

# Intention to Discontinue Care Among Primary Care Patients

## Influence of Physician Behavior and Process of Care

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**BACKGROUND:** Specific elements of health care process and physician behavior have been shown to influence disenrollment decisions in HMOs, but not in outpatient settings caring for patients with diverse types of insurance coverage.

**OBJECTIVE:** To examine whether physician behavior and process of care affect patients' intention to return to their usual health care practice.

**DESIGN:** Cross-sectional patient survey and medical record review.

**SETTING:** Eleven academically affiliated primary care medicine practices in the Boston area.

**PATIENTS:** 2,782 patients with at least one visit in the preceding year.

**MEASUREMENT:** Unwillingness to return to the usual health care practice.

**RESULTS:** Of the 2,782 patients interviewed, 160 (5.8%) indicated they would not be willing to return. Two variables correlated significantly with unwillingness to return after adjustment for demographics, health status, health care utilization, satisfaction with physician's technical skill, site of care, and clustering of patients by provider: dissatisfaction with visit duration (odds ratio [OR], 3.2; 95% confidence interval [CI], 1.4 to 7.4) and patient reports that the physician did not listen to what the patient had to say (OR, 8.8; 95% CI, 2.5 to 30.7). In subgroup analysis, patients who were prescribed medications at their last visit but who did not receive an explanation of the purpose of the medication were more likely to be unwilling to return (OR, 4.9; 95% CI, 1.8 to 13.3).

**CONCLUSION:** Failure of physicians to acknowledge patient concerns, provide explanations of care, and spend sufficient time with patients may contribute to patients' decisions to discontinue care at their usual site of care.

**KEY WORDS:** physician behavior; primary care; continuity of care; managed care.

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The growth of managed care in the United States, with its emphasis on high productivity and frequent use of capitation, has tremendous potential to undermine patient satisfaction with health care and health care providers.<sup>1,2</sup> Productivity demands translate into higher patient volume and shorter, less-frequent visits.<sup>3-5</sup> Capitation, while not necessarily leading to higher visit volume, does create pressure to reduce use of services, such as specialist referrals.<sup>4-6</sup> Furthermore, with less time available for encounters, physicians may be unable to adequately acknowledge patient concerns and provide desired information.<sup>2,3,6-9</sup> Meanwhile, the rise of consumerism in health care has led physicians, health services researchers, insurers, and politicians to greatly increase their attention to patients' health care experiences, focusing on satisfaction as a key measure of quality.<sup>10</sup> A wealth of literature describes the effect of physician behaviors and access to services on patient satisfaction.<sup>11-16</sup>

While satisfaction is an important end point unto itself, a more important issue may be whether elements of care that influence satisfaction with physician behavior and quality of care also influence patient action. Dissatisfied patients have the option of discontinuing care with their provider and seeking care elsewhere. Although patients may benefit from changing providers, discontinuity of care could also lead to poor health care outcomes, including underuse of preventive services<sup>17</sup> and higher hospitalization rates.<sup>18-20</sup>

Previous studies have found an association between satisfaction with care and intention to leave the primary care provider,<sup>11,12,21-24</sup> but important factors limit the generalizability and utility of their findings. Most completed data collection before 1988.<sup>11,12,21-23</sup> Unfortunately, public trust in the institution of medicine has eroded progressively in recent years,<sup>25</sup> and studies from the early and mid 1980s may reflect different attitudes toward health care than more contemporary investigations. Other studies used composite measures of satisfaction, representing broadly defined areas of care such as access to care, physician competence and physician communication skills.<sup>11,21,22,24</sup> Where studies have considered specific details, their analyses were limited to a single aspect of care<sup>23</sup> or did not adjust for confounding.<sup>11,24</sup> Focused interventions designed to improve patient care based on specific patient concerns could, perhaps, prove more effective than those based on more broadly defined areas. Finally, some

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investigations gathered data from just 1 or 2 clinical settings.<sup>12,21,24</sup> Indemnity and capitated plans usually coexist in health care markets, and cost containment and productivity demands frequently vary. Thus, studies that are homogenous in type of health insurance or clinical setting may provide less useful information to broad audiences of health care providers than more heterogeneous ones.

We hypothesized that dissatisfaction with physician behavior and access to care would adversely influence patients' decisions to follow up with their usual source of care. To test our hypothesis, we evaluated cross-sectional data from a large, diverse cohort of primary care patients who were asked in 1996 whether they would be willing to return for care. We compared their responses to specific elements of physician behavior and process of care that may be influenced by pressures created under productivity and capitation demands. To enhance the clinical relevance of this study, we focused on variables that reflect potentially modifiable conditions or behaviors.

**METHODS**

**Study Setting**

The Ambulatory Medicine Quality Improvement Project was designed to examine factors associated with variation in the quality of care at 11 general internal medicine practices associated with Harvard Medical School teaching hospitals. All of these sites are located in the greater Boston area, but are diverse in location, structure, and the degree of academic affiliation. The sites included 6 hospital-based practices, a university health service with a group model HMO structure, a commercial group model HMO, 2 neighborhood health centers in disadvantaged communities, and a suburban group practice.

**Patient Selection**

We randomly selected six hundred patients meeting eligibility criteria from each site. Patients were eligible if: 1) they were between the ages of 20 and 75 years, and 2) they had at least one visit to an attending level primary care physician during the preceding year. Patients received an informational letter about the study, as well as an "opt-out" postcard. Subjects were not contacted if they returned the postcard, indicating their decision not to participate in the study. Trained research nurses reviewed the medical records of study participants, up to a maximum of 500 at each site. Research assistants administered telephone surveys to English- or Spanish-speaking patients. Recruitment was performed sequentially at the clinical sites. All patient interviews were completed between August 1996 and October 1997.

**Outcome and Independent Variables**

The telephone survey included questions about socioeconomic characteristics, health status, and satisfaction

with medical care. Patients were asked to rate several aspects of their health care using questions derived from the Medical Outcomes Study.<sup>26</sup> The dependent variable was based on the following question: "Do you plan to come back to this practice?" The principal outcome of interest was a negative response to this question, henceforth referred to as "unwillingness to return." Charts were abstracted for data on health care services utilization.

We selected 10 reports of care from the survey that represent potentially modifiable aspects of physician behavior and process of care (Table 1). In addition, we examined three subgroups and studied variables specific to them: 1) patients who were prescribed medications at their most recent visit; 2) patients who had tests performed at their most recent visit; and 3) patients who visited a specialist in the previous 12 months (Table 1).

Patient reports of physician behavior were binary variables, coded as yes or no. Satisfaction was used to rate process of care, and was scaled as poor, fair, good, very good, and excellent. To facilitate multivariable model building and to highlight dissatisfaction, we dichotomized the categorical variables as poor and fair versus good, very good, and excellent. Although this dichotomization was selected a priori, dividing the satisfaction variables by excellent versus all others produced quantitatively similar results in all models.

Our analysis also included 20 variables representing potential confounders: demographics (age, gender, race, education, language, employment, income, insurance type); health status (SF-36 physical and mental component scores, number of chronic illnesses and medications); health care utilization (duration of relationship with provider and practice, type of provider seen at most recent visit, reason for most recent visit, number of outpatient visits, emergency department visits and hospitalizations in

**Table 1. Independent Variables and Subgroups**

Patient ratings of health care: dissatisfaction with
Appointment waiting time
In-office waiting time
Visit duration
Courtesy of office staff
Patient reports of physician behavior: physician did not
Listen to what patient had to say
Involve patient in decision making
Explain what patient should do if symptoms persist
Provide understandable answers
Address the reason for the patient's visit
Provide necessary services
Subgroups and independent variables tested
Patients prescribed medications at last visit
Physician did not explain purpose of medications
Patients undergoing tests at last visit
Physician did not explain purpose of test
Physician did not inform patient how to obtain results
Physician did not explain results
Patients with specialist visit in past 12 months
Patient did not see specialist when needed

the preceding year); and satisfaction with physician's technical skill (thoroughness, carefulness, and competence). Continuous variables were transformed or divided into quartiles to establish their optimal fit in multivariable models.

### Statistical Analysis

The association between individual variables and unwillingness to return was determined for categorical covariates using the  $\chi^2$  test and for linear covariates using the *t* test. We report relative risks (RRs) for the variables of interest.

We modeled the relation of the 10 independent variables and unwillingness to return using generalized estimating equations<sup>27</sup> in SAS (SAS Institute, Cary, NC). This technique allowed us to account for clustering of patients around individual physicians. In addition, we adjusted for potential confounders and site of care. We dropped number of diseases and patient income from the analyses because of missing data. For the potential confounders, significance criteria for inclusion and exclusion from the model were set, a priori, at  $P \leq .2$ . The independent variables and individual sites of care were included in the final model irrespective of their *P* values.

Similar analyses were conducted for the three subgroups; in each case we substituted the subgroup-specific independent variables for the 10 independent variables used in the main model. Finally, in a separate multivariable analysis, we created five variables representing the different types of clinical sites (as described under Study Setting) and compared their association with the outcome. Results of all multivariable analyses are presented as odds ratios (ORs) and their 95% confidence intervals (CIs).

We were unable to adjust our models by type of insurance coverage because the Medicaid variable caused nonconvergence of the regression, the result of a small sample size. We therefore collapsed the insurance variable into insured or uninsured. To determine whether important information might be lost using this dichotomy, we performed a subgroup analysis of patients who had indemnity or managed care type coverage; these groups comprise 77.1% of the study population. Controlling for type of coverage, the odds ratios of the independent variables changed by less than 10% when compared to the principal model, and no variable lost or gained statistical significance.

## RESULTS

### Response Rates

Twenty-four percent of the 6,250 eligible patients opted out. The remaining 4,747 patients had chart reviews and 60.2% ( $n = 2,858$ ) completed the survey. Compared with nonrespondents, survey respondents were more likely to be older (mean age 45.1 years vs 43.8 years,  $P = .004$ )

and female (71.7% vs 63.7%,  $P = .001$ ). Of those completing the survey, 97.3% ( $n = 2,782$ ) answered the question "Do you plan to come back to this practice?" Based on data from chart abstraction, the 76 patients who did not answer this question were younger ( $39.7 \pm 11.0$  years vs  $45.2 \pm 13.6$  years,  $P < .001$ ), better educated (postgraduate education, 37.8% vs 27.4%,  $P = .007$  for trend) and more frequently dissatisfied with their health care provider (14.4% vs 2.7%,  $P = .001$ ) than those who did.

### Patient Characteristics

Demographics characteristics of the 2,782 subjects are displayed in Table 2. The average age was 45.3 years, 64.3% were women, 74.6% were white, and 4.6% did not have health insurance. When asked about the duration of their care, 85.9% had been with their physician, and 76.7% had been with their medical practice for a year or more.

One hundred and sixty patients (5.6%) indicated they would not return to the practice (Table 2). Compared to all others, patients who did not intend to return were younger, more likely to have a college or postgraduate education, and to be uninsured. They also reported fewer chronic diseases, used fewer prescription medications, and reported shorter duration of care under a specific doctor or medical practice. There were no significant differences between the two groups in number of outpatient clinic encounters, emergency department visits, and hospital admissions (data not shown). For the most recent encounter, whether the patient's usual provider was seen and the reason for the visit also did not differ significantly between the two groups (data not shown).

Unwillingness to return correlated strongly with satisfaction in univariate analysis (Table 3). Patients unwilling to return were significantly more dissatisfied with care received at their last visit (RR 6.3; 95% CI, 4.7 to 8.4), more dissatisfied with their provider (RR 12.7; 95% CI, 9.7 to 16.6), and more dissatisfied with the overall quality of the practice (RR 9.5; 95% CI, 7.1 to 12.6).

In univariate analysis, all 6 characteristics of physician behavior and 4 process-of-care measures were strongly associated with unwillingness to return ( $P = .001$ ) (Table 4). The relative risks ranged from 2.1 for dissatisfaction with the office waiting time to 10.3 for doctors' inattention to patients' comments and concerns.

### Multivariable Analysis

After adjusting for demographics, health status, health care utilization, satisfaction with physician's technical skill, and clustering by provider, we identified two variables meeting significance criteria. Patients who did not intend to return were more likely to rate visit duration as fair or poor (OR 3.2; 95% CI, 1.4 to 7.4) and to report that the physician did not listen adequately during the visit (OR 8.8; 95% CI, 2.5 to 30.7). Reporting that the physician did not provide necessary services approached but did not

**Table 2. Patient Characteristics**

Variable	Total Sample N = 2,782	Patients Unwilling to Return n = 160	P Value*
Mean age, y ± SD	45.3 ± 13.7	39.6 ± 13.0	<.001 <sup>†</sup>
Female, %	64.3	68.1	.30
Race, %			.21
White	74.6	80.1	
African American	12.6	7.7	
Other	12.8	12.2	
Education, %			.03 <sup>‡</sup>
Some high school	6.3	3.9	
High school graduate	19.5	13.5	
Some college	47.1	48.7	
Postgraduate study	27.1	34.0	
Non-English speaker, %	11.4	6.9	.07
Income, %			.34 <sup>‡</sup>
≤\$14,999	16.2	15.2	
\$15,000–29,999	20.5	16.8	
\$30,000–59,999	31.6	39.2	
≥\$60,000	31.8	28.8	
Type of insurance, %			.016
Managed care plan	59.2	56.6	
Indemnity	17.9	19.5	
Medicaid	6.0	2.5	
Medicare	4.8	2.5	
Other	7.6	9.4	
None	4.6	9.4	
Mean SF-36 physical component score ±SD	49.9 ± 9.7	50.9 ± 9.4	.16 <sup>†</sup>
Mean SF-36 mental component score ±SD	51.1 ± 9.5	51.7 ± 8.9	.39 <sup>†</sup>
Mean chronic illnesses, n ± SD	1.4 ± 1.2	1.2 ± 1.0	.02 <sup>†</sup>
Mean medications, n ± SD	3.0 ± 2.3	2.3 ± 2.1	<.001 <sup>†</sup>
≥3 office visits per year, %	62.8	56.3	.08
Duration of relationship with current primary care provider, %			.001 <sup>‡</sup>
<1 y	14.1	43.0	
1–5 y	52.1	44.4	
>5 y	33.8	12.5	
Duration of relationship with current health care practice, %			.001 <sup>‡</sup>
<1 y	23.3	42.5	
1–3 y	25.0	25.0	
>3 y	51.7	32.5	

\* Patients unwilling to return compared to all others;  $\chi^2$  test unless otherwise indicated.

<sup>†</sup> t test.

<sup>‡</sup> Mantel-Haenszel trend test.

SD, standard deviation.

reach statistical significance (OR 2.2; 95% CI, 0.98 to 4.8) (Table 4).

Three variables used to control for confounding correlated positively with unwillingness to return at the  $P < .05$  level, including patient age 35–45 years, white race, and relationship with physician <1 year (data not shown). An SF-36 mental component score in the 50th to 75th percentile and full time employment were significantly

associated with lower odds ratios for the outcome (data not shown).

### Subgroup Analyses

We analyzed several variables specific to subgroups of patients who were prescribed medications, underwent testing, or who had specialist referrals (Table 1). In univariate analysis all variables within each subgroup achieved statistical significance ( $P < .05$ ) and were included in the multivariable analysis. In the subgroup of patients who were prescribed medications, not having the purpose of medications explained by the physician was significantly associated with unwillingness to return in multivariable analysis (OR 4.9; 95% CI, 1.8 to 13.6). Among those who saw a specialist, not being referred to a specialist when necessary did not achieve statistical significance. Likewise, for patients having tests, not explaining the purpose of the test, not explaining results, and not informing patients how to obtain results failed to reach statistical significance (Table 5).

We compared willingness to return among 5 different types of clinical settings represented in our study. The 2 free-standing clinics in low income neighborhoods and one staff model HMO had lower adjusted odds ratios for unwillingness to return compared to the 5 hospital-based clinics, (OR 0.37; 95% CI, 0.19 to 0.73 and OR 0.40; 95% CI, 0.16 to 0.97, respectively). Odds ratios for the university health service and suburban group practice were not significantly different from those of the hospital-based clinics.

### DISCUSSION

We found that almost 6% of patients reported unwillingness to return to their usual primary care site for subsequent care. Patients who were dissatisfied with their overall care were more likely to be unwilling to return for care. We identified two aspects of process of care and physician behavior that correlate strongly with unwillingness to return: patients' perceptions that the length of time spent with the physician was insufficient and that the

**Table 3. Dissatisfaction with Care versus Unwillingness to Return**

Variable	Percent of Patients Dissatisfied with Care		RR*	95% CI <sup>†</sup>
	Patients Willing to Return	Patients Unwilling to Return		
Dissatisfied with				
Most recent visit	4.5	28.0	6.3	4.7 to 8.4
Provider	1.3	26.0	12.7	9.7 to 16.6
Overall quality of practice	2.1	24.7	9.5	7.1 to 12.6

\* RR, relative risk,  $\chi^2$ ,  $P = .001$  for all comparisons.

<sup>†</sup> CI, confidence interval, Mantel-Haenszel.

**Table 4. Univariate and Multivariable Analyses of Unwillingness to Return**

Variable	RR*	OR†	95% CI‡
Dissatisfaction with			
Appointment waiting time	2.1	1.3	0.61 to 2.8
In-office waiting time	2.1	1.1	0.47 to 2.5
Visit duration	4.6	3.2	1.4 to 7.4
Courtesy of office staff	2.4	0.83	0.26 to 2.7
Physician did not			
Listen to what patient has to say	10.3	8.8	2.5 to 30.7
Involve patient in decision making	4.1	2.0	0.69 to 5.9
Explain what patient should do if symptoms persist	4.0	1.4	0.44 to 4.2
Provide understandable answers	6.0	1.1	0.21 to 5.7
Address reason for the patient's visit	5.5	1.4	0.48 to 3.9
Provide necessary services	4.6	2.2	0.98 to 4.8

\* RR, univariate relative risk,  $\chi^2$ ; P = .001 for all comparisons.  
 † OR, odds ratio, generalized estimating equation. The model adjusts for demographics, health status, health care utilization, satisfaction with physician's technical skill, site of care and clustering of patients by provider.  
 ‡ CI, confidence interval, Wald  $\chi^2$ .

physician's attention to their concerns was inadequate. Not receiving necessary medical services correlated with unwillingness to return as well, but did not reach statistical significance. In a subgroup analysis of patients who were prescribed medications, not explaining the purpose of medications correlated significantly with unwillingness to return.

In this age of managed care, in which patients are increasingly concerned about restrictions on their access to care, the doctor-patient relationship may be more important than ever. Highlighting patients' most valued aspects of this relationship may help to improve their satisfaction with care and improve health outcomes. Our study represents the most comprehensive and current evaluation to date of the association between patients' intention to return for care and specific physician behaviors and elements of process of care. The large number of patients and clinical settings evaluated make our findings broadly generalizable to primary care practices. The specific and modifiable nature of the covariates we studied enable direct application of our findings toward the goal of decreasing attrition in clinical practice and improving doctor-patient relationships.

The strong correlation we show between unwillingness to return and the belief that physicians did not pay attention is consistent with previous work demonstrating a frequent disconnect between patients' and doctors' perception of care. Patients and physicians often disagree over the quantity of information and the extent of their involvement in decision making that is necessary for optimal outpatient care.<sup>28</sup> The disagreement may be, in part, a function of factors external to the doctor-patient

relationship, such as the quantity of time available for visits. However, many physicians believe that they adequately address patients' concerns when in fact they do not.<sup>28-30</sup> They also frequently believe that communication problems originate with the patient.<sup>31</sup> This indicates that physicians sometimes underappreciate patients' self-identified needs and underestimate the importance that patients place on acknowledgment of their concerns and opinions. Indeed, physicians who encourage patient involvement in decision making lose fewer patients to other doctors.<sup>23</sup>

Our findings are also consistent with previous works that addressed determinants of patient satisfaction in ambulatory care. Duration of visit,<sup>32,33</sup> listening to what the patient has to say,<sup>29,34</sup> and meeting patients' expectations for care<sup>29,30,35</sup> are tightly linked to satisfaction in both fee-for-service and managed care settings. These elements of care are probably interrelated, contributing to their shared significance in this study. For example, the quality of the doctor-patient interaction appears to influence patients' perception of visit duration.<sup>36</sup> When visit length is objectively short, physicians may prioritize their agenda over the patient's, leaving the patient alienated from his own health care. One large study showed that patients of physicians with high-volume practices reported high rates of dissatisfaction with their providers.<sup>3</sup> Other studies have shown that physicians under sharp time constraints often fail to meet patients' expectations, resulting in diminished trust and confidence in their doctors.<sup>28,30,34,37,38</sup> Trust itself is a positive correlate of adherence to care and self-reported health outcomes in primary care.<sup>39</sup>

Pressures to increase patient volume and reduce access to specialists and other services may have contributed to the dissatisfaction of patients in our study and

**Table 5. Univariate and Multivariable Analyses of Unwillingness to Return, Subgroups**

Variable	RR*	OR†	95% CI‡
Patients prescribed medications at last visit			
MD did not explain purpose of medications	5.4	4.9	1.8 to 13.6
Patients undergoing tests at last visit			
Physician did not explain purpose of test	4.6	2.0	0.46 to 9.0
Physician did not inform patient how to obtain results	2.2	0.88	0.27 to 2.8
Physician did not explain results	2.2	1.9	0.75 to 4.9
Patients with specialist visit in past 12 months			
Patient did not see specialist when needed	2.0	1.9	0.57 to 6.4

\* RR, univariate relative risk,  $\chi^2$ ; P = .001 for all comparisons.  
 † OR, odds ratio, generalized estimating equation. The model adjusts for demographics, health status, health care utilization, satisfaction with physician's technical skill, site of care and clustering of patients by provider.  
 ‡ CI, confidence interval, Wald  $\chi^2$ .

their intention to leave their site of primary care. While we did not study productivity measures and capitation directly, we did evaluate patients' experiences in several areas of care that are modified by cost cutting and productivity measures.<sup>2-4,6-9</sup> Furthermore, a recent analysis of Ambulatory Medicine Quality Improvement Project data revealed that 58% of the physicians at the same clinical sites used in our study faced financial incentives. Of note, these incentives were associated with decreased delivery of preventive services, including cholesterol screening and Pap smears.<sup>40</sup> Future research should attempt to directly link cost cutting and productivity measures to discontinuity in primary care and its financial and health care consequences.

Certain limitations to our study deserve mention. First, we did not control for type of health insurance in our analyses. Since patient satisfaction can vary with insurance type, we may be over- or underestimating the effect of dissatisfaction on unwillingness to return. Second, we did not investigate postsurvey follow-up rates and cannot rule out the possibility that some patients returned for care after reporting their intention not to do so. Furthermore, reasons behind patients' unwillingness to return could have been unrelated to their reports of care. However, dissatisfaction was most likely a major factor, given the very strong correlation between satisfaction and intention to return. Third, dissatisfaction with visit duration may vary with satisfaction around other aspects of care, and therefore inaccurately reflect actual visit length for some patients. Fourth, patients who were unwilling to return were somewhat younger and had slightly less illness than the overall sample population. Switching providers or discontinuing care altogether may be a less feasible option for older, sicker patients. However, the age and illness differences were relatively small.

Finally, those who reported unwillingness to return may represent a subgroup of patients that is persistently dissatisfied with care, regardless of the circumstances under which they receive their care. Such patients often experience higher rates of psychiatric disorders and health services utilization and poorer functional status.<sup>41</sup> In our study there were no differences between patients willing and unwilling to return on the SF-36 physical component score and for rates of outpatient and emergency department visitation. Furthermore, the outcome was not significantly associated with the highest and lowest percentiles of the SF-36 mental component score. Thus, patients who were unwilling to return in our study do not fit the profile of chronically dissatisfied patients described elsewhere. Nonetheless, even if they did, they might represent a more sensitive barometer of most patients' reactions to the quality of health care encounters. As such, their responses provide important and useful information.

In a health care market burgeoning with HMOs and other managed care programs, leaving one's site of care may not be viewed by some as problematic. Numerous opportunities for care may allow patients to find the health

care setting that best meets their needs. However, discontinuity of care resulting from changes in medical providers may have substantial effects on quality of health care delivery and health outcomes. It is in the best interest of both patient and provider to promote and maintain a strong and continuous relationship. To do so, efforts must be taken to limit restrictions on physician time and autonomy and patients' access to care. On the other hand, physicians must learn to better recognize and acknowledge patients' concerns and expectations. The results of this study can be applied to developing interventions and improving physicians' knowledge of actions that may help improve their relationships with patients and decrease attrition.

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