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Score Range for the SF-36v2® Health Survey – Standard & Acute Versions

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This FAQ response describes the score range for the SF-36v2® Health Survey Standard and Acute Versions when scored according to QualityMetric's 2009 norm study.

In the original scoring of the SF-36, the eight subscales (PF, RP, BP, GH, VT, SF, RE, MH) were scored from 0 (worst health) to 100 (best heath). These scores are still provided by QualityMetric's scoring software. However, more than twenty-five years ago, QualityMetric started providing norm-based scoring (NBS), in which the mean score in the US general population is set to 50 and the standard deviation (SD) is set to 10. The rescaling from the old (0-100) to the new (mean=50, SD=10) scoring is done by a linear transformation. QualityMetric recommends reporting norm-based scores.

When using norm-based scoring, the minimum is not 0 and the maximum is not 100; therefore, the score range is not 100. Below, Table 1 shows the minimum and maximum scores as well as the score range for each SF-36v2® scale.

TABLE 1. SCORE RANGE FOR NORM-BASED SCORES FOR THE SF-36V2® STANDARD AND ACUTE VERSIONS BASED ON 2009 NORMS

	STANDARD VERSION			ACUTE VERSION		
Scale	Min[1]	Max[2]	Range	Min[1]	Max[2]	Range
PF_NBS	**19.3**	**57.5**	**38.3**	**19.0**	**57.6**	**38.6**
RP_NBS	**21.2**	**57.2**	**35.9**	**21.9**	**57.1**	**35.2**
BP_NBS	**21.7**	**62.0**	**40.3**	**21.4**	**60.9**	**39.5**
GH_NBS	**19.0**	**66.5**	**47.5**	**21.3**	**65.4**	**44.1**
VT_NBS	**22.9**	**70.4**	**47.5**	**25.6**	**69.1**	**43.5**
SF_NBS	**17.2**	**57.3**	**40.1**	**17.2**	**56.7**	**39.5**
RE_NBS	**14.4**	**56.2**	**41.8**	**9.8**	**55.6**	**45.8**
MH_NBS	**11.6**	**63.9**	**52.3**	**13.1**	**62.7**	**49.6**

[1] Worst health, [2] Best Health

For the SF-36 subscales, the score range is the same whether you have missing data or not.

The summary health components—the Physical Heath Component (PCS) and Mental Health Component (MCS)—are derived from the eight subscales mentioned above. Both summary health components summarize information from all eight subscales but with different weights. These weights were derived from a principal components analysis. For PCS, the highest weights are given to physical subscales, such as PF and RP, while negative weights are given to mental subscales, such as MH and RE. For MCS, the highest weights are given to mental subscales, such as MH and RE, while negative weights are given to mental subscales, such as MH and RE. This makes the calculation of the theoretically possible highest and lowers score more complex. Also, the highest and lowest possible scores will depend on whether you have missing data or not.

QualityMetric's scoring software permits estimation of the PCS in the case of one missing subscale–as long as it is not the PF subscale. Similarly, the MCS can be estimated even with one missing subscale–as long as it is not the MH subscale. Missing data (scale level) may, in rare circumstances, have an impact on score range. The score ranges for PCS and MCS are shown in Table 2.

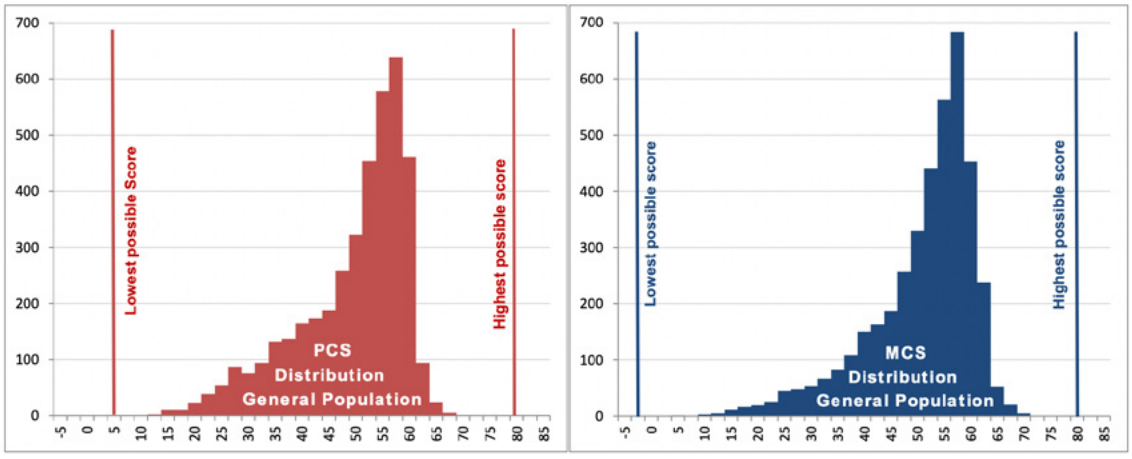
TABLE 2. SCORE RANGE FOR THE PHYSICAL AND MENTAL HEALTH COMPONENT SCORES FOR THE SF-36V2® STANDARD AND ACUTE VERSIONS BASED ON 2009 NORMS

		STANDARD VERSION			ACUTE VERSION		
Scale		Min[1]	Max[2]	Range	Min[1]	Max[2]	Range
PCS	*Complete data*	**5.0**	**79.8**	**74.8**	**6.1**	**79.7**	**73.6**
	With missing	**5.0**	**79.8**	**74.8**	**5.1**	**79.7**	**74.5**
MCS	*Complete data*	**-3.3**	**80.1**	**83.4**	**-3.8**	**78.7**	**82.5**
	With missing	**-4.0**	**80.1**	**84.1**	**-4.0**	**79.7**	**83.6**

[1] Worst health, [2] Best Health

It should be emphasized that the ranges reported in Table 2 are theoretical. While the subscale scores may often hit the ceiling or the floor, also known as the best possible and worst possible scores, it would be very unusual to hit the theoretical ceiling or floor for PCS and MCS. These highest or lowest possible scores reflect response combinations that would be very unlikely to happen in practice. The SF-36v2® manual reports the score ranges observed in a large general population sample. This observed score range is almost always smaller than the theoretical score range. This is illustrated in Figure 1, which shows the theoretical score range for the SF-36v2® Standard PCS and MCS scores as well as the score distribution in a large US general population study, the 2009 QualityMetric Norm Study.

FIGURE 1. DISTRIBUTION OF PCS AND MCS SCORES IN THE 2009 QUALITYMETRIC NORM STUDY



Maruish, M. E. (Ed.) (2011): User's Manual for the SF-36v2® Health Survey. QualityMetric Inc. 3rd ed. Lincoln, RI: QualityMetric Inc.