

Exploring a Paradox: Belief in a Crisis and General Satisfaction with Medical Care

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THE MAJORITY OF THE POPULATION OF THE UNITED States believe "there is a crisis in health care today in the United States" (Andersen et al., 1971). At the same time, most of this group are satisfied with every aspect of their personal health care (Robert Wood Johnson Foundation, 1978). How can this be so?

In an effort to understand how people can hold both the above viewpoints at once, the present study examines data from a 1976 national survey. The group that both believes that there is a crisis and is satisfied with their own personal care, the "paradoxical" group, is compared with those that report more consistent attitudes. This article tests a series of hypotheses which are informed by the literature on crisis in medical care as well as studies of patient satisfaction. A discriminant analysis is carried out to see how well we can predict membership in the paradoxical group from tests of the hypotheses. The findings are discussed in terms of implications for change in the health care system.

The Crisis in Medical Care

In order to obtain some understanding of the public perception of a crisis in medical care and derive some hypotheses about the paradox, it may be useful to review written discussions of crisis. For some years there has been talk of a "crisis" in medical or health care. The discussion has taken place in the popular press and the political arena, as well as among academic figures.

Reports of a crisis of national magnitude in the health care system can be found in popular magazines and newspapers as early as 1961. For the most part, these early articles described the crisis in terms of mounting costs of medical care and/or the prospect of "socialized medicine" (Life, 1959; Time, 1960; U.S. News and World Report, 1960, 1962a, 1962b, 1964).

As pointed out by Bowler et al. (1977), the "rhetoric of crisis" is bipartisan. Both Republicans and Democrats, and the more conservative and liberal sectors among them, have used the term to describe similar phenomena. Among writers whose work is addressed mostly to an academic audience, those who have chosen the health care "crisis" as their subject may be characterized as including the more "radical" as well as "mainstream" thinkers. Combining all this literature, one finds that the crisis has been characterized in a number of ways, but chiefly from a financial point of view.

In 1969 President Nixon held a press conference in which he referred to a White House study that described a "massive crisis" in medical care. The report focused on a "crippling inflation" in the field that was reducing the purchasing power of consumers (Falkson, 1980).

In 1971 Senator Edward Kennedy chaired a subcommittee on the topic, "The Health Care Crisis in America," during which he heard accounts, later published in a book, of problems people had suffered seeking medical care. The majority of these problems dealt with financial issues. For instance, "Sickness and Bankruptcy," "What Price Good Health," "No Money, No Medical Care" are titles of some of the chapters in Kennedy's book, each recounting the story of one or more witnesses before the committee (Kennedy, 1972).

The financial crisis is also seen as a problem of costs to the system as a whole (Terris, 1973). Thus Fuchs (1974) and Carlson (1975) among others do not see a national health insurance program as a solution to the crisis because it is apt to lead to greater inflation in medical care, requiring higher and higher government outlays, and

robbing the public of funds that might be spent in other ways.

Availability of care and access in a broad sense have also been cited as major problems of crisis (Strickland, 1972). Kennedy's examples include problems of finding a doctor in communities where there is none and of obtaining care conveniently especially at odd hours (Kennedy, 1972:103–124). Silver names "access" as the health care delivery problem that "should have the greatest emphasis in our consideration" (Silver, 1976:296).

The crisis is also described in terms of obtaining quality care (Strickland, 1972; Baumgartner, 1971). Some of Kennedy's examples are drawn from cases in which people who could readily afford any quality of care received treatment that was poor relative to accepted medical standards (Kennedy, 1972:152–176). Often this crisis in quality is described as an absence of caring on the part of practitioners (Sidel and Sidel, 1977:89–98). More commonly, the fact that the infant mortality rate is higher and life expectancy is lower in the United States than in other advanced nations, and the great discrepancy between these figures for the affluent and poorer groups, is used to document the poor quality of services people are receiving (Sidel and Sidel, 1977; Smith, 1972; Armstrong, 1971).

The crisis is curiously described as well as the result of medicine's success. The illnesses that medicine can treat successfully are now largely brought under control. This leaves us with an increasing incidence of noncurable conditions, many of which are self-induced (Ramey, 1974). However, this may be viewed as a failure of the medical system to concentrate on preventive care and rehabilitation. It may also be seen as a failure of the larger system to encourage appropriate health practices in the population (Sidel and Sidel, 1977:44–52).

Again the crisis is elaborated in terms of problems in the way the medical system is organized. This goes beyond payment systems to issues of fragmented care and the fact that most doctors' offices are organized as small businesses (Kennedy, 1972). Ultimately, the Nixon administration supported a proposal that keyed the crisis to this factor. The legislation that supported Health Maintenance Organization development was based on the argument that the existing organization of physicians' practices provided incentives that led to rapid inflation in the health care field (Falkson, 1980).

More recently "malpractice" has been identified as an important element of the crisis (Milke, 1976; Lander, 1976; Allen, 1976).

Although suits brought against physicians were apparently increasing in number even in the 1950s, this phenomenon was not recognized as a critical issue until the mid-1970s when doctors in several states went on strike in disputes over medical malpractice insurance (Somers, 1977).

The most radical presentations of the crisis might be best characterized as "systemic." They cited problems in the delivery of medical services that run deeper into the existing social system than those described above. Navarro (1973:231) sees the crisis in medical care as one aspect of a crisis throughout a system which is organized on a capitalistic basis and dominated by providers of care. This domination is partly achieved through the "mystification of the individual patient and family" (Sidel and Sidel, 1977:81). Illich (1975) derives the crisis from the "iatrogenic" effects of medical care. However, he uses this term in several ways. It is not limited to side effects from medical or surgical care. The tendency for many social problems to be defined as medical—e.g., marital problems, poor housing, emotional problems—is a particular kind of iatrogenic effect to Illich. This has led to an excessive dependency of the population on the medical system, and the belief that medical care must be sought to deal with every kind of problem. Moreover, the iatrogenesis is "structural." Illich sees the medical system as robbing people of all ability to cope with their problems in an autonomous way. Crane and Legeay (1979) describe two levels of this radical definition of the crisis. On one level they see criticism of medicine's creation of dependency in the population. On another level medicine has created a crisis by causing the world to believe that medical care can lead to health. Fuchs (1974) and Carlson (1975) exemplify writers who have described the crisis in this latter way as well.

To summarize, the essence of the medical care crisis has been described in various ways in the popular and academic literature. However, the most common expression, particularly in the popular press, has been in terms of financial problems to the system as a whole and especially to individual consumers of services.

Satisfaction with Health Care

The research literature on patient satisfaction also suggests hypotheses about the differences between the "paradoxical" and "consistent"

group. Although surveys of patient satisfaction with medical care have been identified as early as the 1950s (J.B. Knight Co., 1955), they were relatively rare until the early 1970s. Since then there has been a proliferation of such studies. This interest in client evaluations of care has accompanied the more general consumer movement. The studies have been of two types: efforts to identify the correlates of consumer satisfaction, and approaches to evaluating health care facilities and services. One overriding finding in these studies is that all major subgroups of the population, defined by ethnicity, age, residence, region, and similar variables, report generally high levels of satisfaction with care except in those instances where the measures used are devised expressly to yield a normal distribution of responses from the population (Strickland, 1972; Aday and Andersen, 1975; Aday et al., 1980).

There are, however, some important distinctions that can be made in the ways people respond to questions to tap their satisfaction with care. First of all, responses to questions about patient satisfaction with medical care tend to cluster on several dimensions. There is good evidence to indicate that one of these is the cost of care. Sometimes convenience (getting an appointment easily, not waiting too long in the doctor's office, etc.) is a part of this dimension, and sometimes it appears to be evaluated separately. Personal qualities of the physician or other providers (courtesy, consideration, and interest in the patient) are clearly a second dimension. Quality of care is apt to be perceived similarly to the personal characteristics of physicians, although this is not always the case (Hulka et al., 1971; Ware and Snyder, 1975; Aday and Andersen, 1975; Fleming, 1980).

Second, although the majority are satisfied with all aspects of their care, a higher proportion are more critical of such aspects as the cost of care than they are with personal characteristics of the physicians and the quality of care received (J.B. Knight Co., 1955; Aday and Andersen, 1975; Aday et al., 1980). Some reports (Aday and Andersen, 1975; Aday et al., 1980) indicate that most people are also less satisfied with the convenience of care. In addition, Ware and Snyder (1975) have shown that, although the profile of responses along various dimensions of satisfaction remains the same for individuals, there is a very strong tendency for all to rate an item referencing their own care somewhat higher than the same item when keyed to medical care in general. Knight (1955) found that individuals often report changing physicians due to dissatisfaction and that they are satisfied with their

present physician in most cases. This suggests that people tend to move from less satisfactory to more satisfactory care arrangements. General as opposed to personal dissatisfaction would thus arise from an individual's prior experience with unsatisfactory care.

There is also evidence of a tendency among some people to agree with statements of opinion which are presented to them in surveys regardless of content. Ware has documented the existence of such an "acquiescent response set" among a significant minority of the respondents in three field tests, using an instrument to detect this pattern (Ware, 1978).

Finally, people will often evaluate highly even those aspects of their care for which they report what would appear objectively to be burdensome experiences. For instance, even among those people who traveled over an hour for a recent medical visit, 65 percent expressed a high level of satisfaction with that amount of time to arrive at the doctor's office. Among those waiting thirty minutes to an hour to see a doctor, 41 percent expressed a high level of satisfaction with that office waiting time. And of the group who paid \$25 or more for an office visit in 1975, 43 percent were highly satisfied with that cost for the visit (Robert Wood Johnson Foundation, 1978).

Purpose of This Study

No one has tried to explain how a large portion of the public can believe in general that there is a crisis in medical care while expressing overall satisfaction with their care. The approach of this paper is to look at the group that holds both opinions simultaneously, the "paradoxical group," in comparison with two others: individuals who are satisfied with care but do not believe there is a crisis, and those who believe there is a crisis and who also are dissatisfied. Both of these latter groups hold opinions that seem more consistent. There is a fourth relatively small group of individuals, also paradoxical, that is not satisfied with its medical care but that does not believe there is a crisis. Although results for this group are presented along with the rest, because it is a relatively insignificant (if curious) group, it is not included in the hypotheses formulated below. Figure 1 delineates the four groups in question.

After describing the data for this analysis, we will present a table

Paradoxical Agree: Crisis in health care Agree: Satisfied with medical care	Consistent Agree: Crisis in health care Disagree: Satisfied with medical care
Consistent Disagree: Crisis in health care Agree: Satisfied with medical care	Paradoxical Disagree: Crisis in health care Disagree: Satisfied with medical care (insignificant group)

FIG. 1 Typology of groups responding to key statements about the health care system.

showing the percent of the population who apparently comprise each group. This is followed by the series of hypotheses on why these groups may differ (and what the crisis really means to them) based on the literature reviewed above and expectations that flow from the research carried out to date.

Finally, the hypotheses will be tested singly and then as a group to see which may enlighten us about the meaning of the “crisis” in medical care to the U.S. population.

The Data

The data are from a national survey of access to medical care carried out by the Center for Health Administration Studies (CHAS) and the National Opinion Research Center (NORC) of the University of Chicago in 1975 and 1976. The study includes interviews with one adult and one child (interviewed by proxy) chosen at random from a probability sample of households drawn from the noninstitutionalized population of the United States (see Aday et al., 1980, for additional detail on the sample). The 5,432 adults in the sample were asked to respond to a health-opinions questionnaire which included the health crisis item and a series of 43 satisfaction statements (Ware and Snyder, 1975; Ware, 1976). The 5,047 individuals who responded both to the crisis item and to an item measuring general satisfaction with one’s own care were selected for the analysis. In some of the

analyses below the actual number of cases involved in a comparison varies somewhat from this number due to the universe of respondents eligible to respond to a specific question. For instance, in comparisons involving the respondent's most recent medical visit, only 3,630 individuals are included. Only 2,379 individuals are included in some comparisons involving satisfaction with cost of the most recent visit. Although a small percent of cases in each analysis are missing due to item nonresponse (usually around 5 percent), the number of cases varies principally due to the fact that certain questions are applicable only for a subset of the population. Cases are differently weighted according to probability of inclusion in the sample to represent all noninstitutionalized adults (persons 17 or over) in the United States.

Variables used in the analyses include the health crisis item, a series of forty-three satisfaction statements, questions on the respondent's most recent medical visit, information concerning the number of visits of respondents to doctors and hospitals during the previous year, and the education level of the respondent. A detailed description of these items and the CHAS-NORC 1976 questionnaire can be found in Aday et al. (1980).

The crisis item and the first of the satisfaction statements were of particular interest. Respondents were asked whether they "strongly agree," "agree," were "uncertain," "disagree," or "strongly disagree" with the statement, "there is a crisis in health care today in the United States." In the same response format they were asked the extent to which they agreed with the statement, "I'm very satisfied with the medical care I receive."

Responses to these items were collapsed into two groups: those who agreed and those who were uncertain or disagreed. The responses of those who were uncertain (26 percent on the crisis question and 9 percent on the satisfaction question) were combined with those who disagreed for theoretical reasons. We were really interested in the paradoxical group in comparison with those who did not clearly support conflicting statements, and the uncertain group is ambiguous in this regard. Moreover, we did carry out some tests omitting the uncertain group, and these tests led to the same final conclusions.

As illustrated in Table 1, when the dichotomous responses were cross-classified and weighted-cell proportions computed, 48 percent of the respondents reported both that they were satisfied, and that there was a crisis. This group is referred to below as the "paradoxical"

TABLE 1
Percent of the Population Who Hold Each Pair of Beliefs on Items
Measuring Satisfaction in Medical Care and Belief in a Crisis

		Satisfied with Medical Care		
		Agree	Uncertain or Disagree	
Crisis in Medical Care	Agree	48%	13%	61%
	Uncertain or Disagree	34%	5%	39%
		82%	18%	100%

(N = 5,047)

group, and is the subject of this study. In comparison, 34 percent were satisfied and believed there was no crisis, and only 13 percent were dissatisfied and believed there was a crisis. Finally, only 5 percent were dissatisfied but believed there was no crisis or were uncertain on both items.

Hypotheses

The above review of the literature suggests some ways of explaining the paradox. All of the following hypotheses compare the “paradoxical” group with the other two relatively large groups, the “consistent” groups.

Hypothesis 1: The paradoxical group rates its own medical care higher, compared to its rating of the public’s care, than do the consistent groups.

The satisfaction item was phrased with a personal referent—“I’m very satisfied . . .” Perhaps those who agreed that there was a crisis were personally satisfied but believed that care, in general, for most of the population was not as good as their own. As pointed out above,

individuals express greater satisfaction on personally worded items than on general statements.

Accordingly, it was possible to divide the remaining 42 satisfaction items of the series into 11 personally worded (referent in the first person) items and 31 general (referent in the second or third person) items. An example of a personally worded item is "If I have a medical question I can reach someone for help without any problem," and an example of a generally worded item is "In an emergency it's very hard to get medical care quickly."

The item scores were then corrected for polarity of wording (some were worded such that agreement indicated endorsement of the system and others such that agreement showed criticism of the system) and a mean personal and mean general dissatisfaction score were computed over the items.*

The hypothesis suggests that, when the personal dissatisfaction score is subtracted from the general dissatisfaction score, those who said they were satisfied with their care and that there was a crisis will show a greater mean difference than will those with less paradoxical responses.

Hypothesis 2: The paradoxical group rates the humane aspects of medical care higher compared to other aspects of care than do the consistent groups. "Other aspects" include financing, availability, and convenience.

As pointed out above, people evaluate health care along certain consistent dimensions. General satisfaction seems to be more related to provider (physician) characteristics than to satisfaction with cost and convenience (Andersen et al., 1979). Also, the media has attached the term crisis to issues of cost, access, and availability more often than to the personal characteristics of physicians. It was thus expected that individuals in the paradoxical cell would show a greater discrepancy between their level of satisfaction with, on the one hand, financial, availability, and convenience aspects of care and, on the

* Where this series of 42 items is combined, if an individual responded to more than 20 of them, a missing response was counted as a neutral response. If more than 20 were not answered, the case was not included in analysis.

other, their physicians' personal characteristics than would those in the two comparison groups.

The 43 satisfaction statements used in the analysis are composed of groups of items measuring various dimensions (Aday et al., 1980; Ware and Snyder, 1975; Ware et al., 1976). Thus three difference scores were computed by subtracting the humaneness subscale score from the financial, availability, and access subscales in turn.

Examples of items from these four scales are as follows: from the humaneness subscale—"Doctors always treat their patients with respect"; from the financial subscale—"The amount charged for medical care services is reasonable"; from the availability subscale—"There is a big shortage of family doctors around here"; and, from the convenience subscale—"It's hard to get an appointment for medical care right away." There are eight items on the humaneness scale, six on the financial scale, five on the availability scale, and eight on the convenience scale.

A separate but parallel set of measures for this hypothesis was devised from a series of satisfaction items relating to the most recent medical visit. Using these as well, difference scores were computed by subtracting the mean of a series of items indicating dissatisfaction with physician characteristics from dissatisfaction ratings for cost and waiting time for the most recent visit.

Using all of these pairs of measures from both the 43 item scales and the recent medical visit, it was hypothesized that those in the paradoxical cell would show a greater mean difference than would those in the nonparadoxical cells.

Hypothesis 3: The paradoxical group is more apt to have yeasayers than are the consistent groups.

Both the crisis item and the satisfaction measure were worded such that agreement with them would place the individual in the paradoxical cell. If some individuals tend to respond in agreement with all items due to an acquiescent ("yea-saying") response style, they could cause the paradoxical group to be especially large. Using Ware's (1978) method of matched pairs and four pairs of items in the 43-item satisfaction questionnaire that were repeated twice, once with positive and once with negative wording, it was possible to assign a "yea-saying" score to each individual by counting the number of

pairs for which the individual responded in agreement. Those who gave such a "yea-saying" response at least once were considered "yea-sayers" for purposes of computing percentages. It was hypothesized that a relatively larger percentage of "yea-sayers" would appear in the paradoxical cell.

Hypothesis 4: The paradoxical group is more incongruent in evaluating its medical care experiences than are the consistent groups.

As pointed out above, a large percentage of those who have apparently unfavorable experiences seem to still evaluate them highly. The paradoxical individuals may be of this group. They may be manifesting a general denial mechanism, feel under social pressure to be approving, or believe in the legitimacy of their own care regardless of the objective experiences they perceive (Fleming, 1977).

In order to test this hypothesis a congruence scale was constructed using seven experience-attitude pairs of items from the recent medical visit portion of the survey. The experience items included reported waiting time for an appointment, travel time, office waiting time, time spent with the doctor, travel cost, cost for the visit, and rating of amount of information given by the doctor. A parallel satisfaction item was paired with each objective report. Median splits on the experience items were used to determine if the individual measured high or low on the characteristics of care received. If an individual reported "completely satisfied" or "mostly satisfied" for a satisfaction item in a pair and it was determined that that person's corresponding time or money spent was excessive (greater than the median) or the amount of time or information given by the doctor was relatively small (less than the median), one point was added to the person's "congruence" score. Conversely, if respondents indicated less satisfaction than their experience warranted, one was subtracted from the score. After summing over the pairs of items, the score was divided by the number of pairs without missing data to compute a mean congruence score. A positive score on this measure indicates that the individual tended to be more satisfied than the experience warranted and a negative score indicates a tendency to be less satisfied than objectively justified. A zero score indicates a "congruent" response pattern, with a level of satisfaction appropriate to the objective experience.

It was expected that individuals in the paradoxical cell would tend to have a higher positive score on this measure than would those in the other two cells in question.

Hypothesis 5: The paradoxical group uses less medical care than do the consistent groups.

Individuals who have had very little personal contact with the health care system might base their evaluations on what they read in the popular press rather than on more objective information. As indicated above, there has been a proliferation of articles in popular magazines and newspapers pronouncing a crisis of national magnitude in the health care system, dating all of the way back to the early 1960s. Individuals without much personal contact in the system might be expected to develop a belief in a health care crisis from reading these articles even if they have no grounds for being dissatisfied. This would result in their appearing paradoxical.

Specifically, it was expected that individuals in the paradoxical cell would have had fewer visits to the doctor during the past year and a smaller percentage would have been hospitalized.

Hypothesis 6: The paradoxical group is more likely to have intermediate levels of education than the consistent groups.

The same rationale as hypothesis 5 suggests that individuals of an intermediate educational level would be more likely to embrace opinions based on articles in the popular media. It was expected that people with less education would be less likely to read and absorb ideas from the popular press and people with a college education would be influenced by more in-depth analysis of the health care system and reflection on their own experiences. Therefore we anticipated that a relatively greater percentage of individuals with a high school diploma but no college education would appear in the paradoxical cell than would individuals with either more or less education.

Statistical Methods

In order to determine what respondent characteristics distinguished those individuals who were both satisfied and believed there to be

a crisis from the other groups of interest in Table 1, cell means for continuous variables indicated by the hypotheses and cell proportions for qualitative variables were estimated. Comparisons were made between the paradoxical group and, on the one hand, those who believed that there was a crisis but were not satisfied and, on the other, those who were satisfied and did not believe that there was a crisis (the two "consistent" groups). In all comparisons two-tailed z tests were used to compare cell means or cell proportions (Blalock, 1972). The z statistics were adjusted as described in Aday et al. (1980) by dividing by the square root of the sampling design effect.

Results

Although 48 percent simultaneously agree that there is a crisis and yet are personally satisfied, this percentage is not larger than would be expected given the percentage of the total who are satisfied and the percentage who believe that there is a crisis. The tests of the six hypotheses support the position that these individuals in fact discriminate between their own health care, with which they are generally satisfied, and health care in the nation as a whole, which they see as a crisis situation. Results for the specific hypotheses are as follows:

- 1) The cell entries in Table 2 represent the average scores given for the items representing satisfaction with medical care in general minus averages for the respondents' personal health care experiences. It is clear that those who believe that there is a crisis and yet appear satisfied with their own care are relatively more dissatisfied with general aspects of care than their own personal health care ($p < .0001$) compared to the other two groups of interest.

- 2) Table 3 displays the test of hypothesis 2 that higher levels of dissatisfaction with factors of cost, convenience, and availability, in comparison to provider characteristics, would be indicative of membership in the paradoxical cell. The first results listed are based on the 43 satisfaction statements while the last two are based on recent medical visit items.

The differences between the paradoxical cell and the other cells are most pronounced for tests based on subscales from the 43 statements. These statements are presented in a context of evaluation of care

TABLE 2
Average Scores on the General Minus Average Score on the Personal
Statements of Satisfaction with Medical Care for Groups Holding
Each Pair of Beliefs^a

		Satisfied with Medical Care	
		Agree	Uncertain or Disagree
Crisis in Medical Care	Agree	.53	.34
	Uncertain or Disagree	.42	.25

$$Z (.53 - .34) = 7.87^*$$

$$Z (.53 - .42) = 6.36^*$$

$$* p < .001$$

^aSee Appendix Table for average scores on the general and personal scales.

received over the entire past year whereas the recent medical visit items refer to a specific visit to the doctor. The more general the context, the more clearly the hypothesis is supported. In contrast to dissatisfaction with the humaneness of their personal physician, the paradoxical individuals are particularly dissatisfied with the cost of care and with the availability of care, compared to the respondents in the two comparison groups ($p < .0001$). They are also somewhat more dissatisfied with convenience aspects of care than with humaneness.

These findings are corroborated by measures of satisfaction with waiting time versus satisfaction with provider characteristics from the data on the most recent medical visit. They are not confirmed in the findings using satisfaction with cost of the most recent medical visit and satisfaction with provider characteristics.

3) Table 4 displays results for hypothesis 3. As measured by responses on the four matched pairs of satisfaction items, 15.5 percent of those in the paradoxical cell showed an acquiescent response pattern on at least one pair of items while of those who said that there was a crisis and were not satisfied, 11.9 percent acquiesced, and 13.0 percent of those who were satisfied and said that there was no crisis

TABLE 3

Average Scores on Satisfaction with Financial, Convenience, and Availability of Care Minus Average Scores on Satisfaction with Provider Characteristics for Groups Holding Each Pair of Beliefs^a

Scores	Paradoxical Group: Satisfied with care = agree Crisis in care = agree	Consistent Group: Satisfied with care = uncertain/disagree Crisis in care = agree	Consistent Group: Satisfied with care = agree Crisis in care = uncertain/disagree	Satisfied with care = uncertain/disagree Crisis in care = uncertain/disagree
<i>Referent: Care over past year</i>				
Financial-Humaneness	.78	.58	.61	.47
Availability-Humaneness	.58	.25	.41	.04
Convenience-Humaneness	.02	-.04	-.05	-.10
<i>Referent: Recent medical visit</i>				
Cost—MD characteristics	.79	.85	.64	.45
Waiting time—MD characteristics	.57	.40	.45	.30

$Z(.78 - .58) = 5.10^*$ $Z(.78 - .61) = 6.11^*$
 $Z(.58 - .25) = 6.21^*$ $Z(.58 - .41) = 4.55^*$
 $Z(.02 - (-.04)) = 1.72^{***}$ $Z(.02 - (-.05)) = 2.81^{**}$
 $Z(.79 - .85) = -.53$ $Z(.79 - .64) = 1.95$
 $Z(.57 - .40) = 1.93^{***}$ $Z(.57 - .45) = 2.02^{***}$

* $p < .0001$ ** $p < .01$ *** $p < .05$

^a See Appendix Table for average scores on each of the scales used to create these difference scores.

TABLE 4
Percent of the Population Who Showed Acquiescent Response Patterns for Groups Holding Each Pair of Beliefs.

	Paradoxical Group: Satisfied with care = agree Crisis in care = agree	Consistent Group: Satisfied with care = uncertain/disagree Crisis in care = agree	Consistent Group: Satisfied with care = agree Crisis in care = uncertain/disagree	Satisfied with care = disagree Crisis in care = uncertain/disagree
reents				
ea-sayers	15.5%	11.9%	13.0%	10.1%
ay-sayers	10.8	11.4	9.9	10.5

$Z(.155 - .119) = 1.81^*$ $Z(.155 - .130) = 1.80^*$
 $Z(.108 - .114) = -.31$ $Z(.108 - .099) = .70$

* $p < .05$

acquiesced. These differences were marginally significant. The present results indicate that although acquiescence ("yea-saying") may partially explain membership in the paradoxical cell it was not a powerful explanation.

4) Table 5 indicates that hypothesis 4 was not confirmed. On the one hand, as anticipated, the paradoxical group is less congruent in evaluating their care than people who believed there is a crisis and are not satisfied with their medical care ($p < .0001$). However, our expectation that the paradoxical group would be less congruent than those not believing there is a crisis but satisfied with their medical care was not confirmed.

5) It was also hypothesized that individuals in the paradoxical cell were likely to have had relatively less contact with the health care system. Table 6 shows that this was not the case. In fact, a greater percentage of individuals in the paradoxical cell than in the other groups had been hospitalized during the survey year. Further, they appear to have a higher mean number of visits than one of the consistent groups. None of the differences found were significant.

6) Table 7 indicates that there was not a greater percentage of individuals with just a high school diploma in the paradoxical cell. In fact, individuals in the paradoxical cell included a wide mix of

TABLE 5
Mean Congruence Scores on Experiences and Satisfaction with Most Recent Medical Visit for the Groups Holding Each Pair of Beliefs

Satisfied with Medical Care			
	Agree	Uncertain or Disagree	
Crisis in Medical Care	Agree	.28	.20
	Uncertain or Disagree	.30	.22

$$Z(.28 - .20) = 4.90^* \quad Z(.28 - .30)$$

* $p < .0001$

TABLE 6
Utilization of Medical Services by Those in the Groups Holding Each Pair of Beliefs

Utilization of Medical Services	Paradoxical Group: Satisfied with care = agree Crisis in care = agree	Consistent Group: Satisfied with care = uncertain/disagree Crisis in care = agree	Consistent Group Satisfied: with care = agree Crisis in care = uncertain/disagree	Satisfied with care = uncertain/disagree Crisis in care = uncertain/disagree
Percent Hospitalized	14.3	12.9	12.3	8.9
Mean physician visits	4.73	4.82	4.26	3.84

$Z(.143 - .129) = .69$ $Z(.143 - .123) = 1.39$
 $Z(4.73 - 4.82) = -.18$ $Z(4.73 - 4.26) = 1.30$

TABLE 7
Percent with Medium Education Level (High School Diploma) for Groups
Holding Each Pair of Beliefs

Satisfied with Medical Care			
		Agree	Uncertain or Disagree
Crisis in Medical Care	Agree	38.1%	41.7%
	Uncertain or Disagree	40.6%	31.5%

$$Z(.381 - .417) = -1.07$$

$$Z(.381 - .406) = -1.05$$

educational levels including a substantial number who had at least some college education.

In addition to the above comparisons a discriminant analysis was carried out to see if a combination of the measures that distinguished the paradoxical group might together explain a substantial portion of the variance between this group and the others. Initially the difference between general and personal dissatisfaction and the difference between satisfaction with access, availability, and the financial aspects of care versus humaneness of the doctor were entered as predictors. The access difference measure did not provide a significant independent contribution to prediction of membership in the paradoxical cell and was therefore eliminated.

The variables testing the hypotheses using questions addressing the most recent medical visit were not included here because they pertain to a subset of the population only and inclusion of them would create methodological problems. In addition, they did not yield as powerful predictors of the paradoxical cell as did the general satisfaction items. The measurement of "yea-saying" was omitted because it did not contribute significantly to the discriminant function once the other variables were entered.

The standardized discriminant-function coefficients for the variables finally retained in the discriminant analysis were: 0.719 for the general

TABLE 8
Prediction Results from Discriminate Analysis^a

Assignment of Cases	Actual Group Membership		
	Paradoxical Group: Satisfied with care = agree Crisis in care = agree	All others	Total
uses correctly assigned	25.8% (2,004) ^b	34.5% (2,685)	60.3% (4,689)
uses incorrectly assigned	22.7 (1,767)	17.0 (1,322)	39.7 (3,089)
	48.5 (3,771)	51.5 (4,007)	100 (7,778)

^a The unstandardized discriminant function is: $y = -1.462 + 1.823 \text{ GPDIF} + 0.718 \text{ FINDIF} + 0.315 \text{ AVADIF}$ where GPDIF is the general minus personal scale difference, FINDIF is the financial minus humaneness scale difference, and AVADIF is the availability minus humaneness scale difference.

^b All Ns are weighted.

versus personal dissatisfaction measure, 0.478 for the financial versus humaneness difference, and 0.277 for the availability difference. These coefficients indicate the relative importance of each of the three measures in predicting membership in the paradoxical cell. The canonical correlation was .23, suggesting that about 5 percent (the correlation squared) of the variance in the classification variables was accounted for by group membership.

Table 8 shows how successful we are at predicting group membership using this function. The unstandardized discriminant function appears as a footnote to Table 8. Sixty percent of all cases were correctly classified. This is an improvement of 8 percent over the 52 percent that would have been correctly classified if all individuals were classified according to prior probabilities and therefore classified as 'nonparadoxical. These results suggest our explanations for the paradox tell part of the story but much of the paradox remains unexplained.

Summary and Implications

This paper has investigated a perplexing result that has been consistently revealed in national survey data. Although many people express high levels of satisfaction with their medical care, they also believe there is a crisis in medical care in the U.S. Six hypotheses were presented above describing characteristics that might distinguish people who held both these beliefs from persons who held more apparently consistent beliefs.

Of the possible explanations for this phenomenon, the most important one is the tendency for the group with the paradoxical views to see care in general as inferior to their own. Although all groups believe their care is better than care in general, this tendency is considerably greater for the paradoxical group. This likelihood that people will give the "paradoxical" response is increased if evaluations of the costs of care are considerably more negative than their evaluation of the interpersonal qualities of physicians and if their satisfaction with the availability of services is considerably less than their assessment of the interpersonal qualities of physicians.

This analysis also identified certain attributes that were not predictive of the "paradoxical group." They had only a slightly greater tendency to be "yea-sayers." They were not less congruent in evaluating recent medical visits. They were certainly not less frequent

utilizers of the system as hypothesized, nor distinguished from others by their educational level.

While the discriminant function analysis shows that we have significantly increased our understanding of the paradoxical group, much of the paradox remains. This means that the mystery of this combination of responses is not resolved here, and might be an interesting area for further research. For instance, as we have documented above, a vast popular literature exists on the crisis in medical care. It is still unclear whether or not those who say there is such a crisis have been more exposed to this literature than the others, and to which sources. It would be of interest to know more directly what they perceive as the content of this crisis.

From a policy point of view, this analysis belongs to a tradition of social science research, and indeed of political thought, that turns to the consumer for evaluation of the system and for the meaning of such terms as "crisis." Policy makers might note that problems of costs and availability of care are more indicative of the crisis to the public than is the personal behavior of the doctor (e.g., problems in the doctor-patient relationship). However, dissatisfaction with service is limited to a minority of the population. Most people who support the crisis statement apparently see other peoples' care as generally worse than their own. This is by definition an incorrect assessment since we are dealing with a national sample. Consequently, one implication of this analysis is that the public needs to be better informed about the health care experiences of the majority of others. If they were, we might either find a smaller percentage agreeing that there is a crisis or a clearer pinpointing of the crisis to financial, availability, or other factors.

References

- Aday, L.A., and Andersen, R. 1975. *Access to Medical Care*. Ann Arbor: Health Administration Press.
- Aday, L.A., Andersen, R., and Fleming, G.V. 1980. *Health Care in the U.S.: Equitable for Whom?* Beverly Hills: Sage.
- Allen, R.M. 1976. Medical Malpractice: A Sociocultural Crisis. *Psychiatric Annals* 6:678-682.
- Andersen, R., Fleming, G.V., and Aday, L.A. 1979. *The Consumer Viewpoint: "What is Health Care and What Do We Want?" and a*

- Response*. DHEW Publication (HRA) 79-632. Washington, D.C.: U.S. Government Printing Office.
- Andersen, R., Kravits, J., and Anderson, O.A. 1971. The Public's View of the Crisis in Medical Care: An Impetus for Changing Delivery Systems? *Economic and Business Bulletin* 24:44-52.
- Armstrong, W.T. 1971. The Health Crisis and the National Medical Association. *Journal of the National Medical Association* 6:469-480.
- Baumgartner, L. 1971. Medicine and Society—New Issues. *Proceedings of the American Philosophical Society* 115:335-340.
- Blalock, H.M. 1972. *Social Statistics*. New York: McGraw-Hill.
- Bowler, M.R., Kudrle, R.T., Marmor, T.R., and Bridges, A. 1977. The Political Economy of National Health Insurance. *National Health Insurance* 2:100-133.
- Carlson, R.J. 1975. *The End of Medicine*. New York: John Wiley.
- Crane, J.L., and Legeay, S.P. 1979. Dimensions of Crisis in American Health Care: Toward a General Theory of Crisis in Health Care. *Social Science and Medicine* 13A:387-396.
- Falkson, J.L. 1980. *HMOs and the Politics of Health Systems Reform*. Bowie, MD: Prentice-Hall; Chicago: American Hospital Association, pp. 6-7.
- Fleming, G.V. 1981. Hospital Structure and Consumer Satisfaction. *Health Services Research* 16:43-63.
- Fleming, G.V. 1977. Patient Satisfaction as an Expression of Legitimacy. (Unpublished University of Chicago Ph.D. dissertation.)
- Fuchs, V.R. 1974. *Who Shall Live? Health, Economics and Social Choice*. New York: Basic Books.
- Hulka, B.S., Zyzanski, S.J., Cassel, J.C., and Thompson, S.J. 1971. Satisfaction with Medical Care in a Low-Income Population. *Journal of Chronic Disease* 24:661-673.
- Illich, I. 1975. *Medical Nemesis*. London: Calder and Boyers.
- Kennedy, E.M. 1972. *In Critical Condition. The Crisis in America's Health Care*. New York: Simon and Schuster.
- J.B. Knight Co. 1955. Public opinion survey made for Los Angeles County Medical Association. (Unpublished.)
- Lander, L. 1976. Malpractice Crisis. *Health Policy Advisory Center Bulletin* 68.
- Life*. 1959. Challenge of Mounting Expenses. 47:82-84.
- Milke, L.M. 1976. Long-Range Implications of the Medical Malpractice Insurance Crisis. *Journal of Legal Medicine* 4:9-13.
- Navarro, V. 1973. National Health Insurance and the Strategy for Change. *Milbank Memorial Fund Quarterly/Health and Society* 51:223-251.
- Ramey, I.G. 1974. Crisis in Health Care: Fact or Fiction. *Health Care Issues* 1 (Fall):17-27.

- Robert Wood Johnson Foundation. 1978. America's Health Care System: a Comprehensive Portrait. *Special Report Number 1*. Princeton, N.J.: Robert Wood Johnson Foundation.
- Sidel, V.W., and Sidel, R. 1977. *A Health State, An International Perspective on the Crisis in United States Medical Care*. New York: Pantheon Books.
- Silver, G.A. 1976. *A Spy in the House of Medicine*. Germantown, Md.: Aspen Systems Corporation.
- Smith, R. 1972. Family Medicine and the Health Care Crisis in the United States. *International Journal of Health Services* 2:207-215.
- Somers, H.M. 1977. The Malpractice Controversy and the Quality of Patient Care. *Milbank Memorial Fund Quarterly/Health and Society* 55:193-232.
- Strickland, S.P. 1972. *U.S. Health Care, What's Wrong and What's Right*. New York: Universe Books.
- Terris, M. 1973. Crisis and Change in America's Health System. *American Journal of Public Health* 63:313-318.
- Time. 1960. Price of Health. 75:62.
- U.S. News and World Report. 1960. Talk about Medical Costs; They're Not Only for Old People. 48:78-80.
- U.S. News and World Report. 1962a. Crisis Ahead in Medical Care? What the Facts Show. 52:68-72.
- U.S. News and World Report. 1962b. Crisis That Medical Care Is Bringing to Canada. 52:63-67.
- U.S. News and World Report. 1964. Is Socialized Medicine on the Way for US? 57:40-44.
- Ware, J.E. 1978. Effects of Acquiescent Response Set on Patient Satisfaction Ratings. *Medical Care* 16:327-336.
- Ware, J.E., and Snyder, M.K. 1975. Dimensions of Patient Attitudes Regarding Doctors and Medical Care Services. *Medical Care* 13:669-682.
- Ware, J.E., Snyder, M.K., and Wright, W.R. 1976. *Development and Validation of Scales to Measure Patient Satisfaction with Health Care Services*. Volume I of a final report, Part B. Prepared for the National Center for Health Services Research, Department of Health, Education and Welfare. Publication No. PB-288-330. Springfield, Va., National Technical Information Service.

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APPENDIX TABLE
Mean Scores on Satisfaction Scales Used to Compute Differences for Hypotheses 1 and 2 for Each of the Four Groups^a

Scales	Groups			
	Paradoxical Group: Satisfied with care = agree Crisis in care = agree	Consistent Group: Satisfied with care = uncertain/disagree Crisis in care = agree	Consistent Group: Satisfied with care = agree Crisis in care = uncertain/disagree	Satisfied with care = uncertain/disagree Crisis in care = uncertain/disagree
<i>Hypothesis 1</i>				
General Medical Care scale	2.9720	3.4043	2.7767	3.1616
Personal Medical Care scale	2.4416	3.0647	2.3538	2.9093
<i>Hypothesis 2</i>				
<i>Referent: Care over past year</i>				
Humaneness scale	2.6533	3.1990	2.5397	3.0212
Financial scale	3.4350	3.7837	3.1447	3.4874
Availability scale	3.2286	3.4476	2.9500	3.0607
Convenience scale	2.6732	3.1623	2.4884	2.9189
<i>Referent: Recent medical visit</i>				
MD characteristics ^b	1.4003	2.3786	1.3989	2.3967
Cost	2.1853	3.2244	2.0400	2.8454
Waiting time	1.9798	2.7298	1.8571	2.6189

For all scales, higher scores signify greater dissatisfaction.

^a This scale has slightly different values in the computations with satisfaction with cost, since cases where people paid no charges out of pocket were excluded from the satisfaction with cost variable and therefore were also excluded on satisfaction with MD characteristics for those difference scores.