV Research," *Quality of Life Research*, 1: 91-97, 1992.
3. Stewart, A. L., Sherbourne, C., Hays, R. D., et al. "Summary and Discussion of MOS Measures," In A. L. Stewart & J. E. Ware (eds.), *Measuring Functioning and Well-Being: The Medical Outcome Study Approach* (pp. 345-371). Durham, NC: Duke University Press, 1992.

Table 1
STEP 1: RECODING ITEMS

ITEM NUMBERS	Change original response category (a)	To recoded value of:
1,2,20,22,34,36	1 ----- >	100
	2 ----- >	75
	3 ----- >	50
	4 ----- >	25
	5 ----- >	0
3,4,5,6,7,8,9,10,11,12	1 ----- >	0
	2 ----- >	50
	3 ----- >	100
13,14,15,16,17,18,19	1 ----- >	0
	2 ----- >	100
21,23,26,27,30	1 ----- >	100
	2 ----- >	80
	3 ----- >	60
	4 ----- >	40
	5 ----- >	20
	6 ----- >	0
24,25,28,29,31	1 ----- >	0
	2 ----- >	20
	3 ----- >	40
	4 ----- >	60
	5 ----- >	80
	6 ----- >	100
32,33,35	1 ----- >	0
	2 ----- >	25
	3 ----- >	50
	4 ----- >	75
	5 ----- >	100

(a) Pre-coded response choices as printed in the questionnaire.

Table 2

STEP 2: AVERAGING ITEMS TO FORM SCALES

Scale	Number Of Items	After Recoding Per Table 1, Average The Following Items:
Physical functioning	10	3 4 5 6 7 8 9 10 11 12
Role limitations due to physical health	4	13 14 15 16
Role limitations due to emotional problems	3	17 18 19
Energy/fatigue	4	23 27 29 31
Emotional well-being	5	24 25 26 28 30
Social functioning	2	20 32
Pain	2	21 22
General health	5	1 33 34 35 36

Table 3

RELIABILITY, CENTRAL TENDENCY AND VARIABILITY OF SCALES IN THE MEDICAL OUTCOMES STUDY

Scale	Items	Alpha	Mean	SD
Physical functioning	10	0.93	70.61	27.42
Role functioning/physical	4	0.84	52.97	40.78
Role functioning/emotional	3	0.83	65.78	40.71
Energy/fatigue	4	0.86	52.15	22.39
Emotional well-being	5	0.90	70.38	21.97
Social functioning	2	0.85	78.77	25.43
Pain	2	0.78	70.77	25.46
General health	5	0.78	56.99	21.11
Health change	1	----	59.14	23.12

Note: Data is from baseline of the Medical Outcomes Study (N = 2471), except for Health change, which was obtained one-year later.