

**Supplemental materials for:**

Olaisen R, Schluchter MD, Flocke SA, Smyth KA, Koroukian SM, Stange KC. Assessing the longitudinal impact of physician-patient relationship on functional health. *Ann Fam Med*. 2020;18(5):422-429.

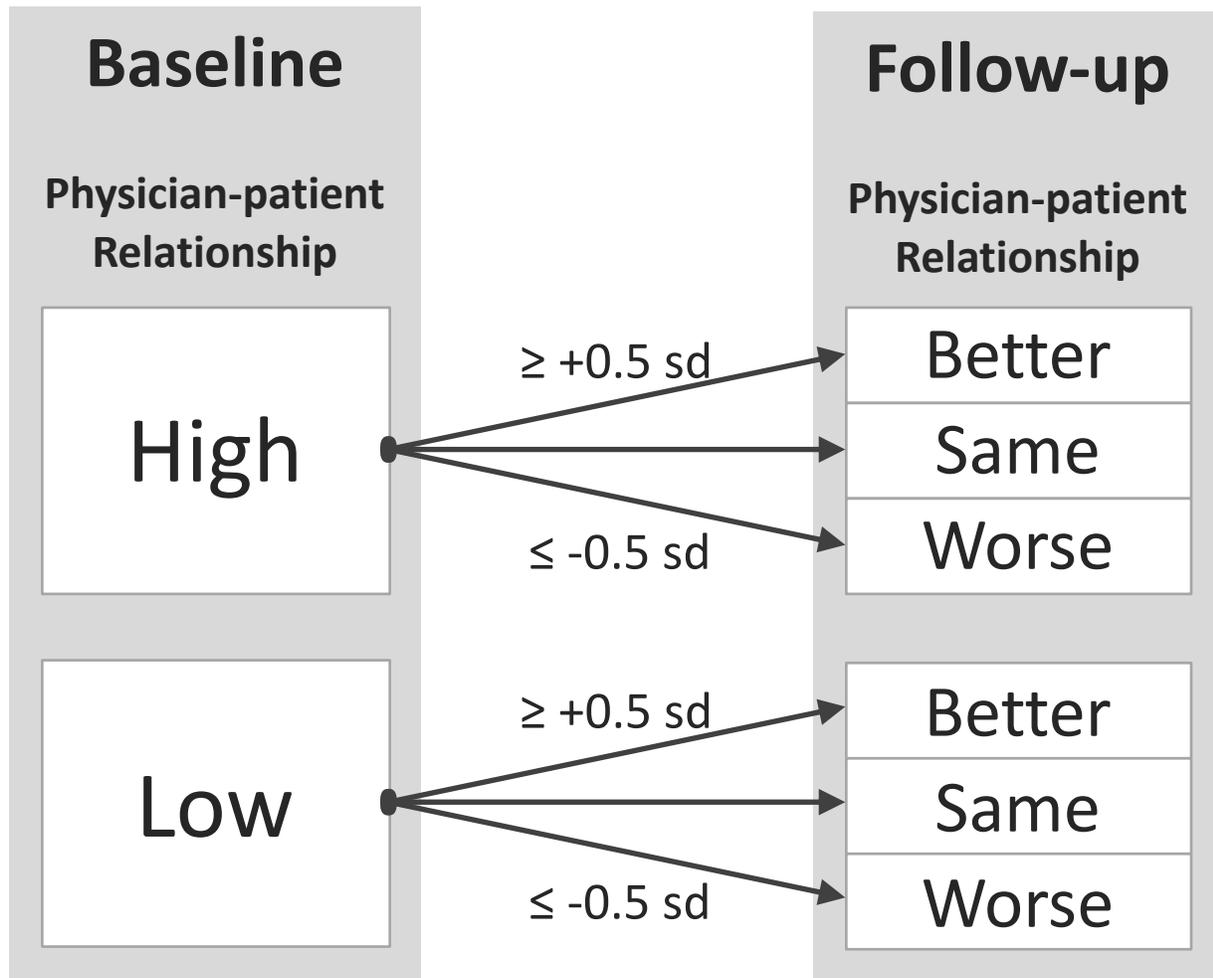
**Supplemental Appendix 1: Items that comprise the MEPS-PC Relationship subscale**

#	Question	Section
1	In the last 12 months, when you needed care right away how often did you get care as soon as you thought you needed [for illness, injury, or condition that needed care right away in a clinic, emergency room, or doctor's office]	SAQ
2	In the last 12 months, not counting the times you needed care right away, how often did you get an appointment for your health care at a doctor's office or clinic as soon as you thought you needed?	SAQ
3	In the last 12 months, how often was it easy to get the care, tests, or treatment you or a doctor believed necessary?	SAQ
4	In the last 12 months, how often did doctors or other health providers listen carefully to you?	SAQ
5	In the last 12 months, how often did doctors or other health providers explain things in a way that was easy to understand?	SAQ
6	In the last 12 months, how often did doctors or other health providers show respect for what you had to say?	SAQ
7	In the last 12 months, how often did doctors or other health providers spend enough time with you?	SAQ
8	In the last 12 months, how often were these instructions [about what to do about a specific illness or health condition] easy to understand?	AC
9	In the last 12 months, how often did doctors or other health providers ask you to describe how you were going to follow instructions [about what to do about a specific illness or health condition]?	SAQ
10	In the last 12 months, how often was it easy to see a specialist that you needed to see?	SAQ
11	If there were a choice between treatments, how often would [a medical person at] [PROVIDER] ask (patient) to help make the decision?	AC
12	Thinking about the types of medical, traditional and alternative treatments that (patient) is happy with, how often does [a medical person at] [PROVIDER] show respect for these treatments?	AC
13	How difficult is it to contact [a medical person at] [PROVIDER] after their regular hours in case of urgent medical needs?	AC
14	How difficult is it to contact [a medical person at] [PROVIDER] during regular business hours over the telephone about a health problem?	AC

NOTES: AC = Access to Care section, completed during in-person interview; SAQ=Self-Administered Questionnaire, administered via mail-in survey. Answer choices in SAQ are: never, sometimes, usually, always; while in AC very difficult, somewhat difficult, not too difficult, not at all difficult.

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey.

**Supplemental Figure 1** : Illustration of the statistical approach to construct (6) mutually exclusive physician-patient relationship trajectories

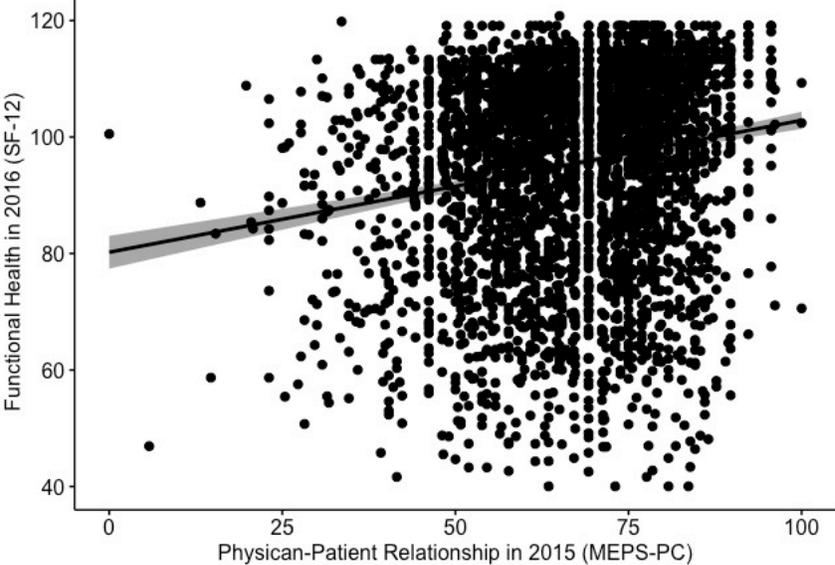


Physician-patient relationship operationalized with the MEPS-PC Relationship composite subscale with evidence of preliminary reliability and validity.

Data on two time points, one year apart, where baseline reflects 2015 and follow-up reflects 2016 physician-patient relationship scores.

Individuals classified at baseline into one of two categories: low or high, depending on whether the individual's baseline physician-patient relationship score was above or below the population median physician-patient relationship score. Then, depending on whether the individual's follow-up physician-patient relationship score changed  $\pm 0.5$  standard deviation (sd) to baseline, they were assigned into one of three possible follow-up trajectories (Same, Worse, Better).

**Supplemental Figure 2 :** Correlation between physician–patient relationship in 2015 and functional health outcome (SF-12) in 2016 among U.S. adults with office visits in both 2015 and 2016.



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Longitudinal Panel, HS193 (2015–2016).

**Supplemental Table 1: Comparisons between different trajectories in physician-patient relationship and impact on functional health in a nationally representative sample of US adults with physician-office visits in both 2015 and 2016.**

Physician-patient relationship	Estimate	SE	Z	P	Sign
High→Same vs. High→Better	-2.56	0.60	-4.28	<0.001	***
High→Worse vs. High→Better	-5.10	0.93	-5.5	<0.001	***
Low→Better vs. High→Better	-0.18	0.68	-0.27	1	
Low→Same vs. High→Better	-2.37	0.99	-2.39	0.141	
Low→Worse vs. High→Better	-3.47	1.56	-2.22	0.204	
High→Worse vs. High→Same	-2.54	0.95	-2.67	0.071	*
Low→Better vs. High→Same	2.38	0.91	2.62	0.081	*
Low→Same vs. High→Same	0.19	1.09	0.18	1	
Low→Worse vs. High→Same	-0.91	1.59	-0.58	0.991	
Low→Better vs. High→Worse	4.91	1.03	4.79	<0.001	***
Low→Same vs. High→Worse	2.73	1.15	2.36	0.15	
Low→Worse vs. High→Worse	1.62	1.69	0.96	0.919	
Low→Same vs. Low→Better	-2.18	0.83	-2.63	0.078	*
Low→Worse vs. Low→Better	-3.29	1.56	-2.11	0.254	
Low→Worse vs. Low→Same	-1.10	1.60	-0.69	0.98	

\*\*\* denotes  $P < 0.001$  while \* denotes  $P < 0.10$ .

Physician-patient relationship trajectories are based on six mutually exclusive, one-year change groups defined by a) individual score on the physician-patient relationship in 2015 (a binary category, defined at the population median) and b) individual score on physician-patient relationship in 2016 compared to 2015 (a three-level ordinal variable defined by  $\pm 0.5$  standard deviation).

Comparison made with survey-weighted, covariate adjusted generalized linear model, and tested with Tukey multiple pairwise comparison not adjusted for multiple testing (Bonferroni).

Covariates in model included age group, sex, race-ethnicity, educational attainment, insurance status, multimorbidity, U.S. region, and baseline relationship score using survey-weighted predicted marginal means.

Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Longitudinal Panel, HS193 (2015–2016), and Medical Conditions, HS190, 2015.