

## **About HowsYourHealth Clinimetrics:**

1. Survey Items Reading ease: A higher score indicates easier readability; scores usually range between 0 and 100. Flesch-Kincaid Reading Ease = 69.6. A grade level (based on the USA education system) is equivalent to the number of years of education a person has had. A score of around 10-12 is roughly the reading level on completion of high school. Text to be read by the general public should aim for a grade level of around 8. Flesch-Kincaid Grade Level = 7.2; Average Grade Level from multiple scoring methods = 8.3.

Of the Medicare-aged patients who have a high school education or less, 37% are poor (versus 10% poor of those with some college). Poor is defined as responding to “do you have enough money to buy the things you need to live everyday such as food, clothing or housing? With “Sometimes” or “No” versus “Yes, always”.

2. Survey Item Utility: Items in HowsYourHealth are rooted in patient-reported measurement of “what matters” to them. Whenever appropriate, the measures are actionable. Measures must be face valid and also translate easily into another language (to minimize jargon).

### 3. Survey Item Validation

a) The measures of functional health used in HowsYourHealth have been adopted and validated for worldwide use in many languages. (Original article: Nelson EC, Landgraf JM, Hays RD, Wasson JH, Kirk JW. The functional status of patients: How can it be measured in physicians' offices? *Med Care* 1990;28(12):1111-1126)

b) Some measures have been validated by comparison to medical record review. For example, benchmarks for prevention based on completion of mammography, bowel cancer and lipid screening in patients 50 years or older and benchmarks for condition management that include control of blood pressure, cholesterol, and blood glucose when patients report a diagnoses of hypertension, cardiovascular disease, or diabetes. The office staff in 6 practices audited 451 (84%) of 541 eligible medical records. Accuracy of patient self-report for the presence or absence of benchmark attainment was 96% for breast cancer screening (within 2 years), 94% for blood pressure control (within 6 months), 85% for lipid control (within 6 months), 72% to 92% for diabetic control (depending on method—within 6 months), and screening for bowel cancer was 76% (within 2 years for hemoccult test and 9 years for colonoscopy). Neither patient educational attainment nor financial status had a consistent effect on accuracy.

c) Patient reported harms examined by several medical malpractice experts. Wasson JH, Mackenzie TA, Hall M. Patients Use an Internet Technology to Report When Things Go Wrong. *2007 Quality and Safety in Health Care*; 2007;16:213-217

d) Patient reported medication problems examined by a geriatrician and a clinical pharmacologist independently and in a blinded way. The reviewers agreed that the risk of an adverse clinical side-effects from the medications were several times higher in those patients who said “yes” and “maybe” than in those who reported “no.” (Annual Review of Gerontology and Geriatrics, 1992;(12)109-125) Of those who said that their medication were not causing illness, test-retest agreement was 95% (of 2276 responses); for those who reported “yes” or “maybe” that their medications were causing illness agreement was 87% (of 549). A kappa statistic of agreement was 0.80 (very good).

e) Comparison of single items for care quality with multi-item CAHPS multi-item measures.

Over three years items from CAHPS have been randomly distributed to HowsYourHealth respondents in four “bundles” (to reduce respondent burden). There are more than 6000 respondents per CAHPS bundle. The CAHPS items that look most like those in HowsYourHealth seem to define attributes consistent with the intent of each listed HowsYourHealth domain: access, efficiency, continuity and information. In clinimetric terms, the correlations between the HowsYourHealth domains and the “look like” CAHPS items are higher ( $r = 0.4-0.5$ : convergent validity) than those in the “least look like” group ( $r = 0.03-0.21$ ; discriminant validity).

<b>HowsYourHealth Items</b>	<b>Looks Most Like in CAHPS</b>	<b>Looks Least Like in CAHPS</b>
ACCESS: How easy is it to get medical care when you need it?	... care you needed right away....	... doctor ask you ... sad, empty or depressed?
	...get appointment as soon as you thought you needed...	... doctor talk about...things that worry your or cause stress?
	...phone answer to medical question as soon as needed...	...doctor talk about healthy diet and eating habits?
EFFICIENCY: When you visit your doctor's office, how often is it well organized and does not waste your time?	... how often did you see your regular doctor within 15 minutes of your appointment time?	... doctor ask you ... sad, empty or depressed?
	... how often did your doctor spend enough time with you?	... doctor talk about...things that worry your or cause stress?
	... were clerks and receptionists as helpful as you thought they should be?	...doctor talk about healthy diet and eating habits?
CONTINUITY: Do you have one person you think of as your personal doctor or nurse?	... how often did your regular doctor seem to know the important information about your medical history?	... did your regular doctor tell you there was more than one choice for your treatment or health care?
	... how often did your doctor spend enough time with you?	... did your regular doctor ask you which choice was best for you?
	... how often did your regular doctor show respect for what you had to say?	... doctor ask you ... sad, empty or depressed?
CHRONIC DISEASE INFORMATION: In general, how would you rate the information or doctor or nurse gave you about these problems?	... how often did your regular doctor explain things in a way that was easy to understand?	... doctor talk about...things that worry your or cause stress?
	... how often did your doctor spend enough time with you?	... doctor ask you ... sad, empty or depressed?
	... how often did your regular doctor seem to know the important information about your medical history?	... doctor give help you needed to make changes to prevent illness?

The single overall care quality measure in HowsYourHealth performs as well as the CAHPS composites used in States like Massachusetts. Lynn Ho, MD; Adam Swartz, MD; John H. Wasson, MD. *The Right Tool for the Right Job: The Value of Alternative Patient Experience Measures*. 2013. *J Ambulatory Care Manage* Vol. 36, No. 3, pp. 241–244

*The Right Tool for the Right Job*

