

## Quality of Patient Experience in the 2013 Medicare Current Beneficiary Survey Public Use File (MCBS PUF)

Nicholas Schluterman

Quality of patient experience—the sum of all perceptions, evaluations, and emotions toward a health care system that arise in an individual as a result of interactions with it—is a key metric for measuring the success of a health care system.<sup>1</sup> Two of the many components of patient experience are patient satisfaction and trust in providers. Patient satisfaction is the degree to which an individual's expectations about health care experiences are met. Trust in providers reflects a patient's confidence in the ability, reliability, and effectiveness of specific health care professionals. These two elements of patient experience may reflect an individual's access to health care, influence behaviors, and impact overall health.<sup>2,3</sup>

The Medicare Current Beneficiary Survey Public Use File (MCBS PUF) provides cross-sectional data on health care access, utilization, and experience among a nationally-representative sample of community-dwelling Medicare beneficiaries.<sup>4</sup> The MCBS PUF includes survey items that can be used to measure two components of patient experience: general patient satisfaction (GPS) and trust in usual physician (TUP).

This data highlight demonstrates the internal consistency—how much a set of items are all measuring the same underlying concept<sup>5</sup>—of the GPS and TUP scores in a sample of community-dwelling Medicare beneficiaries aged 65 years and over. In addition, this highlight examines correlates of quality of patient experience as measured by the items related to GPS and TUP, exploring both socio-demographic factors and general health ratings. This is the first MCBS data highlight using the MCBS PUF.

### KEY FINDINGS

#### Data from the Medicare Current Beneficiary Survey Public Use File (MCBS PUF)

- Both the General Patient Satisfaction (GPS) and the Trust in Usual Physician (TUP) instruments had very high internal consistency (Cronbach's alpha 0.891 and 0.932, respectively) and could be used as coherent measures of patient experience elements.
- Reported quality of patient experience was better for beneficiaries who were aged 65-74 years compared to those aged 75 and over, and for beneficiaries who were white compared to those of other races.
- Higher-than-average quality of patient experience was also reported by beneficiaries who had more education, were married, or were in better general health.

**General Patient Satisfaction (GPS) items demonstrated a very high level of internal consistency.**

Table 1: Internal Reliability of the General Patient Satisfaction (GPS) Instrument, 2013

MCBS PUF variable name	Patient satisfaction with...	Mean	SD	Correlation with instrument total*	Cronbach's alpha without item
ACC_MCQUALITY	Quality of medical care last year	2.53	0.56	0.628	0.880
ACC_MCAVAIL	Availability of health care on nights/weekends	2.28	0.46	0.621	0.881
ACC_MCEASE	Ease of getting to doctor from home	2.38	0.58	0.547	0.885
ACC_MCCOSTS	Out-of-pocket costs for medical services	2.12	0.71	0.478	0.889
ACC_MCINFO	Information provided about health problems	2.31	0.57	0.692	0.876
ACC_MCFOLUP	Follow-up after initial treatment	2.37	0.53	0.696	0.876
ACC_MCCONCRN	Doctor concerned with overall health	2.35	0.57	0.695	0.876
ACC_MCSAMLOC	Health care needs taken care of at same location	2.27	0.56	0.664	0.878
ACC_MCSPECAR	Availability of health care specialists	2.34	0.55	0.700	0.876
ACC_MCTELANS	Quality of answers via telephone for treatment of prescriptions	2.15	0.56	0.611	0.881
ACC_MCAMTPAY	Amount paid for prescription drugs	2.09	0.71	0.417	0.893
		<b>Mean</b>	<b>SD</b>	<b>Cronbach's alpha<sup>5</sup></b>	
<b>Total</b>		25.19	4.63	0.891	

SOURCE DATA: Medicare Current Beneficiary Survey Public Use File (MCBS PUF), 2013, aged 65 and over (n=11,213). Beneficiary must have data for at least five GPS items to be included.  
SD: standard deviation.

\*Pearson's correlation coefficient between individual item and the total instrument score.<sup>6</sup>

- Each of the 11 GPS items had a possible response value of 0 (very dissatisfied) to 3 (very satisfied) for a total possible beneficiary score of 0-33. The overall mean was 25.19 indicating most beneficiaries were satisfied or very satisfied with their health care experiences.
- The Cronbach's alpha for the GPS was 0.891, indicating that the items within the TUP were all measuring a similar underlying construct.
- Of the items on the GPS, "Amount paid for prescription drugs" had the lowest correlation with the total instrument score (Pearson's correlation coefficient of 0.417), but its inclusion in the instrument did not substantially affect internal consistency.

**Trust in Usual Physician (TUP) items also demonstrated a very high level of internal consistency.**

Table 2: Internal Reliability of the Trust in Usual Physician (TUP) Instrument, 2013

MCBS PUF variable name	Experience with usual physician	Mean	SD	Correlation with instrument total*	Cronbach's alpha without item
ACC_USCKEVRY	Doctor checks everything when examining	2.38	0.57	0.725	0.926
ACC_USCOMPET	Doctor is competent and well-trained	2.48	0.50	0.737	0.925
ACC_USUNHIST	Doctor good understanding of medical history	2.44	0.53	0.761	0.924
ACC_USUNWRNG	Doctor completely understands what's wrong	2.37	0.55	0.746	0.925
ACC_USHURRY	Doctor seems to be in a hurry**	2.09	0.65	0.550	0.932
ACC_USEXPPRB	Doctor doesn't explain medical problems**	2.18	0.58	0.647	0.929
ACC_USDISCU	Health problems should be discussed but are not**	2.18	0.54	0.684	0.927
ACC_USFAVOR	Doctor acts as if doing a favor by talking**	2.32	0.56	0.680	0.927
ACC_USTELALL	Doctor tells all about medical condition/treatment	2.30	0.54	0.777	0.924
ACC_USANSQUX	Doctor answers all questions	2.35	0.52	0.793	0.923
ACC_USCONFID	Have great confidence in doctor	2.38	0.55	0.799	0.923
ACC_USDEPEND	Depend on doctor to feel better	2.13	0.65	0.554	0.932
		<b>Mean</b>	<b>SD</b>	<b>Cronbach's alpha<sup>5</sup></b>	
Total		27.56	5.12	0.932	

SOURCE DATA: Medicare Current Beneficiary Survey Public Use File (MCBS PUF), 2013, aged 65 and over (n=10,140).

Beneficiary must have data for at least six TUP items to be included.

SD: standard deviation.

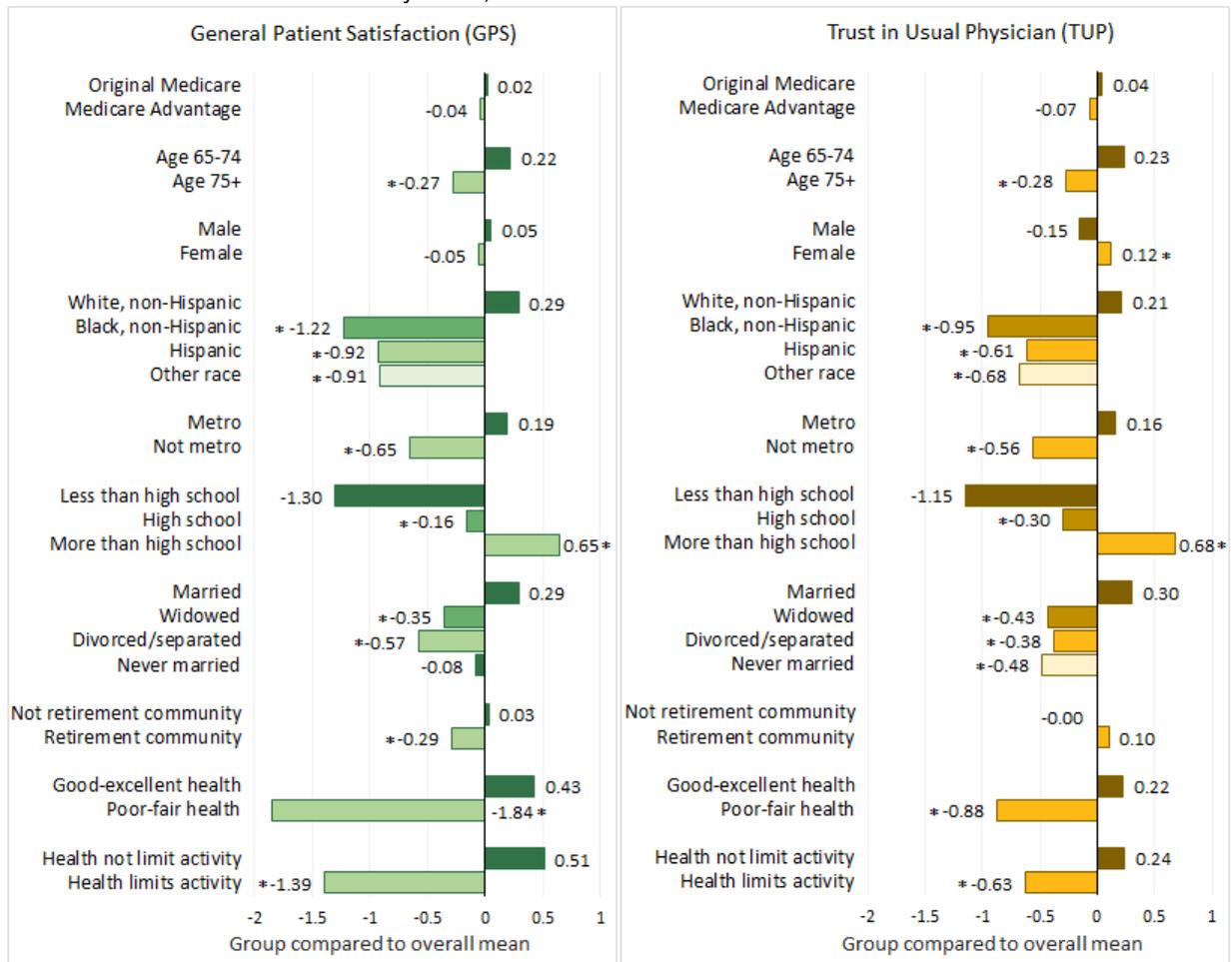
\*Pearson's correlation coefficient between individual item and the total instrument score.<sup>6</sup>

\*\*Reverse scored.

- Each of the 12 TUP items had a possible response value of 0 (strongly disagree) to 3 (strongly agree) for a total possible beneficiary score of 0-36. The overall mean was 27.56 indicating that most beneficiaries were satisfied with their interactions with their usual physician.
- The Cronbach's alpha for the TUP was 0.932, indicating that the items within the TUP were all measuring a similar underlying construct.
- Each of the individual items on the TUP had a correlation with the total instrument score of at least 0.5 (Pearson's correlation coefficient), with all individual items contributing to the instrument in a consistent manner.

## Quality of patient experience was correlated with several beneficiary characteristics.

Figure 1: Sociodemographic Correlates of Quality of Patient Experience as Measured by General Patient Satisfaction and Trust in Usual Physician, 2013



SOURCE DATA: Medicare Current Beneficiary Survey Public Use File (MCBS PUF), 2013, aged 65 and over. GPS: n=11,213. TUP: n=10,140.

\* Significantly different (p<0.05) mean compared to the referent category (first category listed). Tested with a general linear model including survey weights and replicate weights, but not adjusted for other covariates.

- Quality of patient experience was similar for beneficiaries who were enrolled in Original Medicare (also known as fee-for-service) and those enrolled in Medicare Advantage (also known as Part C).
- Male and female beneficiaries had similar mean scores for GPS, but females had slightly higher mean scores than males for TUP.
- Patient experience was significantly better for beneficiaries who were 65-74 years old, white, lived in metropolitan areas, had higher levels of education, were currently married, reported better general health, and reported fewer limitations in activity due to health.

## SUMMARY

The MCBS PUF contains questionnaire items that can be used to measure the quality of patient experience. The two quality of patient experience instruments, GPS and TUP, are internally valid and could be used in a variety of research questions related to patient satisfaction and quality of care.

This report shows that the quality of patient experience varies by key beneficiary sociodemographic characteristics. For example, non-Hispanic white beneficiaries reported higher patient satisfaction and more trust in their physician than beneficiaries of any other race/ethnicity. Younger beneficiaries were slightly more satisfied with the quality of their care and more trusting in their usual physician than were beneficiaries who were aged 75 years and over. Whether a beneficiary was enrolled in Medicare Advantage (Part C) or Original Medicare (fee-for-service) did not appear to influence the quality of his or her patient experience. The quality of reported patient experience was generally best for beneficiaries who were better educated or who were currently married. Health problems were adversely associated with patient experience, as beneficiaries who reported worse general health or activity limitations due to health also reported lower quality of patient experience.

Further research using these quality of patient experience instruments could help to untangle the reasons why access-to-care disparities persist in the Medicare population. Researchers who are interested in answering questions about health care access in the Medicare population may find the MCBS PUF a valuable data source.

## DEFINITIONS

For full documentation of MCBS PUF variables and definitions, please visit:

<https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/MCBS-Public-Use-File/index.html>.

### **Activity limitations due to health**

Self-reported limitations in activity due to health, on a four-item scale. The stated question was: “How much of the time during the past month has your health limited your social activities, like visiting with friends or close relatives? Would you say...None of the time/Some of the time/Most of the time/All of the time?” Responses of “Some of the Time,” “Most of the time,” and “All of the time” were grouped together to comprise the category “Health limits activity.” Data were recoded from the MCBS PUF variable HLT\_HELMTACT.

### **General health**

Self-reported general health, on a five-item Likert scale. The stated question was: “In general, compared to other people your age, would you say that your health is...Excellent/Very Good/Good/Fair/Poor?” Responses of “Good,” “Very Good,” and “Excellent” were grouped together in this analysis, as were responses of “Poor” and “Fair”. Data were recoded from MCBS PUF variable HLT\_GENHELTH.

### **General Patient Satisfaction (GPS)**

The GPS instrument consists of 11 items on the MCBS, listed in Table 1. Each of the 11 GPS items has a possible response value of 0 (very dissatisfied) to 3 (very satisfied) for a total possible instrument score of 0-33. A beneficiary must have data for at least five items to be included. A beneficiary's total instrument score calculated as: (Mean of non-missing items) × 11.

### **Trust in Usual Physician (TUP)**

The TUP instrument consists 12 items on the MCBS, listed in Table 2. Each of the TUP items has a possible response value of 0 (strongly disagree) to 3 (strongly agree) for a total possible instrument score of 0-36. A beneficiary must have data for at least six items to be included. A beneficiary's instrument total score calculated as: (Mean of non-missing items) × 12.

## **DATA SOURCES AND METHODS**

The MCBS is an in-person, longitudinal survey of Medicare beneficiaries that is sponsored by the Centers for Medicare & Medicaid Services (CMS) and directed by the Office of Enterprise Data and Analytics (OEDA). The MCBS is the most comprehensive and complete survey available on the Medicare population and is essential in capturing data not otherwise collected through operations and administration of the Medicare program. The MCBS sample includes participants from the 48 continental United States, plus Puerto Rico.

This data highlight used data from the 2013 MCBS PUF, which is the first de-identified publicly available MCBS data set free for download. The MCBS PUF is a cross-sectional collection of select MCBS data items that allows researchers to conduct analysis on health disparities, access to and satisfaction with health care, and medical conditions among Medicare beneficiaries. The MCBS PUF includes data only for community-dwelling Medicare beneficiaries; facility-dwelling MBCS participants are not included in this file. Some variables in the MCBS PUF have been recoded into broad categories in order to protect the identities of Medicare beneficiaries. For example, beneficiary age in the MCBS PUF is provided only as a categorical variable (<65, 65-74, or 75+ years old), and education level is recoded from the number of years of schooling into standard categories of educational attainment. The MCBS PUF data files and documentation can be downloaded for free at:

<https://www.cms.gov/Research-Statistics-Data-and-Systems/Downloadable-Public-Use-Files/MCBS-Public-Use-File/index.html>.

The study population was limited to the age-eligible (aged 65 and over) Medicare population (n=11,412), of whom 11,213 (98.3%) had responded to at least five of the 11 GPS items and 10,140 (88.9%) had responded to at least six of the 12 TUP items.

The analysis of internal instrument consistency, which reported Cronbach's alpha values and Pearson's correlation coefficients, did not employ survey weights or replicate weights; these results are applicable to the unweighted MCBS PUF sample. The Cronbach's alpha values show the degree to which the items within a scale are all measuring the same concept.<sup>5</sup> The Pearson's correlation coefficients demonstrate the degree to which each individual item elicits similar responses as the scale as a whole.<sup>6</sup> Cronbach's alpha values and Pearson's correlation coefficients are both on a scale from 0 to 1, with 1 meaning perfect agreement.<sup>5-6</sup>

A series of general linear models, adjusted for survey weights and replicate weights (included in the MCBS PUF), assessed differences in GPS and TUP instrument totals between sociodemographic and health-status groups. These models were not adjusted for other covariates, and can be interpreted as showing bivariate relationships in a nationally-representative sample Medicare beneficiaries 65 years of age and older. All significant findings cited are statistically significant at the  $p < 0.05$  level. SAS 9.4 was used for dataset construction and analysis.

## ABOUT THE AUTHOR

This report was written by Nicholas Schluterman at the Centers for Medicare & Medicaid Services (CMS) Office of Enterprise Data and Analytics (OEDA).

## REFERENCES

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**APPENDIX A** - Figure 1: Sociodemographic Correlates of Quality of Patient Experience as Measured by General Patient Satisfaction and Trust in Usual Physician, 2013

Demographic group	Group mean compared to overall mean	
	General patient satisfaction	Trust in usual physician
<b>Medicare enrollment</b>		
Original Medicare	0.02	0.04
Medicare Advantage	-0.04	-0.07
<b>Age group</b>		
Age 65-74	0.22	0.23
Age 75+	-0.27*	-0.28*
<b>Gender</b>		
Male	0.05	-0.15
Female	-0.05	0.12*
<b>Race</b>		
White, non-Hispanic	0.29	0.21
Black, non-Hispanic	-1.22*	-0.95*
Hispanic	-0.92*	-0.61*
Other race	-0.91*	-0.68*
<b>Metropolitan resident</b>		
Metropolitan	0.19	0.16
Not metropolitan	-0.65*	-0.56*
<b>Highest education level</b>		
Less than high school	-1.30	-1.15
High school	-0.16*	-0.30*
More than high school	0.65*	0.68*
<b>Marital status</b>		
Married	0.29	0.3
Widowed	-0.35*	-0.43*
Divorced/separated	-0.57*	-0.38*
Never married	-0.08	-0.48*
<b>Residence</b>		
Not retirement community	0.03	-0.00
Retirement community	-0.29*	0.10
<b>General health rating</b>		
Good-excellent health	0.43	0.22
Poor-fair health	-1.84*	-0.88*
<b>Activity limitations</b>		
Health not limit activity	0.51	0.24
Health limits activity	-1.39*	-0.63*

SOURCE DATA: Medicare Current Beneficiary Survey Public Use File (MCBS PUF), 2013, aged 65 and over. GPS: n=11,213. TUP: n=10,140.

\* Significantly different ( $p < 0.05$ ) mean compared to the referent category (first category listed). Tested with a general linear model including survey weights and replicate weights, but not adjusted for other covariates.