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## Measuring patient-centered communication in Patient–Physician consultations: Theoretical and practical issues<sup>☆</sup>

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### Abstract

The goal of patient-centered communication (PCC) is to help practitioners provide care that is concordant with the patient's values, needs and preferences, and that allows patients to provide input and participate actively in decisions regarding their health and health care. PCC is widely endorsed as a central component of high-quality health care, but it is unclear what it is and how to measure it. PCC includes four communication domains: the patient's perspective, the psychosocial context, shared understanding, and sharing power and responsibility. Problems in measuring PCC include lack of theoretical and conceptual clarity, unexamined assumptions, lack of adequate control for patient characteristics and social contexts, modest correlations between survey and observational measures, and overlap of PCC with other constructs. We outline problems in operationalizing PCC, choosing tools for assessing PCC, choosing data sources, identifying mediators of PCC, and clarifying outcomes of PCC. We propose nine areas for improvement: (1) developing theory-based operational definitions of PCC; (2) clarifying what is being measured; (3) accounting for the communication behaviors of each individual in the encounter as well as interactions among them; (4) accounting for context; (5) validating of instruments; (6) interpreting patient ratings of their physicians; (7) doing longitudinal studies; (8) examining pathways and mediators of links between PCC and outcomes; and (9) dealing with the complexity of the construct of PCC. We discuss the use of observational and survey measures, multi-method and mixed-method research, and standardized patients. The increasing influence of the PCC literature to guide medical education, licensure of clinicians, and assessments of quality provides a strong rationale for further clarification of these measurement issues. © 2005 Elsevier Ltd. All rights reserved.

**Keywords:** Patient-centered; Communication; Measurement; Doctor–patient communication

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## Introduction

Patient-centered communication (PCC) is widely endorsed as a central component of high-quality health care (Committee on Quality of Health Care in America, 2001), but it is not clear what it is, upon what theories it is based, or how to measure it. Too often, the terms *patient-centeredness*, *patient-centered care* and *PCC* are used interchangeably. In our view, *patient-centeredness* should be reserved to describe a moral philosophy with three core values: (1) considering patients' needs, wants, perspectives and individual experiences; (2) offering patients opportunities to provide input into and participate in their care; and (3) enhancing partnership and understanding in the patient–physician relationship (McWhinney, 1995). The term *patient-centered care* refers to actions in service of patient-centeredness, including interpersonal behaviors, technical interventions and health systems innovations. This paper focuses on *PCC*—communication among clinicians, patients and family members that promote patient-centeredness. An operational definition of PCC includes:

- (1) Eliciting and understanding the patient's perspective—concerns, ideas, expectations, needs, feelings and functioning.
- (2) Understanding the patient within his or her unique psychosocial context.
- (3) Reaching a shared understanding of the problem and its treatment with the patient that is concordant with the patient's values.

- (4) Helping patients to share power and responsibility by involving them in choices to the degree that they wish.

Clarity about how to measure PCC will lead to a more coherent body of research that provides an understanding of the structure of complex clinical interactions, and relationships between specific communication behaviors and desired subjective and objective outcomes. Measures of PCC also inform educational institutions, certifying organization and licensing bodies which increasingly include PCC as a criterion for physician competence (Campion, Foulkes, Neighbour, & Tate, 2002; Reznick et al., 1993).

Building on work by Mead and Bower (2000a, 2002), Stewart (2001), and Howie, Heaney, and Maxwell (2004), this paper proposes next steps in operationalizing PCC. We propose principles for choosing among methods to assess PCC, and developing new ones. While our focus is on patient–physician interactions, similar issues apply to other health professionals.

## Theoretical issues: operationalizing patient-centered communication (PCC)

The Institute of Medicine defines patient-centered care as not only a quality of an individual practitioner, but also of the health system as a whole (Committee on Quality of Health Care in America, 2001); there can be patient-centered physicians, patient-centered patients, patient-centered relationships and patient-centered

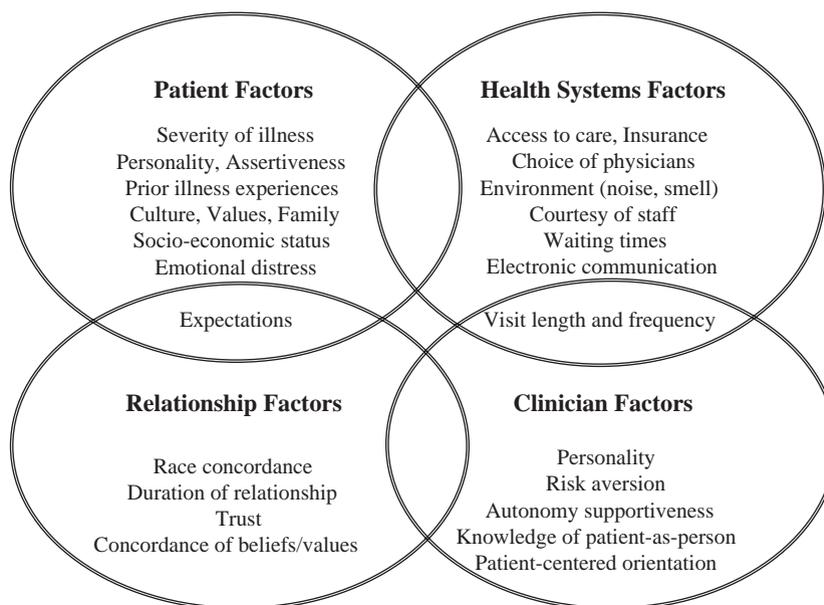


Fig. 1. Factors influencing patient-centered communication.

health systems (Fig. 1). However, few instruments measure contributions of relationships, health systems and patients to PCC. PCC is both a *trait* (an overall style of practice, McWhinney, 1995) and a *state* (behaviors during a particular interaction, Roter et al., 1997). PCC encompasses a wide array of behaviors and attributes (Fig. 1); however, developers of measures provide little or no theoretical justification for the inclusion of some aspects and the exclusion of others (Arora, 2003).

These complexities are in part related to the way in which context influences the expression of PCC behaviors. For example, sharing information with patients is a patient-centered behavior, but its value may depend on the context. Although patients generally say that they want more information, and information-giving fosters partnership in decision-making, physicians alter communication style when a patient becomes critically ill (Cassell, Leon, & Kaufman, 2001); these patients tend to respond better to more directive communication styles. Other patients may lose trust when physicians provide information that indicates that there is ambiguity or uncertainty about the correct course of action (Ogden et al., 2002). If trust is compromised, is the consultation still patient-centered? To withhold information about uncertainty in the hope of reinforcing trust, in other circumstances, does not support the patient-centered goal of partnership. Thus, rather than the number and type of a specific set of behaviors, responsiveness and informed flexibility should be considered fundamental qualities of PCC.

### Choosing tools for assessing patient-centered communication (PCC)

A particular challenge in measuring PCC is how to gather information about communication behaviors and their effects from several points of view—an objective description of communication in the consultation, and the subjective experiences of patients and clinicians. However, patient and physician report measures often do not correlate closely with objective ratings of the same encounters.

Even within one method, components of PCC are not highly correlated—there is little evidence that understanding the patient necessarily predisposes to greater patient participation in care, for example. As Stewart (2001) suggests, breaking PCC into smaller components may make measurement more feasible; it may also inform theory and allow more rigorous hypothesis-testing. This may lead investigators to use multiple measures to provide a more complete picture of PCC. However, PCC is not a single construct or dimension (Michie, Miles, & Weinman, 2003). Rather, like intelligence, it is a multifaceted construct; each component may advance one or more goals of patient-

centeredness. Thus it is not surprising that convergent validity is low among observational scales (Mead & Bower, 2000b) if the measured constructs are similar in name, but not in deeper structure. Measures that focus on content such as socio-emotional talk (Roter & Larson, 2002), process such as interruptions (Marvel, Epstein, Flowers, & Beckman, 1999), or the patient's experiences such as feeling known (Safran et al., 1998) may also provide contrasting information.

### *Direct observation of clinical encounters*

Coding systems, interactional analyses, checklists and rating scales are four ways of handling data from recorded or directly observed clinical encounters (see Table 1; for recent reviews, including detailed descriptions of individual instruments, consult Boon and Stewart (1998), and Mead and Bower (2000a). Coding systems that divide the interview into meaningful segments such as utterances or thought-units (Sandvik et al., 2002), or units of time (Callahan & Bertakis, 1991) yield data on the number of each type of utterance. In contrast, checklists and global ratings usually refer to physician behavior during the entire interview. A hybrid approach, developed by Brown, Stewart, and Ryan (2001), codes physician responses to patient-initiated concerns at any point during the visit.

Quantitative coding systems have embedded values that are appropriate in some settings but not in others. For example, Roter's patient-centeredness index includes a ratio of socio-emotional statements to biomedical ones (Ford, Fallowfield, & Lewis, 1996). Clearly, there are circumstances in which exploring the patient's perspective appropriately focuses on their understanding and expectations relating to a predominantly biomedical concern and little inquiry into other issues; this inquiry might include a well-placed empathic statement, but the communication during this visit will appear predominantly biomedical while still accomplishing patient-centered goals. Physicians with patient populations who have a high burden of chronic physical illness may score lower on this index, because of the difficulty of controlling for patient morbidity. Qualitative methods may provide more nuanced analyses of turn-taking, interruptions, responsiveness and the flow of conversation (Roter & Frankel, 1992); however, those that rely solely on analysis of recordings or transcripts, like quantitative measures, may fail to distinguish what is said from what the patient hears.

Analysis of observational data from clinical encounters can inform researchers about participants' stated needs, expectations and feelings. But their unstated issues also affect their perceptions of their physicians, symptoms and health (Korsch, Gozzi, & Francis, 1968; Bell, Kravitz, Thom, Krupat, & Azari, 2001). Unstated concerns may explain discrepancies between expert,

**Table 1**

Examples of 3 commonly used validated observational measures of patient centered communication (PCC) (please see Mead & Bower 2000a, b, for a complete listing of scales)

Name of measure	Subscales relevant to PCC	What is being measured	Basis
Euro-communication scale (Mead & Bower, 2000b)	Involving the patient in problem definition Involving the patient in decision-making Picking up cues from the patient about 'hidden' aspects Exploring issues of patient ambivalence and self-efficacy Doctor's overall responsiveness	Overall expert rating of the visit	Whole interview
Measure of patient-centered communication (Brown, Stewart, & Ryan, 2001)	Component 1: Exploring the disease and illness experience  Component 2: The whole person  Component 3: Finding common ground	Mean scores of physician responses (cut-off, exploration or validation) to patient symptoms, feelings, ideas, expectations, effect on functioning Mean scores of physician responses (cut-off, exploration or validation) to patients' psychosocial information and concerns Mean scores of physician discussion of roles, goals, treatment; opportunities for questions	Whole interview
Roter interaction analysis system patient centeredness subscale (Ford, Fallowfield, & Lewis, 1996)	Patient-centered talk = sum of physician and patient questions about psychosocial issues; patient biomedical question-asking; all physician empathy, legitimation or partnership; all physician clarifying behavior (asking the patient's opinion, checking understanding) Doctor-centered talk = sum of physician biomedical question-asking and information-giving; all GP 'directive' statement; all patient biomedical information-giving	Ratio of patient-centered to doctor-centered talk	Utterance centered talk

physician and patient ratings of the same encounter (Epstein et al., 1998). Concerns not otherwise stated can be elicited using post-visit interviews or independent review of video-recordings of their visits; patients and physicians can each report their perceptions and the thinking behind their comments and actions (Arborelius & Timpka, 1990). These qualitative methods assess context and permit direct comparisons between experts', physicians' and patients' interpretations of the same visit.

#### *Direct observation using standardized patients*

There are methodological problems in collecting data from interactions between physicians and actual patients. Both must give consent; those who consent may differ from those who do not. Physicians and patients modify their behavior when they know that they are being observed (Coleman, 2000; Herzmark, 1985); some behaviors may be more sensitive to these effects than others. Although data from 10 to 15 patients may provide insight into a physician's general communica-

tion style, it may not predict how physicians will react to specific patient populations or specific challenges, such as HIV screening.

Standardized patient methods can assess the behaviors of many physicians to nearly identical patient presentations (Glassman, Luck, O'Gara, & Peabody, 2000; Tamblyn, 1998) across a wide variety of medical conditions and psychological profiles (Carney, 1994; Carney, Dietrich, Eliassen, Owen, & Badger, 1999). They usually are unannounced and covert. They carry concealed recording equipment. Sometimes they take ethnographic field notes. Suspicion of SPs appears not to change physician behavior. SP visits, though, usually represent initial visits (Tamblyn et al., 1992), they may not capture physician communication style with established patients (Bertakis & Callahan, 1992).

#### *Self-report by patient and physician*

Some survey measures claim to measure physician and patient perceptions of their PCC behaviors (Table 2), rather than global attitudes, satisfaction and the

**Table 2**  
**Validated patient survey measures to assess patient centered communication (PCC) and related constructs**

Name of measure (Reference)	Number of items Subscales relevant to PCC	What is being measured	Sample items corresponding to 4 factors <sup>a</sup> of PCC	Outcomes associated with the measure
Components of primary care (51 items) (Flocke, Stange, & Zyzanski, 1998)	Interpersonal communication subscale (5 items)		1. Sometimes I feel that the doctor ignores my concerns 3. The doctor always explains things to my satisfaction	Patient satisfaction with the visit; components of primary care.
Consultation care measure (Little et al., 2001)	Communication and partnership (11 items)	Physician verbal behaviors, patient perceptions of physician attitudes, patient reaction to physician behaviors relating to physician interest in patient and mutual discussion of diagnosis and treatment	1. My doctor was interested in my worries about the problem 3. I felt encouraged to ask questions	Satisfaction
	Personal relationship (3 items)	Patient perception that the physician knows him/her	1. My doctor knows me and understands me well	Greater symptom burden; fewer referrals
	Positive and clear approach to the problem (3 items)	Patient perception that physician communicated lack of uncertainty; clear explanations	3. My doctor explained clearly what the problem was	Less symptom burden; satisfaction; enablement
Patient perceived involvement in care scale (PICS) (3 subscales, 13 items) (Lerman et al., 1990)	Interest in effect on life (2 items)	Patient perception of physician interest in the effect of illness on the patient	1. My doctor was interested in the effect of the problem on my family or personal life 2. My doctor was interested in the effect of the problem on my everyday activities	Enablement
	Doctor facilitation scale (5 items)	Physician verbal behaviors—the degree to which the physician facilitates patient involvement	1. My doctor asked me what I believe is causing my medical symptoms 3. My doctor encouraged me to give my opinion about my medical treatment	Patient satisfaction with art and technical aspects of care, patient understanding, reassurance, perceived control, functional capacity
	Patient information scale (4 items)	Patient verbal behaviors—information-seeking	1. I went into great detail about my medical symptoms 3. I asked my doctor a lot of questions about my medical symptoms	Patient understanding, reassurance, perceived control, functional capacity
Patient-perceived patient-centeredness scale (PPPCS) (2 subscales, 1 additional item not on subscales, 14 items)	Patient decision-making scale (4 items)	Patient verbal behaviors—initiative in participating in decisions	4. I gave my opinion (agreement or disagreement) about the types of test or treatment that my doctor ordered	Pt satisfaction with technical aspects of care
	Eliciting the illness experience (4 items)	Physician elicitation of patient symptoms, ideas, expectations, feelings, effect on functioning	1. How well do you think your doctor understood you today?	None
	Finding common ground (9 items)	Physician encouragement of questions, finding common	3. How much opportunity did you have to ask questions?	Less diagnostic testing, fewer referrals, symptom resolution

items total) (Stewart et al., 2000)		understanding about the illness and its treatment	4. To what extent did the doctor encourage you to take the role you wanted in your own care?	
Patient reactions assessment (3 subscales, 15 items) (Galassi, Schanberg, & Ware, 1992)	Patient information index (5 items) Patient communication index (5 items)	The degree to which the physician provides information Ease of communication with the physician	3. Treatment procedure clearly explained 1. Hard for me to tell about new symptoms 3. Difficulty asking this person questions	None published None published
Picker survey (Picker Foundation, 2003)	Respect	Being recognized, treated with dignity and respect as individuals. Being both informed about and involved in the medical decisions that might affect their lives	3. Did the surgeon answer all your questions in a way you could understand?	Hospitalized patients. Developed with patient input Commercially available, but not in the public domain
	Emotional support	Addressing anxiety and fears about impact of illness on independence, family, etc.	1. Did the surgeon discuss your anxieties and fears about the operation, or not?	
Primary care assessment survey (PCAS) (11 subscales, 51 items) (Safran et al., 1998)	Contextual knowledge of patient	Patient overall perceptions of the degree to which the physician knows him/her as a person	<i>Thinking of how well the doctor KNOWS YOU, how would you rate the following?</i> 1. Doctor's knowledge of what worries you most about your health 2. Doctor's knowledge of your responsibilities at work or home	Reported adherence and satisfaction; weak effect on perceived change in health status
General practice assessment survey (Ramsay et al., 2000)	Clinician-patient communication	Thoroughness of inquiry, attention to what the patient says Clarity of advice Help in making decisions	1. Attention doctor gives to what you have to say. 3. How often you leave your doctor's office with unanswered questions 4. Doctor's advice and help making decisions about your care	Reported adherence and satisfaction; weak effect on perceived change in health status

<sup>a</sup>The four factors are: 1. Eliciting and understanding patient concerns, ideas, expectations, needs, feelings and functioning; 2. Understanding the patient within his or her unique psychosocial context; 3. Reaching a shared understanding of the problem and its treatment with the patient that is concordant with the patient's values; 4. Helping patients to share power and responsibility by involving them in choices to the degree that they wish.

patient–physician relationship. Surveys that ask respondents to rate the physician’s behaviors (for example, “My physician encourages me to ask questions”) may provide different results than those involving ratings of patient behaviors (“I asked my doctor a lot of questions...”), or the patient’s reactions to the physician’s behaviors (“How often you leave your doctor’s office with unanswered questions?”). Visit-specific scales measure different attributes than those that ask respondents to integrate their perceptions over the duration of the patient–physician relationship. The Picker Foundation Survey (2003) explicitly incorporated patient input; most have not.

Although they yield summary scores that can be easily incorporated into statistical models, survey measures may not measure distinct constructs. Our recent factor analysis at the physician level of 5000 patient surveys of 100 physicians examined four scales designed to assess distinct components of clinical encounters—autonomy support ([Williams, Rodin, Ryan, Grolnick, & Deci, 1998](#)), trust ([Safran et al., 1998](#)), physician knowledge of the patient ([Safran et al., 1998](#)) and satisfaction ([Ware, Snyder, Wright, & Davies, 1983](#)). Only one factor underlay all four scales ([Franks et al., 2005](#)). Internal consistency among the scales (Cronbach’s  $\alpha > 0.83$ ) was as high as internal consistency among items within each scale. This finding suggests that while survey measures provide a global assessment of interpersonal style, they do not reliably assess individual components of PCC, and do not distinguish between attributes ascribed to the physician (such as autonomy support), and patients’ subjective experience of care (such as trust). There may not be a sharp border (or any border) between patient reports of PCC and patients’ general reactions to their care.

Patients are not randomly distributed among physicians. Those who mistrust their physician tend to leave ([Safran, Montgomery, Chang, Murphy, & Rogers, 2001](#)); others are attracted by and accommodate to particular unmeasured physician characteristics. In addition, survey data are affected by unmeasured patient factors, such as personality and preferences, for which it is difficult to control. This may explain why concordance between physician and patient values are better predictors of some outcomes than the values of either party ([Krupat, Bell, Kravitz, Thom, & Azari, 2001](#)). Finally, social desirability bias may explain the lack of associations between physician self-assessments and what is observed ([Mead & Bower, 2000a](#); [Street, Krupat, Bell, Kravitz, & Haidet, 2003](#)).

Research using different data sources (such as patient surveys and observational measures) with a common analytic strategy (such as multi-level modeling) provide complementary perspectives on the clinical encounter. However, few studies compare observational and patient survey measures of PCC; these generally show weak

correlations ([Martin, Jahng, Golin, & DiMatteo, 2003](#)). Care must be taken to distinguish method variance, different underlying constructs and unmeasured confounding. To avoid and resolve discrepancies, the use of particular measures should be justified by a theoretical link to the outcome, compatibility with a theory of patient-centered care, and compatibility with the purpose of the study. Thus, studies of educational interventions should use observational measures of potentially mutable behaviors, whereas studies of career choice should utilize measures of relatively immutable characteristics.

#### *Other methods*

There are a variety of less-commonly used methods. Patients can rate video simulations depicting different communication styles ([Johnson, Levenkron, Suchman, & Manchester, 1988](#)). However patients’ impressions in controlled situations do not necessarily reflect their actual preferences. Post-visit semi-structured interviews with patients and physicians also provide data on concordance between their perspectives ([Helman, 1985](#)); it is unclear whether such interviews provide a more accurate measure of physicians’ actual behavior than self-administered surveys. Focus groups ([Wright, Holcombe, & Salmon, 2004](#)), participant observers’ ethnographic field notes ([Flocke, Miller, & Crabtree, 2002](#)), and peer-colleague assessments ([Ramsey et al., 1993](#)) are also used but infrequently.

#### **Mixed method research**

Combining qualitative and quantitative methods allows for the synergistic interaction between the two. It can provide a description of complex, non-linear interactions that are not easily modeled in quantitative analyses. An example of this approach was a study of the provision of preventive services in primary care in which [Flocke et al \(2002\)](#) used nurse-ethnographers to observe 2881 patients visiting 138 primary care physicians. After inductive qualitative analyses yielded six variables of interest, they used cluster analysis to define four physician communication styles. Then, multilevel modeling was used to analyze associations between the categories and patient ratings of five attributes of primary care. Person-focused physicians—those who tended to use PCC behaviors—scored higher on three of the attributes and patient satisfaction.

#### **Identifying mediators between communication and outcomes**

Theories of PCC indicate that outcomes improve by means of various mediators, such as enhanced

adherence, patient self-efficacy and trust. However, in studies that include measures of outcomes of interventions, putative mediators and observational measures of the patient–physician interaction are rare. The few studies that demonstrate effects of PCC on chronic disease outcomes are all studies of patient training interventions ([Griffin et al., 2004](#)). Patients trained to take a more active role in the consultation reported that they were more adept at eliciting information, and had greater control in the clinical encounter ([Greenfield, Kaplan, Ware, Yano, & Frank, 1988](#); [Williams et al., 2005](#)). Those who reported changes in the patient–physician encounter also had improved control of diabetes, whether or not they received the communication intervention. Thus, the biological effect of the intervention is mediated in part by changes in the patient–physician relationship (at least as perceived by the patient), and not increased patient knowledge or self-care behaviors, which did not change as a result of the intervention. However, this still does not constitute proof of causality; increased patient self-efficacy and communication changes may both result from the intervention and either could be linked to these outcomes.

In a recent study ([Epstein et al., 2005](#)), we examined the relation between PCC, visit duration and diagnostic testing costs from a large claims database. We initially observed a three-way association between increased PCC, longer visits and lower costs. However, the relation between visit duration and costs became non-significant when PCC was entered into a regression equation, whereas the relation between PCC and costs remained significant. Physician personality measures had no effect on this relation, nor did risk aversion or tolerance of uncertainty. We were able to demonstrate, in this population, that PCC mediated the relationship between visit duration and costs.

Subjective outcomes can be analyzed similarly. [Oliver, Kravitz, Kaplan, and Meyers \(2001\)](#) used a patient activation intervention and noted reduction in cancer pain in the experimental group compared to controls. Changes were not mediated by patient knowledge or adherence; measures of changes in the patient–physician relationship or self-efficacy might have provided more information about mediators.

### Clarifying outcomes of patient-centered communication

In a comprehensive review of interventions to improve PCC, [Lewin, Skea, Entwistle, Dick, and Zwarenstein \(2001\)](#) concluded that while changes in communication behavior and changes in physician or patient perceptions and health behaviors outcomes are commonly achieved, changes in more distal outcomes, such as health status and utilization, are uncommon. Patient-directed activation interventions more likely improved disease outcomes, whereas physician-directed interven-

tions to elicit and respond to the patient’s perspective improved only perceptions and communication.

A philosophical and theoretical debate is embedded in the discussion of outcomes. Taking an instrumental view, PCC can be viewed as a means to an end; changes in communication behavior are seen as unimportant outcomes in themselves in the absence of changes in intermediate or distal outcomes. Alternatively, PCC can be viewed as an end-in-itself: something with intrinsic value regardless of other outcomes. [Krupat et al. \(2001\)](#) reported that the majority of patients endorse this deontological view; however, this raises questions when “improved” communication has a negative impact on satisfaction ([Roter, 1977](#)) or physical health ([Kinmonth, Woodcock, Griffin, Spiegel, & Campbell, 1998](#)).

Ideally, relevant patient health outcomes should be defined through dialogue between patient and physician. Eliciting patient preferences clarifies whether the health outcomes targeted are those most important to the patient, and can avoid mistaking a physician-defined “good” for what the patient really wants. For example, a disagreement in values or intentions between physician and patient may be misclassified as “poor adherence”. [Protheroe, Fahey, Montgomery, and Peters \(2000\)](#) demonstrated that many patients preferred higher risks of poor outcomes to the nuisance involved in monitoring a potentially toxic treatment.

The inclusion of satisfaction as an outcome measure is problematic ([Mead & Bower, 2000a](#)). Patients who become more effective at participating in care are often more attuned to the deficiencies of their physicians and their health care in general ([Kaplan, Greenfield, & Ware, 1989](#)). [Krupat et al. \(2001\)](#) support this view; patients who endorse values of PCC, and trust and endorse their physicians, may be no more satisfied than those who do not. Conversely, as [Kinmonth et al. \(1998\)](#) report, improved satisfaction may mask deficiencies in other domains of practice. [Michie et al. \(2003\)](#) note that physician behaviors that enhance patients satisfaction sometimes are distinct from those that improve health outcomes (in this case, control of diabetes). Patients may be most satisfied with what is most familiar.

In the United States, patients have a wide choice of physicians, and physician switching is relatively easy. Because it is difficult to assess physicians’ technical competence and knowledge, patients likely are attracted to physicians who have a particular interactional style. When the physician changes that style—in particular, when patients are asked to take a more active role that also produces more angst (such as a difficult clinical decision)—it produces more friction in the relationship ([Roter, 1977](#)) that is reported as dissatisfaction with care. Finally, assessments of satisfaction can be circular if patient surveys are the only measure of both satisfaction with care and PCC; more rigorous hypothesis testing would require different data sources.

## Recommendations

Stewart (2001) described PCC as containing components that “are used for ease in teaching and research,” but that “patient-centered clinical practice is a holistic concept in which components interact and unite in a unique way in each patient–doctor encounter”. Despite the appeal of a single organizing principle to guide health care and health policy, empirical evidence suggests that PCC is not a unified construct. Even with further clarification and improved measures, correlations among different sources of data (patient, physician), among research methods (surveys, observational measures) and among components of PCC are likely to remain modest. Meanwhile, it will remain difficult to distinguish between measures of PCC and measures of other constructs (e.g. trust, self-efficacy) not theoretically linked to PCC. Nine recommendations follow.

1. Clear theory-based operational definitions of PCC and its components should be used in PCC research. There has been a tendency to expand the construct of PCC to include all “good” communication behaviors and personal attributes; researchers should be cautious not to extend beyond definitional boundaries of PCC.
2. There should be clarity about what, purportedly, is being measured. Measures should be named according to the construct they measure, such as “eliciting the patient’s perspective” or “reaching agreement” rather than “patient-centeredness”. The theoretical basis of the measure and of relationships among components of a measure should be made explicit.
3. Measures should account for the communication behaviors of each individual in the encounter as well as interactions among them. Measures of PCC that only account for physician behavior and not bi-directional interactions are likely to miss important factors that influence outcomes; when physician behaviors are the focus of a study, patient characteristics should be included as co-variables.
4. Measures should account for context. A key aspect of PCC may be the degree to which an individual physician can adapt the consultation to the changing needs of one patient, or to different needs of different patients. We call this attribute “informed flexibility” to distinguish it from simple acquiescence to patient demands. While it would seem to be a patient centered quality, there is currently no measure of this.
5. There is a need to validate instruments that purportedly assess communication behaviors that constitute PCC. Although most published measures have face validity, many lack adequate validation. In addition to usual methods of establishing validity, concordance between physician behaviors and the patient’s reported experience would strengthen claims of validity.
6. Caution should be used in interpreting patient ratings of their physicians. These measures are subject to patient effects (such as personality, outlook and illness severity), and may conflate other parts of the health care experience with the encounter with the physician. While they provide a global impression of the relationship and can be useful as outcome measures, they may not be sensitive enough to reflect the distinctions that researchers make between related constructs such as mutual understanding, trust, and satisfaction. Further research using related scales with the same patient population, ideally randomizing the order of items and utilizing a similar response format, would clarify the degree to which survey measures can make these distinctions.
7. Longitudinal studies of PCC are rare, likely due to their expense and complexity, despite calls for longitudinal studies 20 years ago (Inui & Carter, 1985). Longitudinal studies would illuminate the development of patient-centered behaviors over time, and the influence of patients on physicians’ communication styles. The findings can suggest new important relationships, such as Wissow et al.’s (2003) study which suggests that longitudinal relationships ameliorate racial and gender disparities, but only for more patient-centered physicians.
8. Links between measures of PCC and distal outcomes should be theoretically grounded and include examination of pathways and mediators. Rationale for studying these links requires two conditions: a plausible mechanism by which a specific element of PCC affects a specific outcome, and an instrument that measures that element.
9. Finally, researchers should work towards adequate ways of dealing with the complexity of the construct of PCC. PCC may not be explainable by any one theory (Flyvbjerg, 2001). Scales that have different factors or components raise questions about how to combine the scores in a meaningful way; the sum or mean scores of measures may not represent overall PCC and there may be no theory to guide weightings to subscales. Qualitative methods also allow deeper understanding of contributions that physicians make to the clinical encounter through a more nuanced appreciation for the patient’s values and experiences. Complexity theory may eventually contribute to analysis of these and other non-linear interactions (Miller, Crabtree, McDaniel, & Stange, 1998), but formulas to guide quantitative methods are still undeveloped.

To make matters more complicated, some “consumers” of PCC research may not want a complex vision. While communication researchers want to understand a phenomenon in its totality, licensing

bodies and medical educators need to identify and assess only the physician's skills. For the latter purpose, standardized patients can reduce the degrees of freedom in analyses by providing a common "patient" to all physicians.

## Conclusions

PCC is regarded by the public, health care organizations, funding agencies and licensure bodies as a component of high-quality care. We do not advocate abandoning patient-centeredness as a guiding philosophy of care. Rather, we suggest that PCC is a multifaceted construct, the components of which each advance the values of patient-centeredness in a different way. On the other hand, there may be an elusive trans-contextual 'way of being' that defines the essence of PCC—a unifying principle. Such ways of being might include attentiveness (Epstein, 2003), critical curiosity (Fitzgerald, 1999), informed flexibility (Duffy et al., 2004) and presence (Epstein, 1999). These qualities often appear in the clinical narratives written by physicians and patients (Montgomery-Hunter, 1991; Gowande, 2002), but not yet in quantitative research. Defining and measuring these elements will help in defining a coherent theory of PCC that is empirically testable and verifiable.

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## Further reading

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