

# The Relation Between Having a Usual Source of Care and Ratings of Care Quality: Does Patient-Centered Communication Play a Role?

LILA J. FINNEY RUTTEN<sup>1</sup>, AMENAH A. AGUNWAMBA<sup>1</sup>, ELLEN BECKJORD<sup>2</sup>, BRADFORD W. HESSE<sup>3</sup>, RICHARD P. MOSER<sup>3</sup>, and NEERAJ K. ARORA<sup>4</sup>

<sup>1</sup>Robert D. and Patricia E. Kern Center for the Science of Healthcare Delivery, Mayo Clinic, Rochester, Minnesota, USA

<sup>2</sup>University of Pittsburgh Medical Center, Health Plan, Insurance Services Division, University of Pittsburgh, Pittsburgh, Pennsylvania, USA

<sup>3</sup>Division of Cancer Control and Population Science, National Cancer Institute, Bethesda, Maryland, USA

<sup>4</sup>Patient Centered Outcomes Research Institute, Washington, DC, USA

Having a usual source of health care has been consistently associated with greater use of preventive services, decreased use of emergency services, and with patients' ratings of quality and satisfaction with care. Ongoing patient–provider relationships may be, in part, fostered by patient-centered communication. Growing evidence demonstrates that positive patient-centered communication improves adherence to treatment recommendations, management of chronic disease, quality of life, and disease-related outcomes. We aimed to determine how patient-centered communication between patients and physicians might mediate the relation between having a source of usual care and ratings of health care quality. We analyzed data from Cycle 1 of the fourth iteration of the Health Information National Trends Survey. Data were collected through mailed questionnaire in October 2011 through February 2012 ( $N = 3,959$ ). Overall, individuals with a usual source of care reported more patient-centered communication experiences and had higher ratings of quality of care. Parameter estimates for each pathway in the mediation model were estimated through regression analysis. Results confirm the importance of patient-centered communication in shaping patients' perceptions of the quality of their care, accounting for a significant portion of the observed relation between having a usual source of care and ratings of quality.

Having an ongoing relationship with a health care provider or a usual source of health care has been associated with greater use of preventive services, decreased use of emergency services, and with patients' ratings of quality and satisfaction with care (Blewett, Johnson, Lee, & Scal, 2008; Center, 2000; DeVoe, Saultz, Krois, & Tillotson, 2009; DeVoe, Tillotson, Lesko, Wallace, & Angier, 2011; DeVoe, Tillotson, Wallace, et al., 2011; DeVoe, Tillotson, Wallace, Lesko, & Pandhi, 2012; Rodriguez, Bustamante, & Ang, 2009; Spatz, Ross, Desai, Canavan, & Krumholz, 2010; Winters, Tancredi, & Fiscella, 2010). While the associations between having a usual source of health care and positive patient outcomes has been well documented (DeVoe et al., 2009; DeVoe, Tillotson, Wallace, et al., 2011; DeVoe et al., 2012), little attention has been given to understanding the mechanisms through which having a usual source of care improves patient satisfaction and ratings of care.

Ongoing patient–provider relationships may be, in part, fostered by patient-centered communication. Patient-centered

communication involves the content, processes and outcomes of exchanges between patients and clinicians (Epstein, 2007). Patients' interactions and relationships with health care providers and health service organizations are at the core of patient-centered care, and influence the quality of patient care (Rutten, Arora, Bakos, Aziz, & Rowland, 2005). A growing body of research demonstrates that patient-centered communication results in improvements in adherence to treatment recommendations, improvements in the management of chronic disease, and improvements in quality of life and disease-related outcomes (Arora, 2003; Epstein, 2007; Epstein, Fiscella, Lesser, & Stange, 2010; Kaplan, Greenfield, & Ware, 1989; Lewin, Skea, Entwistle, Zwarenstein, & Dick, 2001; Stewart et al., 2000). Effective patient-centered communication can be particularly important for patients diagnosed with complex chronic conditions, such as cancer (Epstein, 2007). In these situations, physicians are oftentimes faced with communicating bad news, assisting their patients in dealing with the emotional effect of a life-threatening illness, as well as helping them to navigate the health system, understand complex and incomplete health information, and make critical health decisions (Epstein, 2007; Epstein & Gramling, 2013; Han, Klein, & Arora, 2011).

Address correspondence to Lila J. Finney Rutten, Department of Health Sciences Research, Division of Epidemiology, Mayo Clinic, 200 First Street SW, Rochester, MN 55905, USA. E-mail: [rutten.lila@mayo.edu](mailto:rutten.lila@mayo.edu)

A framework for patient-centered communication was developed by Epstein and Street (2007) describing six communication functions that guide clinical interactions: *fostering healing relationships*, *exchanging information*, *responding to emotions*, *managing uncertainty*, *making decisions*, and *enabling patient self-management* (Epstein, 2007). *Fostering healing relationships* through patient-centered communication is characterized by the cultivation of shared understanding, mutual trust, and empathy (Epstein, 2007). *Exchanging information* enables the integration of clinical information with patient's beliefs and expectations through responsiveness to patients' information needs and sensitivity to issues of literacy, numeracy, and culture (Epstein, 2007). The patient-centered communication core function of *responding to emotions* involves acknowledgment, validation, and support for the range of emotional reactions that patients may experience during their illness, treatment, and recovery (Epstein, 2007). It is often the case in medicine that disease trajectories are unpredictable, treatment choices are ambiguous, and prognoses are uncertain; therefore, a central aspect of patient-centered communication is supporting patients and their families in *managing uncertainty* (Epstein, 2007; Han et al., 2011). *Making decisions* involves the promotion of information exchange and open consideration to engage patients and other decision makers in the decision-making process (Epstein, 2007, 2009; Epstein & Gramling, 2013). Last, *enabling patient self-management* involves encouraging patient autonomy and self-care outside of the clinical encounter by helping patients navigate the health care system and identify community resources (Epstein, 2007).

Using data from a nationally representative sample of adults in the United States, we evaluated the interrelations among having a usual source of care, the patient-centeredness communication between patients and clinicians, and patients' ratings of care quality. We hypothesized that the association between usual source of care and ratings of health care quality would be mediated by patient-centered communication.

## Method

### Data Collection and Response Rates

We analyzed data from Cycle 1 of the fourth Health Information National Trends Survey (HINTS 4 Cycle 1). HINTS is a nationally representative survey of the U.S. adult population that tracks attitudes, knowledge, and behavior relevant to health communication and related outcomes. (Nelson et al., 2004). Data collection for HINTS 4 Cycle 1 was initiated in October 2011 and concluded in February 2012 ( $N=3,959$ ). HINTS 4 data were collected using a self-administered mailed questionnaire using a comprehensive national listing of addresses available from the U.S. Postal Service. The sample design was a two-stage, stratified sample where addresses were selected from a file of residential addresses, and individual respondents were selected from each sampled household (Finney Rutten, 2011). The final response rate, calculated as per American Association for Public Opinion Research (2011) standards, was 36.7%. Further

details on survey design and sampling strategies have been published elsewhere (Finney Rutten, 2011).

## Measures

### Usual Source of Health Care

Respondents were asked the following question to assess whether they have a usual source of health care: "Not including psychiatrists and other mental health professionals, is there a particular doctor, nurse, or other health professional that you see most often?" Response options for this item were *yes* or *no*.

### Patient-Centered Communication

Several items were included on the HINTS survey to assess the specific components of patient-centered communication identified by Epstein and Street in their 2007 National Cancer Institute Monograph (Epstein, 2007). Respondents were asked several questions about their communication with health care professionals to assess various aspects of the patient centeredness of their communication with their health care providers. Specifically, respondents were asked to consider the communication that they had with all "doctors, nurses, or other health professionals... during the past 12 months." To assess the core functions of patient-centered communication (fostering healing relationships, exchanging information, responding to emotions, managing uncertainty, making decisions, and enabling patient self-management) respondents were asked to rate the frequency with which doctors, nurses, or other health care professionals did the following: "Give you the chance to ask all the health-related questions you had"; "Give the attention you needed to your feelings and emotions?"; "Involve you in decisions about your health care as much as you wanted?"; "Make sure you understood the things you needed to do to take care of your health?"; "Explain things in a way you could understand"; "Spend enough time with you?"; and "Help you deal with feelings of uncertainty about your health or health care?" Respondents were also asked, "During the past 12 months, how often did you feel you could rely on your doctors, nurses, or other health care professionals to take care of your health care needs?" Response options for the patient-centered communication items were rated on a 4-point scale ranging from 1 (*never*) to 4 (*always*). Responses to these eight items were summed to create a composite score with a potential range of 8–32, with higher scores indicating more positive communication and more patient-centered interactions (Cronbach's  $\alpha=.94$ ). Only respondents who reported that they had seen a health care provider during the past 12 months were asked these questions ( $n=3,317$ ).

### Ratings of Health Care Quality

Respondents were asked: "Overall, how would you rate the quality of health care you received in the last 12 months?" Response options for this item were on a 5-point scale ranging from 1 (*excellent*) to 5 (*poor*). For our analyses, we recoded responses such that higher scores indicate higher ratings of quality. Again, only respondents who reported that they had seen a health care provider during the past 12 months were asked this question.

*Health Insurance and Frequency of Health Care Use*

Health insurance status was assessed with the following item: “Do you have any of the following health insurance or health coverage plans?”: insurance through a current or former employer or union (of you or another family member); insurance purchased directly from an insurance company (by you or another family member); Medicare; Medicaid, Medical Assistance, or any kind of government assistance plan for those with low incomes or disability; TRICARE or other military health care; VA (including those who have ever used or enrolled for VA health care); or Indian Health Service. Responses were recoded as *yes/no*, where *yes* was given to respondents who endorsed having any of the insurance coverage options listed. Frequency of health care use was assessed with the following item: “In the past 12 months, not counting the times you went to the emergency room, how many times did you go to a doctor, nurse, or other health professional to get care for yourself?” Responses options included *none, 1 time, 2 times, 3 times, 4 times, 5 to 9 times, and 10 or more times*.

*Sociodemographic Variables*

Sociodemographic variables included gender, age (18–34, 35–49, 50–64, 65–74, and 75+ years), education (less than high school, high school graduate, some college, and college graduate), race/ethnicity (Hispanic, non-Hispanic White, non-Hispanic Black, and non-Hispanic other), and annual household income (less than \$35K, \$35K to less than \$75 K, and \$75 K or more).

*Data Analyses*

We used SUDAAN version 9.0.1 to analyze the complex survey data and obtain correct variance estimates (Research Triangle Institute, 2008). All data were weighted to provide representative estimates of the adult U.S. population. Using Baron and Kenny’s (1986) method to assess whether patient-centered communication mediates the association between usual source of care and patient ratings of health care quality, four multiple linear regression equations were estimated to assess the following requisite conditions: the outcome variable (ratings of health care quality) should be predicted by the independent variable and the mediator variable; the mediator variable (patient-centered communication) should be significantly associated with the independent variable (usual source of health care); and when the outcome variable is regressed on to the independent variable while controlling for the mediator variable, complete mediation occurs when the independent variable is no longer significantly associated with outcome variable, and partial mediation occurs when the observed association between the independent variable and the outcome is significantly reduced. For our analysis, partial mediation was assessed using the Sobel (1982) test.

**Results**

There were significant differences across sociodemographic variables by usual source of care (see Table 1). There were

**Table 1.** Weighted population estimates of sociodemographic and health care access characteristics of respondents, by usual source of care (*N* = 3,898)

	Usual source of care		
	Yes ( <i>n</i> = 2,770)	No ( <i>n</i> = 1,128)	
Gender			( <i>p</i> < .01)
Male	45.5	54.2	
Female	54.5	45.9	
Age (years)			( <i>p</i> < .0001)
18–34	24.3	41.4	
35–49	24.4	32.4	
50–64	29.6	17.6	
65–74	11.3	5.0	
75+	10.3	3.6	
Annual income			( <i>p</i> < .001)
<\$20,000	21.0	28.8	
\$20,000 to <\$35,000	15.2	21.1	
\$35,000 to <\$50,000	12.8	13.6	
\$50,000 to <\$75,000	18.6	14.6	
\$75,000 to <\$100,000	11.8	10.1	
\$100,000 or more	20.7	11.9	
Race/ethnicity			( <i>p</i> < .0001)
Non-Hispanic White	70.5	53.2	
Non-Hispanic Black	9.4	13.5	
Hispanic/Latino	9.8	20.1	
Non-Hispanic other	5.7	9.6	
Missing	4.7	3.5	
Education			( <i>p</i> < .01)
Less than high school	9.7	17.3	
High school	21.4	25.4	
Some college	31.8	30.8	
College graduate	37.2	26.5	
Health insurance			( <i>p</i> < .0001)
Yes	90.6	65.7	
No	9.4	34.3	
Visits to health care provider during past 12 months			( <i>p</i> < .0001)
1	15.3	36.4	
2	22.6	28.4	
3	17.0	15.5	
4	14.8	7.6	
5–9	18.7	8.1	
10 or more	11.7	4.0	

significantly fewer men among those with a usual source of care compared with those without usual care, and those with a usual source of care were generally older. A higher percentage of those with a usual source of care reported being non-Hispanic White. Those with a usual source of care were significantly more educated, had health insurance, and generally had higher incomes compared with those without a usual source of care. Those with a usual source of care generally had significantly more visits to health care providers during the past year, had higher ratings of health care quality, and had more patient-centered communication,

**Table 2.** Ratings of quality care and patient-centeredness of care, by usual source of care

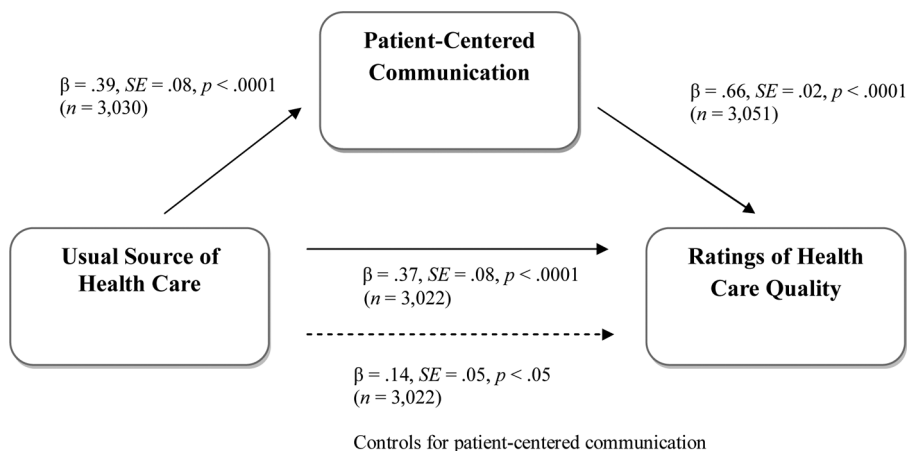
	Usual source of care		
	Yes	No	
Ratings of health care quality (mean on a 5-point scale)	4.1	3.7	$p < .0001$
Reports of patient-centeredness of communication (mean)			
Summed composite scale (min = 8, max = 32)	23.6	21.5	$p < .001$
Cronbach's $\alpha = .94$			
Items		Range	$M (SD)$
During the past 12 months, how often did doctors, nurses, or other health professionals . . . .? ( <i>always, usually, sometimes, never</i> )			
Give you the chance to ask all the health-related questions you had?		1-4	3.5 (0.7)
Give the attention you needed to your feelings and emotions?		1-4	3.2 (0.9)
Involve you in decisions about your health care as much as you wanted?		1-4	3.3 (0.8)
Make sure you understood the things you needed to do to take care of your health?		1-4	3.5 (0.7)
Explain things in a way you could understand?		1-4	3.6 (0.9)
Spend enough time with you?		1-4	3.2 (0.9)
Help you deal with feelings of uncertainty about your health or health care?		1-4	3.1 (0.9)
During the past 12 months, how often did you feel you could rely on your doctors, nurses, or other health care professionals to take care of your health care needs?		1-4	3.4 (0.7)

*Note.* The sample was limited to respondents who had reported that they had seen a health care provider in the past 12 months ( $n = 3,317$ ). A higher score indicates more positive communication and more patient-centered interactions, proposed to mediate the relation between usual source of care and patients' health care ratings.

compared with those who did not have a usual source of care (see Table 2).

Figure 1 illustrates the mediation between usual source of care and ratings of health care quality by patient-centered communication. Parameter estimates for each pathway are indicated above each arrow, along with their statistical significance. Results from regression analyses testing each pathway provided evidence for partial mediation. A total of four regression analyses were conducted each controlling for sex, age, race/ethnicity, education, income, health insurance status, and frequency of health care use. Model 1: Usual source of care was significantly and independently

associated with higher ratings of health care quality. None of the other variables in the model assessing the association between usual source of care and ratings of quality were significant. Model 2: After adjustment, having a usual source of care was significantly and independently associated with more patient-centered communication. None of the other variables in the model were significantly associated with patient-centered communication. Model 3: Patient-centered communication was significantly associated with higher ratings of health care quality. Age was also significantly associated with ratings of care quality; compared with those aged 18–34 years, those aged 35–49 years ( $\beta = -0.20$ ,



**Fig. 1.** Path model depicting patient-centered communication as a partial mediator of the association between usual source of health care and ratings of health care quality. \*Sobel test statistic: 4.82,  $p < .0001$ . Regression analyses control for gender, age, education, income, race/ethnicity, health insurance status, and frequency of health care use.



$p < .01$ ) reported lower ratings of care quality. Model 4: In the presence of patient-centered communication, the predictor variable (usual source of care) remained significant; however, the parameter estimate was attenuated, showing evidence of partial mediation. This partial mediation was determined to be significant (Sobel test statistic: 4.82,  $p < .0001$ ). Age was also significantly associated with ratings of quality of care wherein those aged 35–49 years ( $\beta = -0.20$ ,  $p < .01$ ) reported lower ratings of care quality compared with those aged 18–34 years.

## Discussion

In the rapidly evolving health care landscape, the healing bond between patients and health care providers may be more important than ever. Within the context of accountable care organizations, usual source of care is at the heart of the patient-centered medical home. Our results showed that having a usual source of care is associated with better ratings of health care quality, and this relationship is explained, in part, by higher ratings of patient-centered communication. Having a usual source of care varied, in predictable ways, across sociodemographic factors. Having a usual source of care followed an educational and economic gradient; participants with higher education and higher income more frequently reported having a usual source of care. This suggests that lower socioeconomic status populations might be more vulnerable to negative health outcomes as the result of less continuity in care. Substantial evidence indicates that low socioeconomic status populations are disproportionately burdened by adverse health outcomes and lower health literacy (Adler & Stewart, 2010; Chen, 2012; Pampel, Krueger, & Denney, 2010; Phelan, Link, & Tehranifar, 2010), and an additional risk factor for the traditionally underserved is higher likelihood of being uninsured. The effect that we observed of usual source of care on ratings of care quality appears to be independent of insurance status. This is consistent with other studies showing that lack of usual source of care is associated with greater risk for adverse health outcomes, even among patients who have health insurance (Spatz et al., 2010). Continued attention will need to be given to these disadvantaged populations. In addition to ensuring access to health insurance, access to usual source of care and effective patient-centered communication is critical to addressing health disparities and promoting health.

The effect of usual source of care on ratings of care quality was hypothesized to operate through patient-centered communication, and our results supported this hypothesis. We found that having a usual source of care was associated with significantly more positive reports of patient-centered communication and more patient-centered communication was, in turn, associated with how patients rated their quality of care. To our knowledge, no other study has confirmed this pathway. These results have important implications for longitudinal and intervention studies that investigate the effect of having a usual source of care, particularly as health care policies drive changes in the process of health

care delivery. For example, the patient-centered medical home, of which having a usual source of care is an integral component, is as much a process of delivering care as it is a model for delivering care (Epperly, 2011). The results presented here suggest that one way that this process leads to high-quality health care is through its facilitation of trusting relationships between patient and providers where clinical encounters are characterized by patient-centered communication.

In addition, having a usual source of care may lead to improved care quality by facilitating more consistent communication between patients and providers, even outside of traditional face-to-face clinical encounters. For example, since the Veteran's Health Administration has implemented a patient-centered medical home, technology-mediated patient-provider communication (i.e., phone, electronic messaging, and personal health record use) has significantly increased (Rosland et al., 2013). A recent review of the emerging literature on use of secure messaging and patient access to their own health information suggests that secure messaging improves patient satisfaction and certain health outcomes (Goldzweig et al., 2012). Related to concerns around disparities and disadvantaged populations, this literature review also provided moderate evidence that use of patient portals is lower among those with lower levels of literacy and education and among certain racial and ethnic groups, particularly African Americans (Goldzweig et al., 2012). Leveraging information technology to improve care coordination and communication with patients (Kellerman, 2009), and using technology to improve patient access to their own health information is a core component of the Meaningful Use standards for electronic medical record use (Blumenthal & Glaser, 2007; Blumenthal & Tavenner, 2010). It stands to reason that when patients and providers communicate more consistently and more frequently, the chances of achieving patient-centered communication is higher, as both the patient and the provider can come to know one another better and manage expectations of the other's behavior.

Future research should continue to carefully consider the role of communication—its frequency, medium, quality, and equitable distribution—in promoting quality care in the context of models of care delivery. Research is needed better understand how to engage patients who are reluctant to use emerging communication technologies to communicate with their health care providers to ensure that said technologies do not widen existing disparities in health knowledge and outcomes.

Several limitations of our study should be considered. The HINTS data are cross sectional, and therefore, causal relationships analyzed in this study need to be further assessed. In addition, the assessment of the patient-physician relationship can be nuanced and complex. We were not able to examine how patient personality traits or psychological well-being might affect, or confound, the relation between usual source of care, patient-centered communication, and health quality ratings. It is not known whether an underlying factor, such as a patient's personality, could actually affect the direction of our proposed pathway. For example, a

person who is intrinsically positive and organized might better adhere to treatment, and thus might be more likely to rank their clinical experiences in a positive light. They may also be more inclined to report better clinical interactions and seek out a usual source of care. A study that examined the effect of physician variation found that differences in clinical experiences actually might reflect patient personality traits as opposed to physician styles and outcomes (Franks et al., 2005). It will therefore be important to consider patient characteristics and their effect on usual source of care and patient-centered communication in future studies.

Our study reports findings that support the importance of usual source of care and patient-centered communication, and has implications for how new policies and associated processes of care should be implemented. With incredibly high and increasing rates of chronic disease in the United States, which have associated complex care regimens and higher associated degrees of uncertainty, patient-centered communication may be more important than ever before (Centers for Disease Control and Prevention, 2013; Han et al., 2011). It should be noted that while having a usual source of care appears to promote patient-centered communication and higher ratings of care quality, both health care consumers and their providers should not take communication processes for granted. Fostering healing, trusting, and effective patient-provider relationships takes significant effort on the part of patients and their medical team. Research that continues to investigate how to promote patient-centered communication and that evaluates its effect will play an increasingly important role in our efforts to reduce chronic disease and improve population health (Adler & Stewart, 2010; Chen, 2012; Pampel et al., 2010; Phelan et al., 2010).

## References

- Adler, N. E., & Stewart, J. (2010). Health disparities across the lifespan: Meaning, methods, and mechanisms. *Annals of the New York Academy of Sciences*, 1186, 5–23.
- American Association for Public Opinion Research. (2011). *Standard definitions: Final dispositions of case codes and outcome rates for surveys* (7th ed.). Deerfield, IL: Author.
- Arora, N. K. (2003). Interacting with cancer patients: The significance of physicians' communication behavior. *Social Science & Medicine*, 57, 791–806.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173–1182.
- Blewett, L. A., Johnson, P. J., Lee, B., & Scal, P. B. (2008). When a usual source of care and usual provider matter: Adult prevention and screening services. *Journal of General Internal Medicine*, 23, 1354–1360.
- Blumenthal, D., & Glaser, J. P. (2007). Information technology comes to medicine. *The New England Journal of Medicine*, 356, 2527–2534.
- Blumenthal, D., & Tavenner, M. (2010). The “meaningful use” regulation for electronic health records. *New England Journal of Medicine*, 363, 501–504.
- Center, R. G. (2000). The importance of primary care physicians as the usual source of healthcare in the achievement of prevention goals. *American Family Physician*, 62, 1968.
- Centers for Disease Control and Prevention. (2013). *Chronic diseases and health promotion*. Atlanta, GA: Author.
- Chen, E. (2012). Protective factors for health among low-socioeconomic-status individuals. *Current Directions in Psychological Science*, 21, 189–193.
- DeVoe, J. E., Saultz, J. W., Krois, L., & Tillotson, C. J. (2009). A medical home versus temporary housing: The importance of a stable usual source of care. *Pediatrics*, 124, 1363–1371.
- DeVoe, J. E., Tillotson, C. J., Lesko, S. E., Wallace, L. S., & Angier, H. (2011). The case for synergy between a usual source of care and health insurance coverage. *Journal of General Internal Medicine*, 26, 1059–1066.
- DeVoe, J. E., Tillotson, C. J., Wallace, L. S., Angier, H., Carlson, M. J., & Gold, R. (2011). Parent and child usual source of care and children's receipt of health care services. *Annals of Family Medicine*, 9, 504–513.
- DeVoe, J. E., Tillotson, C. J., Wallace, L. S., Lesko, S. E., & Pandhi, N. (2012). Is health insurance enough? A usual source of care may be more important to ensure a child receives preventive health counseling. *Maternal and Child Health Journal*, 16, 306–315.
- Epperly, T. (2011). The patient-centred medical home in the USA. *Journal of Evaluation in Clinical Practice*, 17, 373–375.
- Epstein, R. M. (2009). Why healing relationships matter in primary care practice. *Joint Commission Journal on Quality and Patient Safety*, 35, 456.
- Epstein, R. M., Fiscella, K., Lesser, C. S., & Stange, K. C. (2010). Why the nation needs a policy push on patient-centered health care. *Health Affairs*, 29, 1489–1495.
- Epstein, R. M., & Gramling, R. E. (2013). What is shared in shared decision making? Complex decisions when the evidence is unclear. *Medical Care Research and Review*, 70(1 Suppl.), 94S–112S.
- Epstein, R. M., & Street, R. L., Jr. (2007). *Patient-centered communication in cancer care: Promoting healing and reducing suffering*. Bethesda, MD: National Cancer Institute, National Institutes of Health.
- Finney Rutten, L., Davis, T., Burke Beckjord, E., Blake, K., Moser, R. P., & Hesse, B. W. (2012). Picking up the pace: Changes in method and frame for the Health Information National Trends Survey (2011–2014). *Journal of Health Communication*, 17(8), 979–989.
- Franks, P., Fiscella, K., Shields, C. G., Meldrum, S. C., Duberstein, P., Jerant, A. F., ... Epstein, R. M. (2005). Are patients' ratings of their physicians related to health outcomes? *Annals of Family Medicine*, 3, 229–234.
- Goldzweig, C. L., Towfigh, A. A., Paige, N. M., Orshansky, G., Haggstrom, D. A., Beroes, J. M., ... Shekelle, P. G. (2012). *Systematic review: Secure messaging between providers and patients, and patients' access to their own medical record. Evidence on health outcomes, satisfaction, efficiency and attitudes*. Washington, DC: Department of Veterans Affairs.
- Han, P. K., Klein, W. M., & Arora, N. K. (2011). Varieties of uncertainty in health care: A conceptual taxonomy. *Medical Decision Making*, 31, 828–838.
- Kaplan, S. H., Greenfield, S., & Ware, J. E., Jr. (1989). Assessing the effects of physician-patient interactions on the outcomes of chronic disease. *Medical Care*, 27(3 Suppl.), S110–S127.
- Kellerman, R. (2009). The patient centred medical home: A new model of practice in the USA. *Australian Family Physician*, 38, 279.
- Lewin, S. A., Skea, Z. C., Entwistle, V., Zwarenstein, M., & Dick, J. (2001). Interventions for providers to promote a patient-centred approach in clinical consultations. *Cochrane Database of Systematic Review*, 2001(4). doi:CD003267[pil]10.1002/14651858.CD003267
- Nelson, D. E., Kreps, G. L., Hesse, B. W., Croyle, R. T., Willis, G., Arora, N. K., ... Alden, S. (2004). The Health Information National Trends Survey (HINTS): Development, design, and

- dissemination. *Journal of Health Communication*, 9, 443–460; discussion 481–444.
- Pampel, F. C., Krueger, P. M., & Denney, J. T. (2010). Socioeconomic disparities in health behaviors. *Annual Review of Sociology*, 36, 349–370.
- Phelan, J. C., Link, B. G., & Tehranifar, P. (2010). Social conditions as fundamental causes of health inequalities theory, evidence, and policy implications. *Journal of Health and Social Behavior*, 51(1 Suppl.), S28–S40.
- Research Triangle Institute. (2008). *SUDAAN* (version 9.0.1). Raleigh, NC: Author.
- Rodriguez, M. A., Bustamante, A. V., & Ang, A. (2009). Perceived quality of care, receipt of preventive care, and usual source of health care among undocumented and other Latinos. *Journal of General Internal Medicine*, 24(Suppl. 3), 508–513.
- Rosland, A. M., Nelson, K., Sun, H., Dolan, E. D., Maynard, C., Bryson, C., . . . Schectman, G. (2013). The patient-centered medical home in the Veterans Health Administration. *American Journal of Managed Care*, 19, e263–e272.
- Rutten, L. J., Arora, N. K., Bakos, A. D., Aziz, N., & Rowland, J. (2005). Information needs and sources of information among cancer patients: A systematic review of research (1980–2003). *Patient Education and Counseling*, 57, 250–261.
- Sobel, M. E. (Ed.). (1982). *Asymptotic confidence intervals for indirect effects in structural equation models*. Washington, DC: American Sociological Association.
- Spatz, E. S., Ross, J. S., Desai, M. M., Canavan, M. E., & Krumholz, H. M. (2010). Beyond insurance coverage: Usual source of care in the treatment of hypertension and hypercholesterolemia. Data from the 2003–2006 National Health and Nutrition Examination Survey. *American Heart Journal*, 160, 115–121.
- Stewart, M., Brown, J. B., Donner, A., McWhinney, I. R., Oates, J., Weston, W. W., & Jordan, J. (2000). The impact of patient-centered care on outcomes. *Journal of Family Practice*, 49, 796–804.
- Winters, P., Tancredi, D., & Fiscella, K. (2010). The role of usual source of care in cholesterol treatment. *Journal of the American Board of Family Medicine*, 23, 179–185.

Copyright of Journal of Health Communication is the property of Routledge and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.