

Patient-Reported Indicators of Quality of Care

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> April 15, 2016, 8:30-11:30am 10940 Wilshire Blvd., Suite 700

U.S. Health Care Issues

- Access to care
 - ~ 50 million people without health insurance
 - 18% -> 13% of adults (Obamacare)
- Costs of care
 - Expenditures ~ \$ 3.8 Trillion
- Effectiveness (quality) of care

How Do We Know If Care Is Effective?

- Process of care (quality of care)
 - Expert ratings
 - Patient reports
- Health
 - Care maximizing probability of desired health outcomes.
 - Clinical indicators
 - Patient reports

We Measure Quality of Care to Improve It





How Do We Measure Quality of Care?



- Focus has been on expert consensus
- Variant of RAND Delphi Method

Is Receiving Better Technical Quality of Care Bad for Health?

Change in SF-12 PCS regressed on process of care aggregate



Hypothesized positive effect, but regression coefficient was NOT SIGNIFICANT

unstandardized beta = -1.41, p = .188

Kahn et al. (2007), <u>Health Services Research</u>, Article of Year

How Do We Measure Quality of Care?



- Focus has been on expert consensus
- Variant of RAND Delphi Method

- But how patients perceive their care also important
- CAHPS project was tasked with measuring patient experiences.



CAHPS Approach



Complements information from clinical process measures

- Focus on what patients want to know about AND can accurately report about
 - Communication with health care provider
 - Access to care
 - Office staff courtesy and respect
 - Customer service

Correlates positively with clinical measures, but important in own right

Rather than Assessing Patient Satisfaction, CAHPS Relies on <u>Reports About Care</u>

- **19.** In the last 12 months, how often did this provider explain things in a way that was easy to understand?
 - ¹ Never
 ² Sometimes
 ³ Usually
 ⁴ Always

CAHPS Medicare Survey Composites

>Communication (4 items)

➢ Getting needed care (2 items)

➢ Getting care quickly (3 items)

Customer Service (3 items)

CAHPS Timeline



CAHPS Now Has a Family of Surveys

Ambulatory Care



Health Plan Survey Clinician & Group Survey Home Health Care Survey Surgical Care Survey ECHO® Survey Dental Plan Survey American Indian Survey

CAHPS Now Has a Family of Surveys

Ambulatory Care



Facility

Health Plan Survey Clinician & Group Survey Home Health Care Survey Surgical Care Survey ECHO® Survey Dental Plan Survey American Indian Survey



Hospital Survey In-Center Hemodialysis Survey Nursing Home Survey

Use of and importance of patient experience surveys has grown...

CAHPS Hospital Survey (HCAHPS) data accounted for 30% of hospitals' Total Performance Score in Value-Based Purchasing Program in FY2014

...so has misinformation about them

Some suggest that consumers lack expertise needed to evaluate care quality

- Patients are the best source of information on communication, office staff courtesy and respect, access to care, and other issues covered by CAHPS surveys
- CAHPS complements technical quality measures

Some suggest patients can be "satisfied" to death.

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News from UC Davis Health System	
Health System > Newsroom > Patient satisfaction linked to higher health-care expenses and	
News Releases NEWS February 13, 2012 Media contact(s)	
Image: Product of Expanded Patient satisfaction linked to higher health-care expenses Karen Finney Publications * Publications * Doctors may agree to patient requests for services to increase patient g* Community Calendar Top Trending Stories	
Contact Us Se determinó que la intervención temprana para el autismo normaliza la actividad cerebral en Medical Center Editor's note: Read this press release [en español]	
School of Medicine Betty Irene Moore Image: Commend (13k) Tweet (122) m Share (204) (8+1) (20) Pintt) Share (1.8k) Image: Commend (13k) Tweet (122) m Share (204) (8+1) (20) Pintt) Share (1.8k) UC Davis MIND Institute study finds association between maternal exposure to agricultural pesticides, autism in offspring + Academic Departments (SACRAMENTO, Calif.) — A team of UC Davis researchers found that people who are the most satisfied with their doctors are more likely to be hospitalized, accumulate more health-care and drug exposure to agricultural pesticides, autism in offspring	
Advisers & Friends Published today in the Archives of Internal Medicine, the national study is believed to be the first to suggest that an overemphasis on patient satisfaction could have unanticipated adverse effects. Telemedicine consultations in rural emergency rooms	
Maps & Directions "Patient satisfaction is a widely emphasized indicator of health-care quality, but our study calls into question whether increased patient satisfaction, as currently measured and used, is a wise goal in and of itself," said Joshua Fenton, assistant professor in the UC Davis Department of Family and Community Medicine and lead author of UC Davis Children's Hospital listed Darrell Steinberg joins UC Davis Behavioral Health Center of Excellence	



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Physician quality pay not paying off

How a hospital's chief experience officer tackles barriers to better quality

Bioethicists say patient-satisfaction surveys could lead to bad medicine

By Sabriya Rice | June 4, 2015

A new report by the Hastings Center suggests patient-satisfaction surveys that Medicare uses to assess healthcare providers are seriously flawed. The authors question whether the government should be relying on them in quality initiatives such as value-based purchasing.

"Good ratings depend more on manipulable patient perceptions than on good medicine," states the report, entitled Patient-Satisfaction Survey on a Scale of 0 to 10. "In fact, the pressure to get good ratings can lead to bad medicine.

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Hastings Center Report

- Dr. Stuart Younger, Professor of Bioethics and Psychiatry at the Case Western Reserve University.
 - Pressure to get good ratings can lead to bad medicine.

Fenton et al. (2012) JAMA Internal Medicine

- Medical Expenditure Panel Survey
 - Nationally representative survey of U.S. civilian non-institutionalized population. Panel followed over 2 calendar years with 5 rounds of interviews.
- Five CAHPS items
 - 4 items from communication scale
 - 0-10 global rating of health care item

Five Concerns with Fenton et al.

- 1. Associations may be due to unmeasured variables (e.g., severity of illness).
 - Sicker patients may need more information
 - Clinicians may spend more time with them.
- 2. Estimated effect was implausibly large, suggesting good patient experience is more dangerous than having major chronic conditions.
- 3. Only amenable deaths can be prevented by health care.
 - Prognosis for those with end-stage pancreatic cancer is not modifiable by the type of care they receive. Only 21% of the 1,287 deaths in the study were amenable to health care.

Five Concerns with Fenton et al.

4. Patient experiences with care vary over time.

- Used CAHPS data at MEPS round 2 to predict mortality 3 months to 6 years later.
- > half of deaths occurred more than 2 years after survey completed.
- Among those with best (quartile 4) experiences at baseline,
 > half had worse experiences 1 year later

5. Only looked at 5-item CAHPS aggregate

Reanalysis of Fenton et al. (Xu et al., 2014)

- Same data used by Fenton et al.
 - 2000-2005 Medical Expenditure Panel Survey data
 - National Health Interview Survey linkage with National Death Index
- Same statistical analysis
 - Cox proportional hazards models with mortality as the dependent variable and patient experience measures as independent variables
- But, unlike Fenton et al.

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- Separated non-amenable and amenable deaths
- Considered timing of patient experience and death
- Looked at individual items to better understand the patient
- experience with mortality association

Patient Experiences and Mortality: Non-Amenable vs. Amenable Deaths

Patient Care Experience	Non-Amenable Mortality		Amenable Mortality	
	Hazard Ratio	p-value	Hazard Ratio	p-value
Quartile 1 (reference)	(1.00)		(1.00)	
Quartile 2	1.07	0.56	1.27	0.25
Quartile 3	0.96	0.70	1.28	0.25
Quartile 4 (most positive)	1.26	0.03	1.23	0.32
Overall p-value for patient care experience quartiles		0.03		0.59

Adjusted for age, gender, race/ethnicity, education, income, metropolitan statistical area, census region, access to usual source of care, insurance coverage, smoking status, number of chronic conditions, self-rated overall health, SF-12 PCS/MCS, number of drug prescriptions, medical care expenditures, number of office visits, any ER visits, any inpatient admissions, and survey panel.

Patient Experiences and Mortality: Consistency of Experiences Over Time

Patient Care Experience (baseline : 1 year later)	All-Cause Mortality	
	Hazard Ratio	p-value
Quartile 1 : Quartile 1 (reference)	(1.00)	
Quartile 2 : Quartile 2	0.89	0.42
Quartile 3 : Quartile 3	1.13	0.57
Quartile 4 : Quartile 4	1.09	0.54
Different quartiles at baseline and 1 year later	0.88	0.35

Patient Experiences and Mortality: Significant for Only One Item

Patient Care Experience Items	All-Cause Mortality	
	Hazard Ratio	p-value
Rating of healthcare 9-10 vs 0-8	1.10	0.15
Listen carefully to you ⁺	0.98	0.76
Show respect for what you had to say [†]	1.05	0.44
Explain things in a way that is easy to understand [†]	1.09	0.17
Spend enough time with you $^+$	1.17	0.03

* "Always" versus "Never"/"Sometimes"/"Usually"

Indicators of Health

Signs and Symptoms of Disease

Vital Signs - e.g/bp Hematocrit SOB

Indicators of Health



Health-Related Quality of Life (HRQOL)

How the person FEELs (well-being)

- Emotional well-being
- Pain
- Energy

What the person can DO (functioning)

- Self-care
- Role
- Social



Indicators of Health



KDQOL Symptoms/Problems

During the past 4 weeks, to what extent were you bothered by each of the following?

- Soreness in your muscles?
- Chest pain?
- *Itchy skin?
- Shortness of breath?
- *Faintness or dizziness?

Health-Related Quality of Life (HRQOL)



Quality of environment Type of housing Level of income Social Support

Types of HRQOL Measures

- Single item
 - In general, how would you rate your health?
- Multiple Scores (Profile)
 - Generic (SF-36)
 - How much of the time during the past 4 weeks have you been happy? (None of the time $\rightarrow All \text{ of the time}$)
 - Targeted ("Disease specific")
 - · KDQOL-36
 - My kidney disease interferes too much with my life.
- Single Score
 - Preference-based (EQ-5D-3L, HUI-3, SF-6D)³³

HRQOL Scoring Options

- 0-100 possible range
- T-scores (mean = 50, SD = 10)
 - (10 * z-score) + 50
 - z-score = (score mean)/SD
- 0 (dead) to 1 (perfect health)

In general, how would you rate your health?

Hays, Spritzer, Thompson, & Cella (2015, JGIM)

- $\underline{62}$ = Excellent
- 54 = Very Good
- <u>47</u> = Good
- <u>38</u> = Fair

<u>29</u> = Poor



Hays et al. (2000), American Journal of Medicine

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Hays et al. (2000), American Journal of Medicine





Hays et al. (2000), American Journal of Medicine

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www.nihpromis.org



Are you able to get in and out of bed? Are you able to stand without losing your balance for 1 minute? Are you able to walk from one room to another? Are you able to walk a block on flat ground? Are you able to run or jog for two miles? Are you able to run five miles?

Reliability Target for Use of Measures with Individuals

- Reliability ranges from 0-1
 - 0.90 or above is goal
- SE = SD (1- reliability)^{1/2}
- Reliability = $1 (SE/10)^2$
 - Reliability = 0.90 when <u>SE = 3.2</u>
 - 95% CI = true score +/- 1.96 x SE

I was grouchy [1st question]

- Never	[39]
- Rarely	[48]
- Sometimes	[56]
- Often	[64]
- Always	[72]

Estimated Anger = 56.1 SE = 5.7 (rel. = 0.68)

I felt like I was ready to explode

[2nd question]

- Never
- Rarely
- Sometimes
- Often
- Always

Estimated Anger = 51.9 SE = 4.8 (rel. = 0.77)

- I felt angry [3rd question]
 - Never
 - Rarely
 - Sometimes
 - Often
 - Always

Estimated Anger = 50.5 SE = 3.9 (rel. = 0.85)

I felt angrier than I thought I should [4th question]

- Never
- Rarely
- Sometimes
- Often
- Always

Estimated Anger = 48.8 SE = 3.6 (rel. = 0.87)

- I felt annoyed [5th question]
 - Never
 - Rarely
 - Sometimes
 - Often
 - Always

Estimated Anger = 50.1SE = 3.2 (rel. = 0.90)

- I made myself angry about something just by thinking about it. [6th question]
 - Never
 - Rarely
 - Sometimes
 - Often
 - Always

Estimated Anger = 50.2 SE = 2.8 (rel = 0.92) (95% CI: <u>44.7-55.7</u>) ⁴⁸

PROMIS Physical Functioning vs. "Legacy" Measures



Is CAM Better than Standard Care (SC)?



Is CAM Related to Worse HRQOL?

Subject	Acupuncture	General Health
	1 2 3 No 50 4 No 60 5 No 70 6 Yes40 7 Yes50 8 Yes50 9 Yes 55 10 Yes	Nodead Nodead
Group	n	HRQOL
	No CAM 360 Yes CAM 550	51

http://www.ukmi.nhs.uk/Research/pharma_res.asp



Cost-Effective Care

Cost ↓

Effectiveness ("Utility") ↑

The EQ-5D-3L descriptive system should be scored as follows:

By placing a tick in one box in each group, please indicate which statements best describe your health today.

Mobility

I have no problems in walking about I have some problems in walking about I am confined to bed

Self-Care

I have no problems with selfcare I have some problems washing or dressing myself I am unable to wash or dress myself

Usual Activities (e.g. work, study, housework, family or leisure activities)

I have no problems with performing my usual activities I have some problems with performing my usual activities I am unable to perform my usual activities

Pain/Discomfort

I have no pain or discomfort I have moderate pain or discomfort I have extreme pain or discomfort

Anxiety/Depression

I am not anxious or depressed I am moderately anxious or depressed I am extremely anxious or depressed



Π



NB: There should be only <u>one</u> response for each dimension.

0.435

HRQOL in SEER-Medicare Health Outcomes Study (n=126,366)

SF-6D (0-1 possible range) by Condition



Controlling for age, gender, race/ethnicity, education, income, and marital status.

Physical Functioning and Emotional Well-Being at Baseline for 54 Patients at UCLA-Center for East West Medicine



MS = multiple sclerois; ESRD = end-stage renal disease; GERD = gastroesophageal reflux disease.

Significant Improvement in all but 1 of SF-36 Scales (Change is in T-score metric)

	Change	t-test	prob.
PF-10	1.7	2.38	.0208
RP-4	4.1	3.81	.0004
BP-2	3.6	2.59	.0125
GH-5	2.4	2.86	.0061
EN-4	5.1	4.33	.0001
SF-2	4.7	3.51	.0009
RE-3	1.5	0.96	.3400 ←
EWB-5	4.3	3.20	.0023
PCS	2.8	3.23	.0021
MCS	3.9	2.82	.0067

Effect Size

(Follow-up – Baseline)/ SD_{baseline}

Cohen's Rule of Thumb:

ES = 0.80 Large

Effect Sizes for Changes in SF-36 Scores



PFI = Physical Functioning; Role-P = Role-Physical; Pain = Bodily Pain; Gen H=General Health; Energy = Energy/Fatigue; Social = Social Functioning; Role-E = Role-Emotional; EWB = Emotional Well-being; PCS = Physical Component Summary; MCS =Mental Component Summary.

Defining a Responder: Reliable Change Index (RCI)



 $SEM = SD_{hl} \times \sqrt{1 - r_{xx}}$

Note: SD_{bl} = standard deviation at baseline r_{xx} = reliability

Amount of Change in Observed Score Needed To be Statistically Significant



Note: SD_{bl} = standard deviation at baseline and r_{xx} = reliability

Amount of Change in Observed Score Needed for Significant Individual Change

Scale	RCI	Effect size	Cronbach's alpha
PF-10	8.4	0.67	0.94
RP-4	8.4	0.72	0.93
BP-2	10.4	1.01	0.87
GH-5	13.0	1.13	0.83
EN-4	12.8	1.33	0.77
SF-2	13.8	1.07	0.85
RE-3	9.7	0.71	0.94
EWB-5	13.4	1.26	0.79
PCS	7.1	0.62	0.94*
MCS	9.7	0.73	0.93*

* Mosier's formula (not coefficient alpha).

Amount of Change Needed for Significant Individual Change



PFI = Physical Functioning; Role-P = Role-Physical; Pain = Bodily Pain; Gen H=General Health; Energy = Energy/Fatigue; Social = Social Functioning;

Role-E = Role-Emotional; EWB = Emotional Well-being; PCS = Physical Component Summary; MCS = Mental Component Summary.

7-31% of People in Sample Improve Significantly

	% Improving	% Declining	Difference
PF-10	13%	2%	+ 11%
RP-4	31%	2%	+ 29%
BP-2	22%	7%	+ 15%
GH-5	7%	0%	+ 7%
EN-4	9%	2%	+ 7%
SF-2	17%	4%	+ 13%
RE-3	15%	15%	0%
EWB-5	19%	4%	+ 15%
PCS	24%	7%	+ 17%
MCS	22%	11%	+ 11%

PROMIS CAT Report

Computerized Adaptive Test (CAT) Report

Date: 01-Nov-10

Your age: 50

Yourgender: Male

Computerized Adaptive Tests: Depression, Physical Function

Your score on the Depression CAT is 70. The average score is 50.

Your score indicates that your level of Depression is higher (worse) than:

98 percent of people in the general population

96 percent of people age 45-54

98 percent of males

Your score on the Physical Function CAT is 33. The average score is 50.

Your score indicates that your level of Physical Function is higher (better) than:

· 6 percent of people in the general population

9 percent of people age 45-54

5 percent of males

Your scores for the CATs you completed are shown below.

The diamond + is placed where we think your score lies. This diamond is placed on your T-Score, which is a standardized score that is based on an average score of 50, based on responses to the same questions in the United States general population. The T-score also has a standard deviation of 10 points, so a score of 40 or 60 represents a score that is one standard deviation away from the average score of the general US population.

The Standard Error (SE) is a statistical measure of variance and represents the possible range of your score. The lines on either side of the diamond in your profile report show the possible range of your actual score around this estimated score. It is very likely that your score is in the range of these lines.



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Sample FAST-Feedback report for Sue Smith, a patient who sees Dr. Fischer, has recently quit smoking, is not getting enough physical activity, and has low physical health-related quality of life and normal mental health-related quality of life.

Sue Smith-

Congratulations! You stopped smoking. That's great! It is important to keep up your motivation to stay quit! Did you know that after remaining tobacco free for 1 year, your risk of heart disease is half way back to normal? Please let Dr. Fischer, or anyone in GIMO, know if you need any help to remain tobacco free.

You may not be getting enough *physical activity*. Did you know that many health organizations, including the Centers for Disease Control, recommend that you get 30 minutes of moderate activity, or 20 minutes of vigorous activity, at least 5 days a week. Dr. Fischer agrees. Some examples of moderate activities are:

Walking fastMowing the lawnRiding a bicycle on level groundPlaying doubles tennis

Being physically active makes you less likely to get:

Diabetes Heart disease Colon cancer High blood pressure

Physical activity can also improve your mood and increase the amount of energy you have. It is also a great way to reduce stress and prevent weight gain after you quit smoking!

You may want to talk with Dr. Fischer today about ways that you can increase your physical activity.



The chart on the left compares your *physical* and *emotional* **health** to the average person living in the United States.

There are many reasons that *physical health* can be lower than average, including injuries and medical conditions such as arthritis. There may be things you can do, such as physical therapy and rehabilitation, and different kinds of exercise, like yoga, that can improve your physical health. Please think about some of the things that may be limiting your activity and talk with Dr. Fischer today about how you can feel better.

Your emotional health is in the normal range. If you ever feel like you need help with your mood or stress, please let Dr. Fischer or anyone in GIMO know.

Hess, R., et al. (2014). A randomized controlled trial of the functional assessment screening tablet to engage patients at the point of care. <u>Journal of General Internal Medicine</u>.

"Implementing patient-reported outcomes assessment in clinical practice: a review of the options and considerations"

Snyder, C.F., Aaronson, N. K., et al. <u>Quality</u> of Life Research, 21, 1305-1314, 2012.

- HRQOL has rarely been collected in a standardized fashion in routine clinical practice.
- Increased interest in using PROs for individual patient management.
- Research shows that use of PROs:
 - Improves patient-clinician communication
 - May improve outcomes

Thank you.



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Powerpoint file at: <u>http://gim.med.ucla.edu/FacultyPages/Hays/</u>