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The Relationship Between Method of Physician Payment and Patient Trust

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Context.—Trust is the cornerstone of the patient-physician relationship. Payment methods that place physicians at financial risk have raised concerns about patients' trust in physicians to act in patients' best interests.

Objective.—To evaluate the extent to which methods of physician payment are related to patient trust.

Design.—Cross-sectional telephone interview survey done between January and June 1997.

Setting.—Health plans of a large national insurer in Atlanta, Ga, the Baltimore, Md–Washington, DC, area, and Orlando, Fla.

Participants.—A total of 2086 adult managed care and indemnity patients.

Main Outcome Measure.—A 10-item scale ($\alpha = .94$) assessing patients' trust in physicians.

Results.—More fee-for-service (FFS) indemnity patients (94%) completely or mostly trust their physicians to “put their health and well-being above keeping down the health plan's costs” than salary (77%), capitated (83%), or FFS managed care patients (85%) ($P < .001$ for pairwise comparisons). In multivariate analyses that adjusted for potentially confounding factors, FFS indemnity patients also had higher scores on the 10-item trust scale than salary ($P < .001$), capitated ($P < .001$), or FFS managed care patients ($P < .01$). The effects of payment method on patient trust were reduced when a measure based on patients' reports about physician behavior (eg, Does your physician take enough time to answer your questions?) was included in the regression analyses, but the differences remained statistically significant, except for the comparison between FFS managed care and FFS indemnity patients ($P = .08$). Patients' perceptions of how their physicians were paid were not independently associated with trust, but the 37.7% who said they did not know how their physicians were paid had higher levels of trust than other patients ($P < .01$). A total of 30.2% of patients were incorrect about their physicians' method of payment.

Conclusions.—Most patients trusted their physicians, but FFS indemnity patients have higher levels of trust than salary, capitated, or FFS managed care patients. Patients' reports of physician behavior accounted for part of the variation in patients' trust in physicians who are paid differently. The impact of payment methods on patient trust may be mediated partly by physician behavior.

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THE PATIENT-PHYSICIAN relationship is built on a foundation of trust.¹⁻⁴ Many health plans have implemented payment methods that place physicians at financial risk for providing medical services. This shift in the way that physicians are paid has raised issues about the impact of payment methods on patient trust.⁵⁻¹⁰ Many practice and physician characteristics might influence patient trust,^{11,12} but many people are most concerned about the potential effects of payment methods on physician behavior and decision making,¹³⁻¹⁶ and how such changes could influence patients' trust in their physicians. Trust also could be directly shaped by patients' perceptions of, and attitudes about, how their physicians are paid.^{17,18}

Despite the importance of these issues, no empirical studies have examined the association between methods of physician payment and patient trust. We surveyed adult managed care and indemnity patients to address 2 key questions: (1) Does trust vary among patients with different perceptions of how their physicians are paid? (2) Does trust vary among patients whose physicians are paid differently? There is frequent discussion in the popular press about financial incentives to provide less care. Thus, we hypothesized that patients who thought their physicians were capitated would be least likely to trust them. We thought that the effect of perceived method would be stronger than the effect of actual method of physician payment.

METHODS

Sample

Eligible patients were adults (≥ 18 years) who had a primary care (family practice, internal medicine, or obstetrics/gynecology) physician visit in 1995 and were enrolled in managed care or indemnity plans of a large, national health insurer in 3 health insurance markets (Atlanta, Ga, the Baltimore, Md–Washington, DC, area, and Orlando, Fla). In each of these markets, less than 30% of the physicians are solo practitioners,

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Table 1.—Patient Trust Scale*

- How much do you trust your physician(s)
1. To put your health and well-being above keeping down the health plan's cost?
 2. To keep personally sensitive medical information private?
 3. To provide you with information on all potential medical options and not just options covered by the health plan?
 4. To refer you to a specialist when needed?
 5. To admit you to the hospital when needed?
 6. To make appropriate medical decisions regardless of health plan rules and guidelines?
 7. Judgment about your medical care?
 8. To perform necessary medical tests and procedures regardless of cost?
 9. To offer you high-quality medical care?
 10. To perform only medically necessary tests and procedures?

*Response options were completely, mostly, somewhat, a little, and not at all.

consistent with practice arrangements nationally.¹⁹ In Atlanta and Orlando, salaried physicians were part of medical groups with exclusive contracting, while those in the Baltimore-Washington area were in group practices that contracted with multiple payers.

Patients were selected using a 2-stage, stratified sample design. We classified all primary care physicians based on their payment method for eligible patients. In this study, eligible patients include those whose physicians were paid on a salary (category 1), capitated (category 2), fee-for-service (FFS) managed care (category 3), or FFS indemnity (category 4) basis when providing care to individual patients. For the remainder of this article, we refer to patients of salaried physicians as salary patients, etc. Except for those who were salaried, physicians in this study could have patients in multiple payment method categories.

All physicians with at least 8 eligible patients were included in the study, with 2 exceptions. We sampled Atlanta physicians in category 4 because of the large proportion of physicians in that payment category in Atlanta. Similarly, there was a large proportion of salaried physicians in the Baltimore-Washington area, so we sampled those physicians.

We drew a disproportionate probability sample of patients from the practice of each sampled physician. We were particularly interested in comparisons between managed care patients of physicians who were paid on a capitated or FFS basis because of the prevalence of these arrangements¹⁹ and the difference in financial risk to the physician. Therefore, we sampled approximately twice as many capitated and FFS managed care patients as other patients.

Variables

Available measures of patient trust^{20,21} have not been used to evaluate whether trust differs by physician payment method. Our 10-item scale (coefficient $\alpha = .94$) was developed using psychometric analyses of data from about 300 patients in a pilot study (Table 1). It comprises some modified questions from the Trust-in-Physician scale²⁰ and questions about issues such as access to specialists and informing patients about medical options.

Patients' trust in physicians can be influenced by other attitudes. Thus, we asked about trust in one's individual health plan (How much do you trust [name of health plan] to control costs without adversely affecting the quality of your care?), trust in health maintenance organizations (HMOs) in general (How much do you trust HMOs in general to control costs without adversely affecting the quality of your care?), and general trust in people.^{5,8,22-27} The Benevolence-of-People scale²⁸ was used to assess patients' general trust in people.

Table 2.—Modified Picker Survey*

1. Does your physician give you enough time to explain the reasons for your visit?
2. When you ask questions, do you get answers that are understandable?
3. Does your physician take enough time to answer your questions?
4. Does your physician ask you about how your family or living situation might affect your health?
5. Do you get as much medical information as you want from your physician?
6. When you see your physician, do you have questions about your care that you want to discuss but do not?
7. Are you involved in decisions about your care as much as you want?

*Response options were never, sometimes, usually, and always.

Respondents were asked to identify their physician's method of payment as (1) salary (physician's pay is based on a straight salary), (2) capitation (physician's pay is based on some fixed monthly amount, which is dependent on the number of patients in the physician's practice), or (3) FFS (physician's pay is based on the number of office visits). Even though FFS payment was used in managed care and indemnity settings, respondents were not asked to differentiate between their physician's payment method in these 2 settings because the inherent financial incentives were comparable.

Modified questions from the Picker survey on patient-centered care²⁹⁻³¹ that ask about patients' experiences with their physicians also were included (Table 2). We also asked patients, "Have you ever consider changing your doctor because of concerns about the care provided by Dr ____?" The questionnaire asked about patients' race, education, income, health status, length of physician relationship, and whether they had enough choice when selecting a physician. Patients' age, sex, and length of plan enrollment were obtained from administrative data. Information about physicians' age, sex, board certification, international medical graduate status, and medical practice size were abstracted from the American Medical Association's 1997 Physician Masterfile and the insurer's administrative files.

Analysis

We used *t* tests to compare patient trust by actual and perceived method of physician payment. We also compared patients' trust in their health plan or HMOs by actual and perceived method of payment. The SEs were adjusted to account for the sample design.

To further assess the relationship between patient trust and payment methods, we estimated linear regression models with Huber corrections to adjust statistical tests for intraclass correlation (STATA, Version 5.0, STATA Corp, College Station, Tex). Variables that were not significant at the .10 level and were not conceptually relevant were removed from the multivariate models using backward selection.³² The dependent variable in these models was the patient trust score. We conceptualized the effect of payment methods on trust as both an indirect effect mediated by physician behavior and a direct effect. In the behavior-dependent pathway, payment methods influence physician behavior and decision making that in turn influence patients' trust in their physicians. The average response to the Picker questions was used to assess how well patient reports of physician behaviors explained the relationship between payment methods and patient trust.

In the behavior-independent pathway, patients' perceptions of how their physicians are paid directly affect their trust. We statistically controlled for patients' perceptions of how their physicians are paid to assess the behavior-dependent hypothesis. A variable indicating whether a patient correctly identi-

Table 3.—Characteristics of Patient Respondents*

	Salary (n = 359)	Capitation (n = 691)	Fee-for-Service Managed Care (n = 656)	Fee-for-Service Indemnity (n = 380)	Total (N = 2086)	P Value
Age, mean (SD), y	44 (12)	43 (12)	43 (11)	54 (12)	46 (12)	<.001
Female	65 (3)	67 (2)	73 (2)	71 (2)	69 (1)	<.05
White	67 (3)	75 (2)	84 (1)	91 (1)	80 (1)	<.001
College graduate	32 (2)	38 (2)	48 (2)	51 (3)	43 (1)	<.001
Annual income <\$45 000	42 (3)	35 (2)	27 (2)	27 (2)	32 (1)	<.001
Self-reported health status						
Excellent	23 (2)	26 (2)	30 (2)	28 (2)	27 (1)] <.01
Very good	38 (3)	38 (2)	42 (2)	43 (3)	40 (1)	
Good	27 (2)	27 (2)	22 (2)	22 (2)	25 (1)	
Fair	9 (2)	8 (1)	6 (1)	4 (1)	7 (0.5)	
Poor	3 (1)	2 (0.5)	1 (0.3)	2 (1)	1 (0.3)	
Plan enrollment, mean (median) [SD], y	5 (5) [3]	4 (3) [4]	4 (3) [2]	19 (17) [13]	7 (4) [8]	<.001

*Values are percentage (SE) unless otherwise indicated.

fied his/her physician's method of payment was included in the regression analysis.

Other hypothesized predictors of patient trust used in the multivariate analyses included patients' trust in their health plan, trust in HMOs in general, and general trust in people. Patient characteristics included as covariates were age, sex, race, education, income, and self-reported health status. Physician characteristics included were age, sex, board certification, and international medical graduate. Other independent variables were perceived choice of physicians, length of physician relationship, and length of plan enrollment.

One of the difficulties in studying the effects of financial incentives is that payment methods are related to structural practice characteristics that may also influence patient trust. For example, physicians who are paid by salary tend to practice in staff-model HMOs or group practices. We included number of physicians in the practice in the models to partially control for such effects. A variable also was included to control for potential regional effects. Independent variables with missing data were imputed using regression models. To assess the relationship between patient trust and patients' stated intention to change physician, we estimated a logistic regression model in which intention to change was the dependent variable.

RESULTS

Respondent Characteristics

Of the 4448 patients we attempted to telephone from January 1997 through June 1997, 2733 patients were contacted and screened for eligibility. Of those screened, 602 patients (22%) were ineligible. Among those who were ineligible, 303 were no longer enrolled in the health plan, 94 could not be interviewed for reasons such as language problems and hearing difficulties, 114 could not identify a physician as their "regular doctor," and 91 had no opinion about their physician. Among the eligible patients, 2086 telephone interviews were completed, for an estimated response rate of 60.1%, assuming the ineligibility rate in the nonscreened group was comparable with that in the screened group.

Respondents were older on average than nonrespondents (46 vs 43 years; $P < .01$) and more likely to be women (69% vs 64%; $P < .01$). Respondents also were enrolled in the health insurance plan for a shorter period than nonrespondents (7.0 vs 7.7 years; $P < .05$).

Compared with indemnity patients (Table 3), managed care patients (salary, capitated, and FFS managed care patients)

were younger, less likely to be white, less likely to have an annual income higher than \$45 000, and enrolled in the health insurance plan for a shorter period. The FFS patients in managed care and indemnity arrangements were more likely to be women and more likely to have graduated from college. Patients with salaried physicians also tended to report slightly poorer health status than other patients.

Trust in Physician by Actual and Perceived Method of Payment

Approximately one third (32.1%) of patients correctly identified their physician's payment method, while about one third of patients were incorrect (30.2%), and the other patients (37.7%) said they did not know how their physician was paid. Most patients (84%) completely or mostly trusted their physicians (Table 4). However, more FFS indemnity patients (94%) trusted their physicians to put their health and well-being above keeping down the health plan's costs than salary (77%), capitated (83%), or FFS (85%) managed care patients. Patient responses to other trust questions were comparable with the overall patient trust question (results not presented) except that at least 98% of each group of patients trusted their physician to keep medical information private.

There were no significant differences in responses to the overall patient trust question (Table 4) or the other trust questions among groups of patients with different perceived methods of physician payment. However, patients who said they did not know how their physician was paid had more positive responses to the overall trust question than other patients (89% vs 81%; $P < .001$).

The average patient trust score for salary patients was 4.32 (SD = .74). The average for capitated patients was 4.44 (SD = .68), for FFS managed care patients was 4.53 (SD = .60), and for FFS indemnity patients was 4.73 (SD = .38). A difference of 0.25 points in the patient trust score is associated with a doubling of the odds that patients said they had considered changing physicians.

Trust in Health Plan or HMOs by Actual and Perceived Method of Payment

Patients' trust in their health plan did not differ significantly by payment method (Table 4), except that FFS indemnity patients were more likely to trust their health plan than managed care patients. The FFS indemnity patients were less likely to trust HMOs in general than salary or capitated pa-

Table 4.—Patients' Trust in Their Physician, Health Plan, and Health Maintenance Organizations (HMOs) in General by Actual and Perceived Method of Physician Payment*

Trust Item	Actual Method of Physician Payment				Perceived Method of Physician Payment by Patient			
	Salary (n = 344)	Capitation (n = 637)	Fee-for-Service Managed Care (n = 597)	Fee-for-Service Indemnity (n = 330)	Salary (n = 285)	Capitation (n = 216)	Fee-for-Service (n = 706)	Did Not Know (n = 713)
Trust physician to put patient's health and well-being above keeping down the health plan's costs	77†	83†	85†	94	80	79	83	89‡
Trust health plan to control costs without adversely affecting the quality of care	51	52	49	58§	51	43	54	54¶
Trust HMOs in general to control costs without adversely affecting the quality of care	34	35	23	17#**	26	26	29	28

*Percentage of patients who completely or mostly trust their physicians.

†Patients who are less likely to trust their physicians than indemnity patients, $P < .001$.

‡Patients who said they did not know how their physicians were paid were more likely to trust their physicians than those who thought their physicians were paid on a salaried, capitated, or FFS basis, $P < .001$.

§Fee-for-service (FFS) indemnity patients were more likely to trust their health plan than FFS managed care patients, $P < .01$.

||Patients who thought their physicians were paid on an FFS basis were more likely to trust their health plan than those who thought their physicians were paid on a capitated basis, $P < .001$.

¶Patients who said they did not know how their physicians were paid were more likely to trust their health plan than those who thought their physicians were paid on a capitated basis, $P < .01$.

#Fee-for-service indemnity patients were less likely to trust HMOs in general than salary patients, $P < .01$.

**Fee-for-service indemnity patients were less likely to trust HMOs in general than capitated patients, $P < .001$.

tients. Regardless of payment method, patients' trust in their health plan or HMOs was lower than trust in their physicians.

Patients who thought their physicians were paid on an FFS basis were more likely to trust their health plan to control costs without adversely affecting the quality of care than patients who thought their physicians' fees were capitated. There were no other significant differences in patients' trust in their health plan or HMOs based on perceived method of physician payment.

Multivariate Analyses

In initial multivariate analyses, patient age, education, income, length of enrollment, physician age, physician board certification, and site were not significant predictors of trust and were excluded from subsequent analyses. In the final multivariate model, FFS indemnity patients had significantly higher levels of trust than salary, capitated, or FFS managed care patients (Table 5). Patients who thought their physicians were paid on an FFS basis did not have higher levels of trust than those who thought their physicians were paid on a salaried or capitated basis. However, those who said they did not know how their physicians were paid were more likely to trust them than were other patients. Patients of salaried physicians who correctly identified their physician's method of payment had higher levels of trust than other patients.

Patients' trust in their health plan or HMOs was positively associated with patients' trust in their physician. Healthier patients tended to trust their physicians more than patients who reported poorer health status. Patients had higher levels of trust in physicians who were graduates of US medical schools. Patients of physicians in 2-physician practices (but not those of solo practitioners) had higher levels of trust in physicians than those of physicians in larger medical groups. Patients who said they had enough physician choice when selecting their physician were more likely to trust them than other patients. Longer patient-physician relationships also were associated with higher levels of patient trust.

When the Picker score was included in the regression model, the effects of payment on patient trust were reduced, but still significant, except for the difference between FFS managed care and FFS indemnity patients. This suggests that part of the difference in trust among patients with different

physician payment methods was due to differences in health care experiences.

The associations between trust and perceived payment method were not affected, except that the difference in trust between those who said they did not know how their physician was reimbursed and other patients was no longer statistically significant. This is probably because patients who do not know how their physician is paid report fewer problems in response to the Picker questions (results not shown). It may be that patients with fewer problems are less likely to be concerned about payment issues.

The associations between trust in physician and trust in the health plan and in HMOs in general were reduced, again suggesting that part of these associations was because those with less trust in HMOs and their health plan had experienced more problems than other patients. The association between patient trust and respondents' belief in the benevolence of people was substantively similar after the Picker score was added, confirming that general attitudes about others was not a confounding factor for the associations studied.

The association between patient trust and health status was reduced when the Picker score was added to the model. This was expected because sicker patients generally report more problems with their care.^{29,30} The associations between sex and race and trust became somewhat stronger and statistically significant in the model including the Picker score, but the changes in the coefficients were small. Race and sex were not significantly associated with the Picker score.

In the regression model including the Picker score, the associations between trust and practice size, physician choice, length of relationship, and having an international medical graduate as a physician were all reduced, suggesting that part of these associations were because these variables also are associated with patients experiencing more problems with care, although some of these associations are not significant.

COMMENT

Almost 40 years ago, Roemer³³ wrote of the need for studies of the full consequences of different systems of paying the physician. Few issues in health care have provoked such heated controversy recently as the method of paying physicians for their services. Capitation and other at-risk payment methods

Table 5.—Regression Model Using the Patient Trust Score*

Variable	Regression Coefficient (95% CI)			
	Model Without Measure of Physician Behavior	P Value	Model With Measure of Physician Behavior	P Value
Salary patient†	-0.313 (-0.426 to -0.201)	<.001	-0.186 (-0.272 to -0.100)	<.001
Capitated patient†	-0.163 (-0.241 to -0.084)	<.001	-0.094 (-0.157 to -0.031)	.004
Fee-for-service (FFS) managed care patient†	-0.078 (-0.138 to -0.019)	.01	-0.044 (-0.094 to 0.006)	.08
Thought that physician was paid on a salaried basis‡	-0.068 (-0.191 to -0.055)	.28	-0.075 (-0.165 to 0.014)	.10
Thought that physician was paid on a capitated basis‡	-0.028 (-0.154 to 0.098)	.66	-0.068 (-0.162 to 0.026)	.16
Patient did not know how physician is paid‡	0.115 (0.028 to 0.202)	.009	0.036 (-0.029 to 0.102)	.28
Correctly identified that physician was paid on a salaried basis	0.269 (0.094 to 0.444)	.003	0.172 (0.029 to 0.316)	.02
Correctly identified that physician was paid on a capitated basis	0.024 (-0.125 to 0.172)	.75	0.049 (-0.059 to 0.157)	.38
Correctly identified that physician was paid on an FFS basis	-0.024 (-0.127 to 0.078)	.64	-0.017 (-0.097 to 0.064)	.68
Trust in health plan	0.164 (0.133 to 0.195)	<.001	0.112 (0.087 to 0.137)	<.001
Trust in health maintenance organizations in general	0.051 (0.023 to 0.079)	<.001	0.017 (-0.005 to 0.039)	.13
Believe in the benevolence of people	0.032 (-0.008 to 0.072)	.12	0.039 (0.007 to 0.070)	.02
Female patient	0.048 (-0.010 to 0.106)	.11	0.055 (0.012 to 0.099)	.01
White patient	0.064 (-0.002 to 0.130)	.06	0.096 (0.042 to 0.150)	.001
Self-reported health status	0.069 (0.041 to 0.096)	<.001	0.033 (0.011 to 0.056)	.004
Male physician	0.008 (-0.057 to 0.072)	.82	0.019 (-0.032 to 0.070)	.46
International medical graduate	-0.072 (-0.143 to -0.0001)	.05	-0.048 (-0.100 to 0.004)	.07
Solo practitioner§	-0.059 (-0.125 to 0.008)	.09	-0.040 (-0.088 to 0.007)	.10
2-Physician practice§	0.063 (0.001 to 0.126)	.05	0.044 (-0.010 to 0.099)	.11
Had enough choice of physician	0.293 (0.215 to 0.370)	<.001	0.147 (0.086 to 0.207)	<.001
Length of patient-physician relationship	0.015 (0.011 to 0.019)	<.001	0.008 (0.005 to 0.011)	<.001
Picker score	0.794 (0.723 to 0.860)	<.001
	R ² = 0.28	...	R ² = 0.52	...

*CI indicates confidence interval; ellipses, data not available.

†Reference group was composed of FFS indemnity patients.

‡Reference group was composed of patients who thought their physicians were paid on an FFS basis.

§Reference group was composed of physician practices of 3 or more physicians (multivariate regression analyses were based on n = 2063 due to missing data in the patient trust score and patients' identification of how their physicians were paid).

are designed to encourage cost-conscious medical practice. Some argue that payment methods like capitation could adversely affect individual patient care by reducing use of diagnostic tests, specialist referrals, and other medical services.^{34,35} Others contend that capitation may contribute to better allocation of finite health care resources by encouraging use of preventive services³⁶ and discouraging use of expensive medical services that have little diagnostic or therapeutic value.

Regardless of payment method, the overwhelming majority of patients trust their physicians, but we found that capitated patients had lower levels of trust in their physicians than FFS indemnity patients did. The unadjusted difference of about 0.3 points on the trust scale is substantively important. A difference of 0.25 points corresponds, on average, to a doubling of the odds that patients said they had considered changing their physician. There was a comparable and significant difference in trust after controlling for patients' perception of how their physicians were paid. Thus, the lower trust of capitated patients is not only due to lower trust among patients who think their physicians are paid on a capitated basis.

The lack of a direct link between patient trust and patients' perceived method of physician payment supports the hypothesis that the differences in trust by payment method may be mediated by patients' experiences with physician behavior. We found that differences in patient trust by payment method were reduced when the Picker score was included in the regression analyses. These findings suggest that the adverse impact of capitation on patient trust may be partially due to differences in physician behavior. This is consistent with research showing that physicians are less satisfied with their ability to treat patients in capitated plans according to their best judgment.³⁷

Although the potential impact of capitation on the patient-physician relationship has attracted the most public attention, we also found that salary patients had less trust in their physicians than FFS indemnity and capitated patients. Salaried physicians have no explicit financial incentive or disincentive for the use of medical services.³⁸ One possible explanation for these payment differences in patient trust may be the contractual arrangements in multitiered systems.^{11,39} Many physicians are members of a medical group, and the health plan or insurer contracts directly with the group. Because the medical group is often capitated by the health plan or insurer, physicians are usually paid by capitation or salary.^{37,40,41} In this study, some salaried physicians were part of capitated medical groups. These physicians, especially equity partners, may be aware of the financial incentives faced by their group and behave in accordance with those incentives. Furthermore, in each of the cities studied, salaried physicians also had a bonus or withholding arrangement that was based on board certification, patient satisfaction, financial performance, or specialty pools. Thus, they might have had more explicit financial incentives to use services efficiently than physicians paid on a capitated basis.

Other factors that could influence physician behavior and patient trust include practice characteristics (eg, solo vs group practice),⁴² rule-based mechanisms (eg, utilization review, guidelines, and protocols),⁴³ and education and norms.^{11,44-46} For example, salaried physicians are less likely than other physicians to be in solo or small-group practices.¹⁹ Smaller practices may provide better continuity of care^{47,48} and a more personal environment than larger practices. However, solo practitioners may have less access to informal or "curbside" consultation with colleagues.⁴⁹⁻⁵¹ To control for such factors we

included physician group size in the multivariate models. The effects of payment method were significant even after controlling for these effects.

Physicians now must deal with administrative strategies such as utilization management, clinical practice guidelines, and preauthorization procedures that were unknown to many of them during their training and their early career. Administrative strategies like utilization review can improve quality of patient care by limiting the use of inappropriate medical services, fostering evidence-based disease management,⁵² and providing clinical feedback and education to physicians and patients.⁵³ Utilization review can undermine the clinical autonomy of physicians by deterring them from recommending certain services.^{54,55} Because these administrative strategies may be a new experience for many physicians, they may feel uncomfortable with them. They may also think they compromise the quality of care.⁴⁶ This discomfort may be perceived by the patient and diminish trust. Even when the physician is comfortable with these strategies, the patient may find the manifestations of these changes disturbing. Regardless of the clinical appropriateness of procedures, medications, and hospital days, previous patterns of care created the expectation that more was better. Greater application of utilization review and preauthorization in managed care settings^{40,41,54,56} may partly explain the observed differences in trust between FFS patients in managed care and indemnity settings.

When there are no financial incentives affecting how care is provided, as is the case with salaried physicians, health care organizations may rely more on administrative strategies.^{11,40} This may partially explain the lower trust of patients with salaried physicians. The administrative strategies used by managed care organizations and medical groups deserve more attention in future studies.

One reason patients who said they did not know how their physicians were paid were more likely to trust their physicians than other patients may be that those with greater trust in their physicians are less concerned about, or interested in, how their physicians are paid.⁵⁷ This may be partly because they have fewer problems with their care. Among patients of salaried physicians, those who correctly identified their physicians' payment method had higher levels of trust than those who did not. This may be because patients who have the most favorable attitudes toward salaried group practice are most likely to be aware that their physicians are paid a salary.

Patients who trusted their health plan were more likely to trust their physician. While patients' confidence in their health plan may influence patients' trust in physicians, this relationship is likely to be bidirectional. Thus, our multivariate model may underestimate the effect of payment method on patient trust. Patients' trust in their physician was higher than trust in their health plan. This is consistent with declining trust in all social institutions,²³ and a natural inclination to trust an individual more than an organization. Patients with a longer relationship with their physician and patients who said they had enough choice of physicians had greater physician trust than other patients. The former association may be due to both selection effects (patients who do not trust their physician are less likely to maintain a relationship) and the well-established finding that repeated positive interactions engender trust. We are not sure why patients with more choice trust their physicians more. It may be that such patients have an opportunity to select physicians who have the characteristics that are important to

them or the exercise of choice gives them a sense of commitment to their physician. The association between health status and trust may be due to the fact that patients with more health problems are more likely to have concerns about the availability of specialty or discretionary services.⁵⁸

The finding that white patients had higher levels of patient trust than other patients is consistent with negative views about disparities in the health care system held by many blacks,⁵⁹⁻⁶² also manifested in other areas including business, law, and government.²³ Patients of non-US medical graduates had lower levels of trust. Possible explanations for this include patients' attitudes about physician training, linguistic differences, and cultural or racial differences between patients and physicians.^{63,64}

We surveyed enrollees of a single large health insurance plan in 4 metropolitan areas, and our results may not generalize to other health insurance plans or other cities. However, the sites represented 3 diverse medical care markets and a wide range of practice settings. Some of the observed differences between patient groups may partly reflect self-selection. We statistically adjusted for measured differences in the patient groups, but there may be unmeasured differences as well. However, the small effect of perceptions of how physicians are paid argues against significant selection effects and biased reporting that would account for differences in patient trust based on payment method. We were not able to quantify and model the effects of secondary incentives such as withholdings and bonuses. However, salaried physicians in large medical groups at all 3 sites had bonuses or withholdings as part of their payment. The findings in this study are consistent with the hypothesis that secondary incentives encourage less use of medical services and could affect the patient-physician relationship. Physician behavior and clinical decision making were not directly assessed. Patient reports of physician conduct accounted for a substantial amount of the variance in patient trust, but we do not know how much of the unexplained differences by payment are due to actual differences in physician behavior.

Regardless of whether the use of financial incentives promotes more or less appropriate use of medical services, the discordance between patients' experience and expectations and recent changes in the management of health care may lessen trust in their physician. Those who feel that recent changes will compromise the quality of care might argue that eliminating certain elements of managed care would correct the situation and increase patient trust. Those who think these changes are necessary and beneficial would counter that patients will adapt to, and ultimately accept, the changes with more information and experience.

The American health system is in a period of tremendous flux, with changing rules, relationships, and expectations for all parties. Despite these changes, trust will remain a crucial element in the patient-physician relationship, with a profound impact on the therapeutic process. We need to understand more about physicians' behaviors and practice patterns that promote trust as well as how patients' expectations, attitudes, and knowledge affect their trust. The consequences of trust for medical professionalism and managed care credibility are too important to allow uninformed perceptions to guide policy.

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