Patients' Trust in Physicians: Many Theories, Few Measures, and Little Data

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Trust is one of the central features of patient-physician relationships. Rapid changes in the health care system are feared by many to be threatening patients' trust in their physicians. Yet, despite its acknowledged importance and potential fragility, rigorous efforts to conceptualize and measure patient trust have been relatively few. This article presents a synopsis of theories about patient trust and the evolution of methods to measure it. Clinicians, educators, and researchers interested in this area may find this information useful in practice and teaching. The gaps identified in our knowledge about trust can help target new efforts to strengthen the methodological basis of work to understand this vital element of medical relationships.

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Trust is a defining element in any interpersonal relationship, but is particularly central to the patient-physician relationship.[1,2] Although evidence shows that the majority of patients continue to trust physicians to act in their best interest, concern is growing that the rapid and far-reaching changes in the healthcare system have placed great pressure on that trust and may be undermining it.[1,3–5]

The new concerns about patient trust have triggered recognition of the need for a better understanding of the role of trust in the patient-physician relationship. What are the elements of patient trust that remain strong? Where are the emerging points of weakness in trust that may threaten health outcomes? Although many commentaries and analytical essays on trust have appeared, empirical research on patient trust has been extremely limited, and the research methods for evaluating trust in the patient-physician relationship are still in the early stages of evolution.

The aim of this paper is to discuss current theories about trust and to weave together the early strands of empirical data on patient-physician trust into a practical update on state-of-the-art methods and results. We will briefly trace the evolution of research on patient trust from early theoretical conceptualizations to more recent empirical constructs and operationalized measurement tools. Drawing from the existing published research, we will present the specific features of patient, physician, and health care system that are known to influence trust. We will also describe what is known about the effects of trust on the process of care and health outcomes. Ultimately, our intent is to furnish clinicians, educators, researchers, and policy analysts with a synopsis of what is currently known about patient trust. Using this information, subsequent efforts can be targeted to strengthen the methodological basis of research on trust and to close the gaps in our knowledge about this vital element of medical relationships and medical care.

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DATA SOURCES

A list of published articles dealing with patient-physician trust was created through an online search of the MEDLINE database (available at: www.nlm.nih.gov) under the key phrase "patient-physician trust." This search produced a list of 29 articles. From ancillary computer searches of "similar" articles to those in the original list, over 200 relevant articles were identified and examined by the authors for the purposes of this paper. Complementing this approach, informal conversations with leading investigators in the field helped identify those sources that have had a significant impact on research, policy, and teaching in this area.

TRUST AS A CONSTRUCT: MANY THEORIES, FEW DATA

Patient trust is a complicated, multidimensional construct which has been described in many ways. The variation in how trust has been conceptualized and defined is partly due to the theoretical heterogeneity of the many academic disciplines, such as sociology and political science, that have performed research on trust in their own domains.[6–12] Even within single disciplines, however, there has been noticeable disagreement about how to define trust. Medical researchers have proven no exception to this rule and have approached the definition of trust in the patient-physician relationship in diverse ways. Some theorists consider patient trust to be a set of beliefs or expectations that a physician will behave in a certain way.[13,14] Others have stressed a more affective nature of trust, identifying patient trust as a reassuring feeling of confidence or reliance in the physician and the physician's intent.[15] Among the most commonly described dimensions of physician behavior on which patients are believed to base their trust are competence,[1,3,5,13–15] compassion,[1,3,14]

privacy and confidentiality,[1,13] reliability and dependability,[13] and communication.[16]

One key distinction in the conceptualization of trust that has been influential in writings on patient-physician relationships is the difference between social trust and interpersonal trust.[1,4] Interpersonal trust refers to the trust built through repeated interactions through which expectations about a person's trustworthy behavior can be tested over time.[1] Social trust, however, is trust in collective institutions, influenced broadly by the media and by general social confidence in particular institutions. Any consideration of patients' interpersonal trust in physicians must take into account the general atmosphere of social trust in health care institutions such as hospitals and HMOs. Theoretical work disentangling the webs that connect these different elements of trust has emphasized the vital importance of social trust in framing the traditional interpersonal trust between patients and their physicians.[17]

While theoretical analyses of patient-physician trust flourish, only a few examples exist of research attempts to ground a conceptualization of patient-physician trust in actual patient experience and perspectives. Notable among this work is a study conducted by Thom and Campbell in which they conducted focus groups with 29 patients from diverse practice settings.[14] Participants were asked to recount specific instances that had positively or negatively affected trust in a physician. The investigators were able to distinguish 9 dimensions of trust among the patient reports, ranging from technical competency and interpersonal attributes to organizational factors. A majority of these dimensions related specifically to physician behavior and demeanor. Patients reported trust as being substantially determined by their assessments of physician rapport, compassion, understanding, and honesty. Not surprisingly, study participants also confirmed the popular assumption that trust in physician increases the likelihood of adhering to treatment recommendations.

AVAILABLE MEASURES OF PATIENT TRUST

Currently, researchers have few instruments to measure patient trust that have been developed and assessed with scientific rigor available to measure patient trust. The first trust measurement instrument specific to the patient-physician relationship was described in 1990.[13] These investigators constructed and validated an interview tool that would measure an individual's trust in their own primary care physician. Following extensive instrument review and patient interviewing, 25 initial statements were generated that were believed to assess trust in one's physician by drawing upon actual experience. The final instrument, named the Trust in Physician Scale, is an 11-item, interviewer-administered measure that assesses patient trust in physician in the domains of dependability, confidence, and confidentiality of information. All items are fashioned in a 5-point Likert format, with a combination of positively and negatively worded questions (see Table 1).

Interview items were included in the final instrument only if they demonstrated both a high response variance and a .40 or greater item-to-total correlation. Internal validity of the 11-item scale was high; Cronbach's α coefficients of 0.85 or greater were achieved in two independent phases of item analyses. Construct validity was also assessed on two separate occasions by comparing scores obtained on the Trust in Physician Scale with scores on similar theoretical constructs relating to patient-physician relationships. The excellent psychometric properties achieved by the Trust in Physician Scale have made it one of the benchmarks for the development of future measures.

Patient-physician trust has also been measured by investigators interested in studying multiple components of the patient-physician relationship simultaneously. Most prominent among these instruments is the Primary Care Assessment Survey (PCAS), a self-administered written questionnaire that was developed by Safran et al. for a study of primary care performance across different types of indemnity and managed care delivery systems.[18] Like the Trust in Physician Scale, the PCAS focuses on a specific patient-doctor relationship and measures trust over the entire term of the relationship, rather than asking about a single visit or episode of care. In all, the PCAS consists of 11 unique summary scales, a total of 51 questions, and measures 7 distinct elements of primary care performance, including trust. The specific trust subscale consists of 8 Likert-scaled questions devised to assess the trust domains of integrity, agency, and competence (see Table 1).

All 11 summary scales of the PCAS were assessed in pilot studies for data completeness, score distribution characteristics, and interscale correlations. Detailed psychometric evaluations showed excellent performance of all subscales, including trust. Cronbach's α coefficient for each subscale well exceeded statistical criterion for internal consistency and ranged from .81 to .95.

The most recent addition to the list of validated measures of patient-physician trust is the Patient Trust Scale, developed by Kao and colleagues.[2,19] This scale is likely to gain widespread use because of the attention it has received through the recent publication of two important reports evaluating the effect of payment method and other elements of managed care on patient trust. For these studies, Kao and colleagues first developed a 16-item scale (unpublished data) by modifying the wording of several items in Anderson and Dedrick's Trust in Physician scale and appending new items specifically related to confidentiality, reliability, and patients' trust in their physicians to provide necessary care under various cost constraints and administrative restrictions. This 16-item scale was used in a pilot study of 292 patients, and the resulting psychometric analyses of the survey allowed Kao and colleagues to hone their instrument down to a 10-item scale with a Cronbach's α of 0.94.

Kao's 10-item Patient Trust Scale clearly reflects the

Table 1. Instruments for Assessing Patient Primary Care Assessment Survey

Trust in Physician Scale (Anderson and Dedrick)[13]	Primary Care Assessment Survey (Safran)[18]	Patient Trust Scale (Kao)[2]
		How much do you trust your physician(s)...
1. I doubt that my doctor really cares about me as a person.	1. I can tell my doctor anything.	1. To put your health and well-being above keeping down the health plan's costs?
2. My doctor is usually considerate of my needs and puts them first.	2. My doctor sometimes pretends to know things when he/she is really not sure.	2. To keep personally sensitive medical information private?
3. I trust my doctor so much that I always try to follow his/her advice.	3. I completely trust my doctor's judgment about my medical care.	3. To provide you with information on all potential medical options and not just options covered by the health plan?
4. If my doctor tells me something is so, then it must be true.	4. My doctor cares more about holding costs down than about doing what is needed for my health.	4. To refer you to a specialist when needed?
5. I sometimes distrust my doctor's opinion and would like a second one.	5. My doctor would always tell me the truth about my health, even if there was bad news.	5. To admit you to the hospital when needed?
6. I trust my doctor's judgment about my medical care.	6. My doctor cares as much as I do about my health.	6. To make appropriate medical decisions regardless of health plan rules and guidelines?
7. I feel my doctor does not do everything he/she should for my medical care.	7. If a mistake was made in my treatment, my doctor would try to hide it from me.	7. Judgment about your medical care?
8. I trust my doctor to put my medical needs above all other considerations when treating my medical problems.	8. All things considered, how much do you trust your doctor?	8. To perform necessary medical tests and procedures regardless of cost?
9. My doctor is a real expert in taking care of medical problems like mine.		9. To offer you high-quality medical care?
10. I trust my doctor to tell me if a mistake was made about my treatment.		10. To perform only medically necessary test and procedures.
11. I sometimes worry that my doctor may not keep the information we discuss totally private.		

concerns of the current era of managed care. The scale was developed for a study of the impact of different payment systems on trust and is dominated by questions assessing the impact of cost-consciousness on physician agency for their patients (see Table 1). Some of the dimensions of trust identified by prior theorists and researchers receive either less emphasis or are disregarded in this survey instrument. For example, many of the dimensions identified by Thom from patient focus groups are not mentioned, including trust in technical competence, understanding the patient's individual experience, expressing caring, communicating clearly, sharing power, and honesty/respect for the patient. Anderson and Dedrick's original Trust in Physician Scale has a question regarding willingness to follow physician advice that is not included in Kao's final scale. The dimensions of truth telling and willingness to tell the physician anything from Safran's PCAS trust subscale are also not covered in Kao's instrument. Investigators contemplating the use of one of these previously validated measures should be aware of the important distinctions to be made among these tools, primarily based on their varied emphases on the multiple dimensions of trust.

CORRELATES OF TRUST

Despite a relative avalanche of information about patient satisfaction, the paucity of empirical research on trust has provided little data pointing to clear correlates of patient-physician trust. Moreover, there is not a single published study to date of a successful intervention that has measurably improved patients' trust in their physician.

Some of the best data on correlates of patient trust that relate to physician behavior are found in the published evaluation of the PCAS instrument.[18] The patient trust subscale correlated most highly with patient assessment of the physician's communication (0.75), level of interpersonal treatment (0.73), and knowledge of the patient (.68). The correlations of trust with longitudinal continu-

ity of the patient-physician relationship (0.22), preventive counseling (0.25), and the patient's financial access to care (0.29) were particularly low.

Recently, interest in health system correlates of patient trust has grown as investigators focus on system changes brought about by managed care. Grumbach et al. assessed trust with a single 5-point Likert scale in a survey in California and found that patients who reported difficulty obtaining referrals were more likely to report low trust in their primary care physician (adjusted odds ratio, 2.7; 95% confidence interval, 2.1 to 3.5).[20] Using both versions of their newly developed trust measure, Kao et al. have published two studies on patient trust, and in multivariate analyses, have found several factors to be independent correlates of trust, although the results are not always consistent. In their first study of 292 participants, patients who reported having enough choice of physician ($P < .05$), who reported a longer relationship with the physician ($P < .001$), and who trusted their managed care organization ($P < .001$) were more likely to trust their physician. Among the factors that were not significantly correlated with patient trust in this study were patient age, gender, race, education, income, self-perceived health status, belief in the benevolence of people, length of health plan enrollment, and number of primary care office visits.

Kao's second study was larger (2,086 patients) and used the abbreviated 10-item measure. In this study, the primary finding was that more fee-for-service indemnity patients (94%) completely or mostly trusted their physicians to "put their health and well-being above keeping down the health plan's costs" than salary (77%), capitated (83%), or fee-for-service managed care patients (85%). These relationships remained significant through multivariate analyses, but the differences were substantially reduced when the multivariate model included a measure of physician behavior derived from the Picker survey on patient-centered care.[21] In other words, payment structure was correlated with patient trust, but the relationship was greatly reduced when the physician's interpersonal practice style was taken into account. In this latter study, as in their first, Kao et al. found that patient trust was also correlated with trust in the health plan, length of patient-physician relationship, and whether there had been choice of physician. In contrast to the first study, trust was also found to be significantly correlated with being white (greater trust), and with self-reported health status (better health correlated with more trust).

Although physician behavior and interpersonal skills are universally believed to be important in determining patient trust, there is only one published article examining a trial to improve physician trust-building skills, and the results were not encouraging.[22] Thom et al. enrolled over 400 adult patients from the practices of 20 community-based family physicians. Half of the physicians were randomly selected to receive a 1-day continuing medical education workshop designed to improve skills of establishing and maintaining patient trust. Primary outcomes included physician behavior, patient satisfaction, and trust which was measured using the Trust in Physician Scale. None of the primary outcome measures, including trust, changed significantly from before to after the intervention, or differed significantly by control or intervention group.

HEALTH OUTCOMES ASSOCIATED WITH TRUST

Trust is considered to be an important outcome in its own right, but some researchers have gone further and tried to demonstrate the beneficial effects of trust on specific health behaviors and outcomes. Theoretically, patient trust should serve to reinforce the functioning of the clinical relationship as a health partnership, thereby increasing the probability of patient satisfaction, treatment adherence, and improved health status, while decreasing the likelihood of leaving the physician's practice or withdrawing from a health plan.

To date, however, there has been only a single published report in which patient-physician trust has been assessed as a predictor of other health outcomes. Safran et al., using the PCAS, looked at the relationship between 7 defining elements of primary care, among which was trust, and 3 outcomes: self-reported adherence to the physician's advice, patient satisfaction in physician, and improved health status.[23] Although the investigators were unable to demonstrate an independent relationship between patient trust and improved health status, trust was one of the strongest independent correlates of satisfaction with physician and adherence to treatment. The investigators showed that adherence was rated at 43.1% among patients with trust scores in the 95th percentile, while adherence was only 17.5% among patients with trust scores in the 5th percentile. For satisfaction, patient trust was the single most strongly associated correlate. Patients with 95th percentile trust scores were about 5 times more likely than those with median levels of trust to express complete satisfaction with their physicians (87.5% vs 18.4%, $P < .001$).

As Safran et al. point out, their results do not prove a causal link between trust and the outcomes they assessed. Nonetheless, their results do suggest that trust is a key part of patient-physician relationships in which excellent health care can be delivered.

CONCLUSION

The importance of trust in patient-physician relationships is not questioned, but our understanding of it has depended largely on the passionate thoughts and anecdotes of physicians who cherish the special bond they feel with their patients. For practicing clinicians and for those who teach medical students and residents, the elements of physician behavior that foster trust can continue to re-

flect the instincts of physician-theorists: competence, compassion, reliability, integrity, and open communication.

A widely accepted empirical conceptualization and understanding of trust is yet to come. In recent years, other complex and once believed intangible concepts, those of "satisfaction"[24,25] and "health status,"[26,27] have yielded to rigorous qualitative and quantitative research, and investigators and policy leaders now have standardized instruments with which to measure these concepts in a wide variety of health care settings. Although attempts to operationalize patient-physician trust are in their infancy, with models emerging recently through the effort of investigators such as Kao and Safran, a refinement and convergence of techniques may soon allow trust to be measured and discussed as routinely and rigorously as many other elements of health care. For patient-physician trust to be strengthened, our ability to measure the mediators and outcomes of trust must mature.

However, a single measure of patient trust is unlikely to achieve long-lasting predominance, nor should it. The evolving nature of the health care system will continue to cast new light on patient-physician relationships. There will be new threats to trust that appear on the horizon, while other threats will be perceived to fade in importance. Much as the threat of overly paternalistic physicians provided the chief concern in the 1970s, researchers are now more interested in measuring patients' concerns about physicians' conflict of interest in the setting of strong financial incentives. As the focus of measures of trust have evolved, from the earliest measure of Dedrick and Anderson to the latest measure of Kao et al., measures of patient-physician trust must also continue to evolve to address changes in the health care system and in how our society views the key elements of trust.

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