**NATIONAL QUALITY FORUM—Evidence (subcriterion 1a)**

**Measure Number:** Not applicable

**Measure Title:** Cantril’s Self-Anchoring Scale

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:** Not applicable

**Date of Submission:** 12/02/2019

**Evidence to Support the Measure Focus**

**1a. 1.** **This is a measure of** the Patient-Reported Outcome (PRO) of overall well-being.

The two-item Cantril’s Self-Anchoring Scale consists of the following prompt and questions: *Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you.* The following questions are asked: *(1) On which step of the ladder would you say you personally feel you stand at this time? (2) On which step do you think you will stand about five years from now?* The first item of the two-item Cantril’s Self-Anchoring Scale measures current life satisfaction and the second item measures future life optimism. Multiple well-being measures are possible from asking these two items. We recommended two well-being measures that can be derived from Cantril’s Self-Anchoring Scale: (1) average current life satisfaction score (first item) and (2) life evaluation index (combination of both items).

Based on established practice informed by statistical studies of current life satisfaction scores, future life optimism scores, and their relationships with other items including health outcomes, respondents are split into three groups.1 Respondents with positive views of their present life situation (current life satisfaction between 7 and 10) and positive views of the next five years (future life optimism between 8 and 10) are categorized as thriving. Respondents with negative views of their current life situation (current life satisfaction between 0 and 4) and negative views of the future life (future life optimism between 0 and 4) are categorized as suffering. All other respondents are categorized as struggling.

**1a.2 LOGIC MODEL Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient’s health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.**

![A close up of a logo

Description automatically generated]()

**1a.3 Value and Meaningfulness: IF this measure is derived from patient report, provide evidence that the target population values the measured outcome, process, or structure and finds it meaningful. (Describe how and from whom their input was obtained.)**

During testing and implementation of Cantril’s Self-Anchoring Scale in multiple, diverse communities across the US through the 100 Million Healthier Lives initiative as well as other independent community-engaged research collaboratives, respondents expressed that the items were easy to complete, highly relevant, and joy producing. They stated appreciation for the opportunity to provide information that actually matters to them. Moreover, multiple national organizations, such as the Robert Wood Johnson Foundation, Healthy People 2030, American Heart Association, and National Council on Aging, have elevated well-being as an outcome of primary importance. This is because of its relevance not only to people but also to many sectors, including health care, public health, and social services, which enables and encourages cross-sector alignment and collaboration.2 Additionally, multiple cross-sector, broad-scale efforts, including ones anchored in health care systems, to measure and prioritize well-being across the US demonstrate the increasing interest in understanding and improving wellbeing for individuals, populations, and communities.3-7 These efforts often prioritize high well-being as a primary outcome to be achieved for its own sake. They also acknowledge the relationships between well-being and other valued outcomes, including health and healthcare outcomes, such as morbidity, mortality and cost.

**1a. 2.** **Empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.**

Findings from multiple studies of different methodologies are converging to support the conclusion that higher overall well-being leads to longer, healthier lives.8 There are a number of ways to measure overall well-being, including life evaluation, life satisfaction, optimism, and positive affect. These measures are all highly correlated, with correlation coefficients ranging from 0.44 to 0.72.9,10 Cantril’s Self-Anchoring Scale is a measure of life evaluation, one type of measure of overall well-being that has been widely used across many different countries and cultures.11,12 In addition, life evaluation has been shown to change significantly over time concomitant with health status.10 As such, we recommend using Cantril’s Self-Anchoring Scale to assess overall well-being among healthcare populations, and the evidence cited here focuses primarily on measures of life evaluation and life satisfaction.

Large, cross-sectional, population studies at the national and US county levels report that higher overall well-being is associated with longer life expectancy.13-15 Among a large, representative US sample, one standard deviation higher life evaluation, as measured by Cantril’s Self-Anchoring Scale, was associated with 1.5 years longer life.13 Further, a number of prospective cohort studies have shown consistent relationships between overall well-being and health outcomes, including longevity.8,16-24 Higher self-reported life satisfaction was associated with lower mortality among a nationwide sample of Finnish adults followed for over twenty years.19 An analysis of data from the English Longitudinal Study of Ageing revealed that overall well-being was associated with increased survival over an average follow-up period of 8.5 years: 29.3% of people in the lowest well-being quartile died compared with 9.3% of those in the highest quartile.14 These associations were independent of age, sex, demographic factors, and baseline mental and physical health. Likewise, data from the Alameda County Study, with follow up over 28 years showed that after demographics and baseline health were controlled for, higher well-being predicted lower risk of all-cause mortality (RR 0.906; 95% CI: 0.867-0.947).20 Using data from the Gallup-Healthways Well-being Index and national mortality statistics, Graham and Pinto report that the greatest disparities in overall well-being peak in middle age, and matches the trends in higher mortality seen among this age group over the past several years.15 In addition, two separate meta-analyses, each including data from approximately 35,000 persons, found that higher well-being was associated with lower all-cause mortality and cardiovascular mortality among healthy persons.9,16 Further, the presence of high well-being was a predictor of longevity beyond the absence of ill-being, such as depression.9 In general, the protective effect of well-being was stronger among healthy populations and effects were diminished among diseased populations.16 Well-being is also associated with other clinical outcomes and with health-related quality of life.24,25 Higher well-being has been linked to a lower odds of developing diabetes,26 while lower well-being predicts cardiovascular disease and cardiovascular-related mortality.27,28

Well-being is also a predictor of lower healthcare spending and utilization.29-34 A US study assessing the relative risk of hospital admission or emergency department visit based on individual well-being showed increased risk for a hospital event with lower well-being compared with higher well-being.18 A subsequent population-based US study showed that higher community well-being was associated with lower rates of all-cause, cardiovascular, and respiratory hospital admissions, even after adjusting for sociodemographic characteristics and healthcare intensity factors.20 In another population-based US study examining the association between county-level well-being and Medicare spending, higher US county well-being was associated with lower health care spending per Medicare Fee-for-Service beneficiary living in that county. This association was independent of urbanicity, median household income, and health care system capacity.19

In addition to the evidence linking well-being to morbidity, mortality, and healthcare utilization outcomes, higher well-being has also been linked to better health behaviors and adherence to preventive care.8,9,35-38 An analysis of data from the Behavioral Risk Factor Surveillance Survey, 2005, higher overall well-being was associated with lower prevalence of smoking, obesity, physical inactivity, and heavy drinking.25 Using data from the US Health and Retirement Survey, Kim et al., report that higher well-being was also associated with higher likelihood of obtaining preventive care, such as cholesterol and mammography screening.36 Evidence suggests that higher well-being leads to these better health behaviors. In a large, longitudinal Dutch cohort, higher well-being was associated with engaging in more regular physical activity and eating a healthier diet over a follow-up period of fifteen years.35 Engaging in these healthy behaviors may be one of the mechanisms by which higher overall well-being leads to longer, healthier lives. In addition, many of these healthy behaviors are key intermediate health outcomes that healthcare institutions measure and report to CMS to comply with MACRA legislation.

Taken together, these studies suggest that overall well-being is an important predictor of long-term health and that promoting well-being may help to keep people healthier for a longer period of time. There is evidence from a number of smaller studies that show it is possible to improve well-being through positive psychology interventions.39 In addition, testing through the 100 Million Healthier Lives initiative is yielding promising results, demonstrating that improving domains or determinants of well-being, including social support, physical health, and financial stability, can substantially improve overall well-being for a population receiving an intervention, often within six to twelve months. For example, an intervention to reduce homelessness among women in an urban setting and engage them in healthy behaviors and social connection resulted first in an increase in overall well-being, followed by improvements in clinical indicators such as blood pressure and hemoglobin A1c.40

**Adoption in the field**

Cantril’s ladder was chosen as a core measure of population health in the Well-being In the Nation (WIN) measure set, the first cross-sector collaborative to develop measures across 100+ federal and nonfederal agencies and communities working together to identify measures that matter across sectors. A diverse set of health care (eg, Kaiser Permanente, Delaware Substance Abuse and Mental Health, Methodist Healthcare Ministries, American Heart Association, All In, etc) and nonhealthcare entities (eg, Centers for Disease Control, Enterprise Housing Partners, Association of State and Territorial Health Officials, National Councils on Aging, Trust for America’s Health, US News & World Report, Well Being Trust, Well Being Alliance, 100 Million Healthier Lives communities and partners, etc.) have decided to adopt this measure after testing because it felt relevant and useful for them. These partners collectively reach millions of people, hundreds of communities, and thousands of organizations across the country.

**REFERENCES**

1. Gallup, inc. *Understanding How Gallup Uses the Cantril Scale: Development of the "Thriving, Struggling, Suffering" categories. .* 2016.

2. Kottke TE, Stiefel M, Pronk NP. “Well-being in all policies”: promoting cross-sectoral collaboration to improve people’s lives. *Preventing chronic disease.* 2016;13.

3. The Organisation fo Economic Co-operation and Development (OECD). *The Wellbeing Project: Santa Monica, California, United States Embracing Innovation in Goverment: Global Trends.* 2009.

4. Phillips G, Bottomley C, Schmidt E, et al. Measures of exposure to the Well London Phase-1 intervention and their association with health well-being and social outcomes. *Journal of epidemiology and community health.* 2014;68(7):597-605.

5. 100 Million Healthier Lives. <https://www.100mlives.org>. Accessed Dec 1, 2019.

6. Blue Zones Project. <https://www.bluezonesproject.com>.

7. Well Being Trust. <https://wellbeingtrust.org>.

8. Diener E, Chan MY. Happy people live longer: Subjective well‐being contributes to health and longevity. *Applied Psychology: Health and Well‐Being.* 2011;3(1):1-43.

9. Howell RT, Kern ML, Lyubomirsky S. Health benefits: Meta-analytically determining the impact of well-being on objective health outcomes. *Health Psychology Review.* 2007;1(1):83-136.

10. Horley J, Lavery JJ. The stability and sensitivity of subjective well-being measures. *Social Indicators Research.* 1991;24(2):113-122.

11. Cantril H. The Pattern of Human Concerns. New Brunswick: Rutgers University Press; 1965.

12. Poll G. World Poll Methodology. 2008; <http://www.oecd.org/sdd/43017172.pdf>. Accessed June 21, 2019.

13. Arora A, Spatz E, Herrin J, et al. Population Well-Being Measures Help Explain Geographic Disparities In Life Expectancy At The County Level. *Health Affairs.* 2016;35(11):2075-2082.

14. Steptoe A, Deaton A, Stone AA. Subjective wellbeing, health, and ageing. *The Lancet.* 2015;385(9968):640-648.

15. Graham C, Pinto S. Unequal hopes and lives in the USA: Optimism, race, place, and premature mortality. *Journal of Population Economics.* 2019;32(2):665-733.

16. Chida Y, Steptoe A. Positive psychological well-being and mortality: a quantitative review of prospective observational studies. *Psychosomatic medicine.* 2008;70(7):741-756.

17. Deeg DJ, van Zonneveld RJ. Does happiness lengthen life? The prediction of longevity in the elderly. *How harmful is happiness.* 1989:29-43.

18. Lyyra T-M, Törmäkangas TM, Read S, Rantanen T, Berg S. Satisfaction with present life predicts survival in octogenarians. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences.* 2006;61(6):P319-P326.

19. Koivumaa-Honkanen H, Honkanen R, Viinamäki H, Heikkilä K, Kaprio J, Koskenvuo M. Self-reported life satisfaction and 20-year mortality in healthy Finnish adults. *American journal of epidemiology.* 2000;152(10):983-991.

20. Xu J, Roberts RE. The power of positive emotions: It’sa matter of life or death—Subjective well-being and longevity over 28 years in a general population. *Health Psychology.* 2010;29(1):9.

21. Frijters P, Haisken-DeNew JP, Shields MA. Socio-economic status, health shocks, life satisfaction and mortality: Evidence from an increasing mixed proportional hazard model. 2005.

22. Pitkala K, Laakkonen M-L, Strandberg TE, Tilvis RS. Positive life orientation as a predictor of 10-year outcome in an aged population. *Journal of clinical epidemiology.* 2004;57(4):409-414.

23. Giltay EJ, Kamphuis MH, Kalmijn S, Zitman FG, Kromhout D. Dispositional optimism and the risk of cardiovascular death: the Zutphen Elderly Study. *Archives of internal medicine.* 2006;166(4):431-436.

24. Siahpush M, Spittal M, Singh GK. Happiness and life satisfaction prospectively predict self-rated health, physical health, and the presence of limiting, long-term health conditions. *American Journal of Health Promotion.* 2008;23(1):18-26.

25. Strine TW, Chapman DP, Balluz LS, Moriarty DG, Mokdad AH. The associations between life satisfaction and health-related quality of life, chronic illness, and health behaviors among US community-dwelling adults. *Journal of community health.* 2008;33(1):40-50.

26. Boehm JK, Trudel-Fitzgerald C, Kivimaki M, Kubzansky LD. The prospective association between positive psychological well-being and diabetes. *Health Psychol.* 2015;34(10):1013-1021.

27. Shirai K, Iso H, Ohira T, et al. Perceived level of life enjoyment and risks of cardiovascular disease incidence and mortality. *Circulation.* 2009;120(11):956-963.

28. Tindle HA, Chang YF, Kuller LH, et al. Optimism, cynical hostility, and incident coronary heart disease and mortality in the Women's Health Initiative. *Circulation.* 2009;120(8):656-662.

29. Gandy WM, Coberley C, Pope JE, Rula EY. Well-being and employee health-how employees' well-being scores interact with demographic factors to influence risk of hospitalization or an emergency room visit. *Population health management.* 2014;17(1):13-20.

30. Riley C, Roy B, Herrin J, et al. Association of the overall well-being of a population with health care spending for people 65 years of age or older. *JAMA Network Open.* 2018;1(5):e182136.

31. Roy B, Riley C, Herrin J, et al. Associations between community well-being and hospitalisation rates: results from a cross-sectional study within six US states. *BMJ Open.* 2019;9(11):e030017.

32. Harrison PL, Pope JE, Coberley CR, Rula EY. Evaluation of the relationship between individual well-being and future health care utilization and cost. *Population health management.* 2012;15(6):325-330.

33. Sears LE, Shi Y, Coberley CR, Pope JE. Overall well-being as a predictor of health care, productivity, and retention outcomes in a large employer. *Population health management.* 2013;16(6):397-405.

34. Shi Y, Sears LE, Coberley CR, Pope JE. Classification of individual well-being scores for the determination of adverse health and productivity outcomes in employee populations. *Population health management.* 2013;16(2):90-98.

35. Giltay EJ, Geleijnse JM, Zitman FG, Buijsse B, Kromhout D. Lifestyle and dietary correlates of dispositional optimism in men: The Zutphen Elderly Study. *J Psychosom Res.* 2007;63(5):483-490.

36. Kim ES, Kubzansky LD, Smith J. Life satisfaction and use of preventive health care services. *Health Psychology.* 2015;34(7):779.

37. Grant N, Wardle J, Steptoe A. The relationship between life satisfaction and health behavior: a cross-cultural analysis of young adults. *International journal of behavioral medicine.* 2009;16(3):259-268.

38. Blanchflower DG, Oswald AJ, Stewart-Brown S. Is psychological well-being linked to the consumption of fruit and vegetables? *Social Indicators Research.* 2013;114(3):785-801.

39. Sin NL, Lyubomirsky S. Enhancing well‐being and alleviating depressive symptoms with positive psychology interventions: A practice‐friendly meta‐analysis. *Journal of clinical psychology.* 2009;65(5):467-487.

40. Callender S, Calleros M, Chen S, et al. *Improving Health Outcomes for Women Experiencing Homelessness in the Skid Row Community of Los Angeles.* Los Angeles, CA: Downtown Women’s Center;2017.