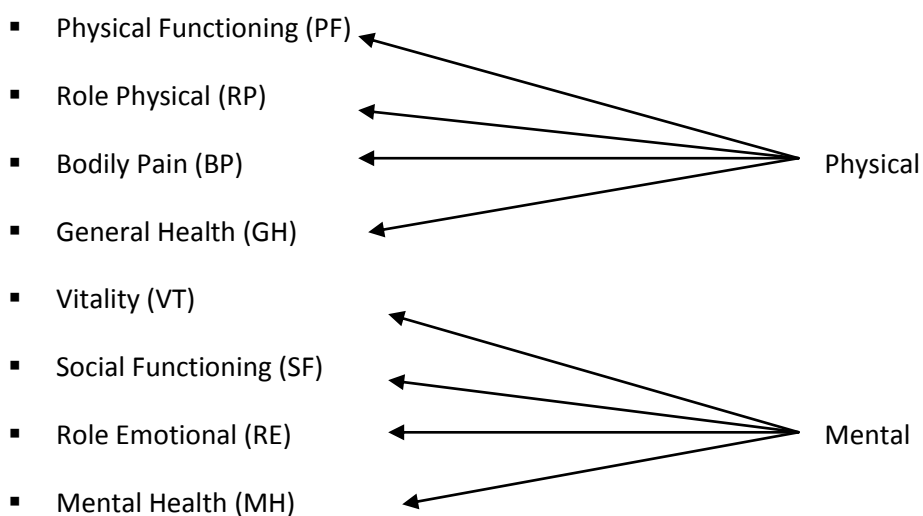


## SF-36

### Introduction

The SF-36 is “a multi-purpose, short-form health survey with only 36 questions”<sup>1</sup>. It yields an 8-scale profile including functional health, and mental health.



### Translations

The SF-36 has been translated into 120 languages including Danish, French, German, Italian, Japanese, Dutch, Norwegian, Spanish, Swedish. In addition, translations have been developed for more than 40 other countries, including: Argentina, Armenia, Austria, Brazil, Bulgaria, Chile, China, Costa Rica, Colombia, Croatia, Czech Republic, Finland, Greece, Guatemala, Honduras, Hong Kong, Hungary, Israel, Korea, Latvia, Lithuania, Mexico, New Zealand, Peru, Poland, Portugal, Romania, Russia, Singapore, Slovak Republic, Slovenia, South Africa, Switzerland, Taiwan, Tanzania, Turkey, the United Kingdom (Welsh), the United States (Chinese, Japanese, Vietnamese), Uruguay, Venezuela, and Yugoslavia<sup>2</sup>. SF-36v2 is currently available in more than 170 translations.

### Mode of use

The SF-36 is for use by adults 18 years of age and older. It can be completed by the patient or completed via interview. Other modes of administration are offered also including online, fax, eForm, Smartphone, Tablet/kiosk, and Interactive Voice Response (IVR) via telephone<sup>3</sup>.

It can be administered in 5-10 minutes with a high degree of acceptability and data quality<sup>4</sup>. A range of reference manuals are available to assist the use of this measure<sup>5,6,7</sup>.

## **Licensing**

Use of the SF-36 and its companion measures, scoring algorithms, translations, and benchmarking data are subject to signed license agreements<sup>8</sup>. Information concerning permission to use these measures is available on the SF-36 website<sup>9</sup>.

## **Scoring and interpretation**

Scores are calibrated so that 50 is the average score or norm. The norm-based score used allows comparison among the three surveys and across the more than 19,000 studies published in the past 20 years<sup>10</sup>. An online scoring demonstration and online scoring service are available also<sup>11,12</sup>.

The eight scales are hypothesised to form two distinct clusters due to the physical and mental health variance that they have in common. The scales including Physical Functioning, Role Physical, and Bodily Pain correlate most highly with the physical component, and contribute most to the scoring of the Physical Component Summary (PCS) measure<sup>13</sup>.

The scales Mental Health, Role Emotional, and Social Functioning correlate most highly with the mental component, and contribute most to the scoring of the Mental Component Summary (MCS). Three of the scales (VT, GH, and SF) have noteworthy correlations with both components.

These findings are important since they illustrate that scales that load highest on the physical component are most responsive to treatments that change physical morbidity. In contrast, scales loading highest on the mental component respond most to drugs and therapies that target mental health.

## **Validity and reliability**

The reliability of the eight scales and two summary measures has been estimated using both internal consistency and test-retest methods<sup>14,15</sup>. The results of more than 30 test-retest studies have been summarised by Turner-Bowker et al, 2002<sup>16</sup>.

Studies assessing validity generally support the intended meaning of the high and low SF-36 scores described in the original user manual<sup>4,13</sup>. SF-36 has been used in a wide variety of applications, and this evidence is relevant to these interpretations. These applications include, for example, depression, renal disease, and heart disease<sup>17-21</sup>. Published studies have demonstrated also evidence of content, concurrent, criterion, and construct validity<sup>22,13,23</sup>.

## **Additional developments**

Variations of the SF-36 have emerged. These include SF-12, SF-10 Health Survey for children, SF-20, SF-21, SF-30, SF-34 HIV, SF-36 Arthritis Specific Index, SF-36 Physical Functioning Scale (back-specific), SF-36 veterans, SF-38, SF-39, SF-8 Health Survey, SF-56, and SF-6D<sup>24</sup>. Literature concerned with the use of these separate tools can be found by searching the PROMs bibliography developed by Oxford University<sup>25</sup>.

*Author: Carol Fawkes, NCOR Research Development Officer. (Jan 2013)*

## References:

1. <http://www.sf-36.org/> (Accessed 19-12-2012)
2. International Quality of Life Assessment (<http://www.iqola.org/countries.aspx>) (Accessed 19-12-2012)
3. Mode of use of SF-36  
(<http://www.qualitymetric.com/WhatWeDo/ModesofAdministration/tabid/256/Default.aspx>) (Accessed 19-12-2012)
4. Ware JE, Snow KK, Kosinski M, et al. *SF-36® Health Survey Manual and Interpretation Guide*. Boston, MA: New England Medical Center, The Health Institute, 1993.
5. Manuals for SF-36 [http://www.sf-36.org/news/SF-36v2\\_Manual\\_Press\\_Release\\_092507.pdf](http://www.sf-36.org/news/SF-36v2_Manual_Press_Release_092507.pdf) (Accessed 19-12-2012).
6. <http://www.sf-36.org/tools/sf36.shtml> (Accessed 19-12-2012).
7. <http://www.qualitymetric.com/WhatWeDo/ManualsUserGuides/tabid/253/Default.aspx> (Accessed 02-01-2013).
8. Licensing arrangements <http://www.sf-36.org/wantsf.aspx?id=1> (Accessed 19-12-2012).
9. <http://www.qualitymetric.com/DefaultPermissions/RequestInformation/tabid/233/Default.aspx/> (Accessed 19-12-2012).
10. Advantages of norm-based scoring  
[http://www.qualitymetric.com/Portals/0/Uploads/Documents/Public/Norm-based%20Scoring%20\(NBS\).pdf](http://www.qualitymetric.com/Portals/0/Uploads/Documents/Public/Norm-based%20Scoring%20(NBS).pdf) (Accessed 02-01-2013).
11. Scoring demonstration <http://www.sf-36.org/demos/SF-36.html> (Accessed 02-01-2013).
12. Online scoring service  
<http://www.qualitymetric.com/WhatWeDo/CertifiedScoringSoftwareandServices/tabid/207/Default.aspx> (Accessed 02-01-2013).
13. Ware JE, Kosinski M, Keller SK. *SF-36® Physical and Mental Health Summary Scales: A User's Manual*. Boston, MA: The Health Institute, 1994.
14. Tsai C, Bayliss MS, Ware JE. *SF-36® Health Survey Annotated Bibliography: Second Edition* (1988-1996). Boston, MA: Health Assessment Lab, New England Medical Center, 1997.
15. McHorney CA, Ware JE, Lu JFR, et al. The MOS 36-Item Short-Form Health Survey (SF-36®): III. tests of data quality, scaling assumptions and reliability across diverse patient groups. *Medical Care* 1994;32(4):40-66.
16. Turner-Bowker DM, Bartley PJ, Ware JE, Jr. *SF-36® Health Survey & "SF" Bibliography: Third Edition (1988-2000)*. Lincoln, RI: QualityMetric Incorporated, 2002.

17. Kravitz RL, Greenfield S, Rogers WH, et al. Differences in the mix of patients among medical specialties and systems of care: results from the Medical Outcomes Study. *Journal of the American Medical Association* 1992; 267(12):1617-23.
18. Krousel-Wood MA, Re RN. Health status assessment in a hypertension section of an internal medicine clinic. *American Journal of Medical Science* 1994;308(4):211-7.
19. Krousel-Wood MA, McCune TW, Abdoh A, et al. Predicting work status for patients in an occupational medicine setting who report back pain. *Archives of Family Medicine* 1994;3:349-55.
20. Kurtin PS, Davies AR, Meyer KB, et al. Patient-based health status measures in outpatient dialysis: early experiences in developing an outcomes assessment program. *Medical Care* 1992; 30(5 Suppl):MS136-MS149.
21. Meyer KB, Espindle DM, DeGiacomo JM, et al. Monitoring dialysis patients' health status. *American Journal of Kidney Disease* 1994;24(2):267-79.
22. McHorney CA, Ware JE, Raczek AE. The MOS 36-Item Short-Form Health Survey (SF-36®): II. psychometric and clinical tests of validity in measuring physical and mental health constructs. *Medical Care* 1993;31(3):247-63.
23. Ware JE, Kosinski M, Bayliss MS, et al. Comparison of methods for the scoring and statistical analysis of SF-36® health profiles and summary measures: summary of results from the Medical Outcomes Study. *Medical Care* 1995; 33(Suppl. 4):AS264-AS279.
24. <http://www.qualitymetric.com/WhoWeAre/History/tabid/152/Default.aspx> (Accessed 02-01-2013).
25. [http://phi.uhce.ox.ac.uk/perl/phig/phidb\\_search.pl](http://phi.uhce.ox.ac.uk/perl/phig/phidb_search.pl) (Accessed 02-01-2013).

