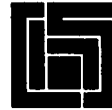


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**health beliefs
of the u.s. population
implications for
self-care**

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FOREWARD

The health field has come full cycle, or so it seems, from past exhortations to see your doctor early to current exhortations to become more independent of the medical profession through self-care. Perhaps these views are not contradictory. The happy medium would be a population knowledgeable and mature enough to recognize what symptoms can be treated at home or ignored, and what symptoms clearly need an expert's attention and intervention. In view of the current drive toward the training of more primary care physicians, the self-care movement may give them less to do, but more interesting and significant illnesses to deal with.

The Center for Health Administration Studies tries to engage in anticipatory discussions and research in a rapidly changing field. The self-care movement has recently surfaced, but data on the public's concept of self-care in relation to dependence on the medical profession is sparse. Recently a conference on self-care was sponsored by the National Center for Health Services Research, with the aim of assessing our current knowledge in this field. This paper was originally prepared for that gathering. The household surveys analyzed in this report, although not focused on self-care, have some residual information which we hope warrants their separate analysis and publication. We regard it as a starter in helping to lay the groundwork for further empirical research on the self-care phenomenon.

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HEALTH BELIEFS OF THE U.S. POPULATION — IMPLICATIONS FOR SELF-CARE

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A newly-defined approach to health is gaining momentum in this country — the "self-care" movement. Some of those most active in developing projects in this area will point out that the idea itself is not new, for it encompasses a tradition of home remedies and self-treatment as old as human life. But it does imply a dramatic reaction to the direction that medical care has taken in recent times, as more and more responsibility for the health of individuals has been handed over to professionals.

"Self-care" has been defined by Lowell Levin as "a process whereby a lay person can function effectively on his own behalf in health promotion and prevention and in disease detection and treatment at the level of the primary health resource in the health care system."¹

Levin links the new interest in self-care to the more general spirit that emerged in the 1960's — the era when large sectors of the American population began to focus on the gap between our spoken values and practices concerning them. The civil rights movement of the 1960's, the more recent women's liberation struggle, as well as efforts to improve the deteriorating environments of cities are important examples among many attempts to cure the causes of this disillusionment. But in order to carry through such activities, it was

1. Levin, Lowell, "The Layperson as the Primary, Primary Health Care Practitioner," paper adapted from an address given at the Patient Education Symposium sponsored by the Department of Social Perspectives in Medicine, University of Arizona (March, 1975).

necessary to challenge institutions that had always been considered very close to the central values of the nation and whose authority had rarely been questioned. As a result, it is no longer taboo to question the domain of control of such esteemed institutions as medicine.¹ The new self-care movement posits that it is reasonable for average individuals to share responsibility once considered inalienably that of the professional medical corps.

The purpose of this paper is to examine the evidence available to date from research treating health beliefs that Americans are sympathetic to the self-care movement.

Like other social movements, the focus on self-care is led by a relatively small group who are interested in seeing a basic change in ideology and social structure. Specifically, they are interested in altering attitudes toward health and treatment, and, consequently, behavior with respect to the medical care system. Their action has been carried out in arenas both parallel to the legitimate medical system and within it.² Unlike other social movements, however, the self-care effort has no central organization of prominence. Hence, apparent differences of opinion between the various chief spokesmen of the movement are not considered sources of disintegration or separate "factions" by its advocates. Thus, Ivan Illich, who presents a radical criticism of American society is seen as an ideological father of the self-care movement,³ yet most of the activities characteristic of that movement are carried out with more apparent commitment to existing American values than Illich expresses. This point is made because in the summary of some assumptions of the self-care movement presented below, an attempt is made to represent positions of several major proponents of the movement, even though in some cases various spokesmen of self-care seem to posit somewhat contradictory principles.

1. Assumptions of the Self-Care Movement

The self-care ideology is a combination of more or less traditional beliefs about health and medical care adjusted to a broader

philosophy about the importance of individual freedom of action and the dangers of dependency.

First of all, there is a notion that the value of medical care should not be given pre-eminence in our society.⁴ Some advocates of the self-care movement deny that part of its mission is to convince consumers to give *greater* importance to their health.⁵ Rather a goal appears to be to give people the knowledge and opportunity to make choices between medical care and other health seeking activities, and alternative uses of their time and money.

A second assumption is that people are not getting what they want from the system. They find the costs too high and at times they are simply unable to get the services they desire at all, or what they do receive seems to be delivered in an impersonal, uncaring manner.

A third fundamental theme is that people are better off being as independent as possible of technology and professionals. This is emphasized as a basic value. Independence and self-determination are joys in and of themselves.^{1,5} This assumption is elaborated by Carlsen in terms of an "emerging zeitgeist." He argues that our society is changing in a direction complementary to self-care.⁴ People are willing and eager to deliver their own primary care. They are tired of being dependent on others. Implications are that they feel competent to do this and estimate they have the time to do it.

A fourth accepted premise by most of the prime spokesmen of the movement is that some medical care is *necessary* for good health care, so that, if people are not to depend on professionals, then they must depend on themselves or other lay people to give it to them. Although some, such as Carlsen, may argue that a minimum of the skills of medical professionals are needed by most people,⁴ Sehnert and Kwitman have both developed programs on the assumption that quite a number of health services based on the traditional medical model and commonly delivered by professionals are required for good health care.^{6,7}

4. Carlsen, Rick, *The End of Medicine* (New York: John Wiley and Sons, 1975).

5. Illich, Ivan, *Medical Nemesis* (London: Calder and Boyars Ltd., 1975).

6. Sehnert, Keith W., "The Activated Patient: A Health Services Resource," paper presented to the Annual Health Forum, Ohio (1975).

7. Kwitman, Lois, "Adult Preventive Care," (Seattle, Washington: Group Health Cooperative of Puget Sound) Xerox (December 1974).

2. Ash, Roberta, *Social Movements in America*, (Chicago: Markham Publishing Company, 1972).

3. Levin, Lowell, in phone conversation (1975).

Finally, there is a conviction that people can be their own GPs — with a reasonable amount of proper training.^{1,6,7} The general public starts with intelligence and a knowledge base such that courses of reasonable length can provide suitable technical skills. In addition, lay people can use these techniques rationally in the treatment of themselves and the people they live with. As implied by the above, people who have learned to serve as their own GPs can use and manipulate the technically sophisticated aspects of the medical system more effectively if they have some elementary training in primary medical care. They can do some of the preliminary steps that the doctor would ordinarily carry out toward diagnosis and speak the doctor's language in communicating symptoms to him.^{6,7}

II. Review of Existing Research

The assumptions outlined above have been introduced and defended by exponents of self-care. Clearly, they represent a side of reality in this country. The intent of this portion of this paper is to look at the literature based on systematic research in the social sciences in order to discover *to what extent* the American public endorses these beliefs as well as similar notions that would imply an interest in self-care programs and activities. What sectors do these convictions most represent, and under what conditions are they most accurate?

First, it is useful to make a distinction between several types of beliefs, all of which will be dealt with here. Most basic are values. *Values* are "generalized conceptions of what is 'good' or 'bad'." Statements like "nothing is more important than your health" clearly reflect personal preferences. Another individual may maintain that it is more important to give money to the church than to seek care for bothersome physical symptoms. That one person is right or wrong cannot be established through any empirical investigation.

Attitudes are feelings about particular objects which "flow from" values. They are usually considered less stable than values for that reason.⁸ Statements like "if you wait long enough you can get over most any disease without getting medical aid" appear to be at-

titudes. It is presumed that if one can make a good argument, illustrated by examples, that this is not so, the attitude may change. It is, of course, possible that what appears to be an attitude of certain individuals is a very deep-seated value for others.

Finally, *knowledge* is verifiable information a person has about a subject.⁹ It incorporates beliefs which a society accepts as facts. In this case, knowledge includes beliefs about medical care which are more or less those of physicians and other health personnel. An example would be "open sores or ulcers that do not heal may be a sign of cancer." Knowledge is distinguished from attitudes in that it is more often learned through formal means of education — reading, lectures, communication from "experts" — and it is less subject to change through emotional appeals, but more subject to change through the assimilation of additional information than are attitudes and values.

Although these distinctions are empirically fuzzy at the boundaries, they are important, for the commitment people have to their values is generally stronger than it is to attitudes. In addition, knowledge is only as convincing as the belief in its source.

A. The Value of Health and Medical Services

How valuable is health, in general, to Americans?

And, are medical services, per se, considered important?

It appears that Americans may not place "medical care" high on their list of priorities, but "health" per se is very strongly valued.

A study done in 1963 by Mueller attempted to measure the relative value of various government programs through a sample survey of the U.S. population. She found that "hospital and medical care" was fifth among fourteen areas for government spending, ranked in terms of the percent of respondents (54%) who felt the government should spend "more" for it. She also asked those who said "more" if they meant this *even if* taxes had to be raised. Of ten areas rated, hospital and medical care ranked fifth, with 25 percent of the total

8. Proshansky, Harold and B. Seidenberg, *Basic Studies in Social Psychology*, (New York: Holt, Rinehart and Winston, 1965).

9. Andersen, Ronald, *A Behavioral Model of Families' Use of Health Services*, Research Series #25 (Chicago: Center for Health Administration Studies, University of Chicago, 1968).

group still saying yes.¹⁰ It is interesting that those programs which were "ahead" of hospital and medical care included: help for older people, help for needy people, education and slum clearance and city improvement, most of which, some have argued, have a bearing on health through preventive care.⁴ Those which were "behind" hospital and medical care included public works, defense, support for small business, highway construction and others — areas of expenditure which are rarely mentioned in terms of their effect on health.

A similar set of items was presented to respondents in a national survey carried out by the National Opinion Research Center. Again, a series of "problems" were identified to national samples of respondents, and they were asked to state for each whether we are spending "too much," "too little," or "about the right amount." It may be inferred that those areas in which the greatest numbers of respondents reported "too little" are the most *valued* areas of human activity (although, this inference does not account for the fact that already different amounts are being expended in the various sectors listed). The results from 1975, viewed in this way, indicate that of the choices given, "halting the rising crime rate" is most important (974 responded "too little"), followed by "improving and protecting the nation's health" (929), with the other choices following. These included, in order: "dealing with drug addiction" (817), "improving and protecting the environment" (795), "improving the nation's educational system" (728), "solving the problems of the big cities" (697), "improving the conditions of Blacks" (400), "welfare" (347), "the military, armaments and defense" (247), "space exploration program" (110), and "foreign aid" (81). It should be noted that the item dealing with the value of health is indeed very broad. Had the referent been more limited in scope, such as "hospital and medical care," the results may have been quite different.¹¹

One primary concern of methodologists in this area is that it is not realistic to infer relative values of areas such as those listed above

without forcing people to trade some off against the others, or at least rank them as to priority.^{12,13} Lehen and Koch present some analyses in which they had respondents rank the importance of various policies to them. Their findings showed that "build schools and help education" was the preferred area of expenditure for almost all the groups analyzed; however, "provide people with better health care" was also highly valued by all groups, although it sometimes vied for second place with "cut taxes" or "end water and air pollution."¹³

B. Consumer Satisfaction with Existing Medical Services

*What are consumers' current evaluations of the medical care system?*²

Only in recent years have researchers begun to focus on this question. Data from a national sample in 1970 showed that 76 percent of the population interviewed in a survey agreed with the statement: "There is a crisis in health care today in the United States." In addition, a series of questions were asked about respondents' satisfaction with the medical care which "you and those close to you have received over the past few years from doctors and hospitals." Items were designed to tap satisfaction with overall quality of care received, as well as various aspects of the convenience of services, costs, courtesy, information, and coordination. For all items a minority of the population as a whole said they were "unsatisfied" or "very unsatisfied" as opposed to "satisfied" or "very satisfied" with care received. However, 38% of the public were unsatisfied with costs. Also, 43% were unsatisfied with the availability of care on the weekends and 37% with the waiting time in doctors' offices, both aspects of the convenience dimension. At the other extreme, less than 10% said they were unsatisfied with the courtesy of doctors, the courtesy of nurses, information about what should be

10. Mueller Eva, "Public Attitudes Toward Fiscal Programs," *Quarterly Journal of Economics* 77 (1963) pp. 210-235.

11. Davis, James, *National Data Program for the Social Sciences: Codebook for the Spring 1975 General Social Survey* (Chicago: National Opinion Research Center, University of Chicago, July).

12. Clark, Terry, "Can You Cut a Budget Pie?" *Policy and Politics* 3 (No. 2) (December 1974) pp. 3-31.

13. Lehen, Robert and G. Koch, "Measuring Public Preferences Toward Policy Alternatives: A Generalized Categorical Approach for Ranked Data," paper presented at 70th Annual Meeting of the American Sociological Association (August 1975).

done at home to treat illness, and follow-up care after an initial treatment or operation.¹⁴

Further analyses of these items indicate two strong underlying factors or dimensions, one relating to costs and convenience and the other to aspects of medical care closer to the professional and personal characteristics of health personnel. Whereas the public appears to be quite critical of the first dimension of health care, the second draws censorship from only about a ten percent minority of Americans.¹⁵ Other researchers, with different instruments to measure satisfaction with medical care and various populations, have discovered the same two dimensions of public evaluation of medical services. The cost-convenience dimension is most highly criticized. On the other hand, evaluations of the quality of care received and the personal characteristics of physicians are very closely related and much more likely to be positive.^{16,17,18}

Is satisfaction with medical care indeed an evaluation of what happens to people in the medical system?² Or, is it more related to other attributes of individuals?

It is perplexing that so many people believe there is a crisis in health care in general and are apparently impressed with the gravity of the issue,¹⁹ yet they express satisfaction with what they themselves are receiving. It is possible that expressions of satisfaction with the medical care system should not be taken too seriously as a mandate to retain the status quo. One way to explore this issue is to see what variables seem to affect the measures of satisfaction used.

14. Andersen, Ronald *et al.*, "The Public's View of the Crisis in Medical Care: An Impetus for Changing Delivery Systems?" *Economic and Business Bulletin* 24 (No. 1) (Fall, 1971) pp. 44-52.

15. Aday, Lu Ann and R. Andersen, *Access to Medical Care* (Ann Arbor, Michigan: Health Administration Press, 1975).

16. Hulka, Barbara *et al.*, "Satisfaction with Medical Care in a Low-Income Population," *Journal of Chronic Disability* 24 (1971) pp. 661-673.

17. Hulka, Barbara *et al.*, "Correlates of Satisfaction and Dissatisfaction with Medical Care: A Community Perspective," *Medical Care* 13 (August, 1975) pp. 648-658.

18. Ware, John and M.K. Snyder, "Dimensions of Public Attitudes Regarding Doctors and Medical Care Services," *Medical Care* 13 (August 1975) pp. 669-682.

19. Marmor, T., "The Politics of National Health Insurance: Analysis and Prescription," *Policy Analysis* (to be published Winter 1976).

It is clear in an analysis by Aday and Andersen of the 1970 survey items mentioned above, that certain personal attributes of individuals are related to their evaluations of health care received. These include age (with the young more critical), race (with the non-whites more critical on most items), and poverty level (with the poor more critical on slightly over half the items). However, it is also clear that certain attributes of the system affect these evaluations substantially. For instance, those people who have no regular source of care or whose regular source of care is a clinic where they have no personal physician are more dissatisfied with most aspects of medical care than those who have a usual doctor. Those who have to wait longer periods in the doctor's office, those who walk in with no appointment and those who have to wait a long time to get an appointment also are more critical of most dimensions of care. Indeed, the groups who are most apt to receive medical care after a lengthy wait in the doctor's office or who visit clinics with no appointment or have to wait a long time for an appointment include those who express the most dissatisfaction with their care (the poor and Black).¹⁵

It may be demonstrated from this same data that there is a strong relationship between the amount of time a respondent reports waiting in the office to see the doctor and the respondent's dissatisfaction with the amount of time he is kept waiting. There is also a significant, albeit less strong, relationship between the amount of time it takes people to get to the doctor and their dissatisfaction with the "ease and convenience" of getting to the doctor.²⁰ These observations lend support to the thesis that expressions of satisfaction are *at least in part* affected by the actual experiences people have. However, it is possible that other personal attributes explain part of the large residual.

Ware and Snyder have recently shed other light on the determinants of client satisfaction with medical care. They devised pairs of items to measure satisfaction with health care on various dimensions. Within each pair, one member referred to care received by the respondent and the other to care received by people in general.

20. Fleming, Gretchen V., "Measuring Access to Medical Care: The Use of Subjective Measures," Workshop paper delivered at University of Chicago, Center for Health Administration Studies (March, 1975).

They found that the population responded consistently more favorably about their own care than that of others. In other words, each apparently thought the public in general was suffering from a "crisis" which was not affecting himself so severely.²¹

C. The Value of Independence

Is there an emerging "Zeitgeist" that extends into the medical care field, as Carlsen suggests?² Are people becoming more eager to care for themselves rather than be dependent on others?²

The evidence in the health area which can be brought to bear on this assumption leaves a mixed picture in which Americans appear ambivalent about the extent to which doctors and other health care personnel can be trusted to manage the health and medical care of consumers.

One possible indicator of change in American attitudes toward medicine and doctors per se is the percentage increase in malpractice claims. In 1970 the insurance industry listed 26,500 new claims against physicians and other health care providers, whereas in 1974 the total had risen to 41,698. Although this figure still represents relatively few individuals nationwide, the response of juries has been equally without precedent. In 1968 the average jury award for a medical malpractice case was \$100,000, whereas by 1973 it had risen to \$350,000.²²

Another area in which it is clear that there has been a change is in consumer participation in health planning and control of neighborhood health facilities.²³ Consumer participation has, of course, been mandated by law on some hospital advisory boards. Numerous papers and studies have appeared documenting problems

encountered and discussing the extent to which *actual* consumer participation can be said to be a reality.^{24,25,26,27,28,29,30,31,32,33} In other words, the growing numbers of consumers on hospital and health center boards may not be accompanied by a concomitant increase in consumer participation and power within the institutions.²⁶

Stratman and others report from a survey of households in the Rochester, New York area in 1973, that 45% of respondents said they believed medical professionals should have *more* control over planning of the health care system than consumers, whereas 48% of the sample said professionals and consumers should have equal control, and only 7% felt consumers should be able to influence the system more than professionals.³⁴

Strickland reports that 61% of the people in national polls taken in recent years feel that some basic changes *are needed* in the health care field. However, the majority of Americans in ranking the problems, placed "a shortage of doctors" first. Others listed, in order,

24. Stoller Eleanor, "New Roles for Health Care Consumers: Study of Role Transformation," xeroxed paper.

25. Hillman, Bruce and E. Charney, "A Neighborhood Health Center: What the Patients Know and Think of Its Operation," *Medical Care* 10 (No. 4) (July-August, 1972) pp. 336-344.

26. Metsch, Jonathan M. and J.E. Veney, "A Model of the Adaptive Behavior of Hospital Administrators to the Mandate to Implement Consumer Participation," *Medical Care* 12 (No. 4) (April, 1974) pp. 338-350.

27. Campbell, John, "Working Relationships Between Providers and Consumers in a Neighborhood Health Center," *American Journal of Public Health* 61 (No. 1) (January, 1971) pp. 97-103.

28. Brieland, Donald, "Community Advisory Boards and Maximum Feasible Participation," *American Journal of Public Health* 61 (No. 2) (February, 1972) pp. 292-296.

29. Anderson, Donna, "Citizen Influence in Health Service Programs," *American Journal of Public Health* 61 (No. 8) (August, 1970) pp. 1518-1523.

30. Parker, Alberta W., "The Consumer as Policy-Maker — Issues of Training," *American Journal of Public Health* 60 (No. 11) (November, 1970) pp. 2139-2153.

31. Sparer, Gerald, et al., "Consumer Participation in OEO-assisted Neighborhood Health Centers," *American Journal of Public Health* 60 (No. 6) (June, 1970) pp. 1091-1102.

32. Daniels, Robert S., "Government and Administration of Human Services in Urban Low-Income Communities," *American Journal of Public Health* (August, 1973) pp. 715-720.

33. Torrens, Paul R., "Administrative Problems of Neighborhood Health Centers," *Medical Care* 9 (No. 6) (November-December, 1971) pp. 487-497.

34. Stratmann, William C. et al., "A Study of Consumer Attitudes About Health Care: The Control, Cost and Financing of Health Services," *Medical Care* 13 (No. 8) (August, 1975) pp. 659-666.

21. Snyder, Mary and J.E. Ware, "Differences in Satisfaction with Health Services as a Function of Recipient: Self or Others" unpublished manuscript in the Rand Paper Series (Santa Monica, CA: The Rand Corporation).

22. American Medical Association, *Malpractice in Focus*, an AMA Source Document prepared by the Editors of *Prisms* (August, 1975).

23. Olendski, Margaret, "Concerns of the Consumer," Conference on Redesigning Nursing Education for Public Health, Washington, D.C., (May 22-25, 1973).

were: "costly and complicated insurance" "unnecessary treatment raises costs," "insurance too limited," "doctors refuse house calls," "poor living conditions," "high cost of medical treatment," and "inadequate hospital staff."³⁵ In other words, apart from one item ("unnecessary treatment raises costs") consumer criticism was not directed toward modifying areas of professional expertise.

Feldman, reporting on data gathered in 1955, found that confidence in the ability of doctors to treat and cure illnesses had increased over the past few decades.³⁶ This is perhaps not too surprising for 1955, but in fact confidence is still quite strong. Data from the National Opinion Research Center shows that in 1975 50 percent of the population stated that they had "a great deal" of confidence in medicine rather than "only some" confidence or "hardly any." Confidence in all other institutions mentioned, including banks, major companies, organized religion, education, the government, organized labor, the press, TV, the supreme court, the scientific community, Congress, and the military was much lower.¹¹

In summary, what do the materials above tell us about a change in consumer values? Although the incidence of malpractice suits has received much publicity and has very far reaching consequences for the medical system, in fact it expresses the criticism of a relatively small group of individuals. Moreover, it is possible that many who read the pathetic stories of individuals who have received large settlements as well as the juries who decide on them believe these are the very exceptional medical experiences in our society. In general, the role clients envision for themselves in the medical system is not a very radical one. Confidence in the ability of doctors and the ultimate authority of doctors in the system is not weak enough to assume that dependency on physicians has lost its appeal to most of the public.

35. Strickland, Stephen P., *U.S. Health Care: What's Wrong and What's Right* (New York: Universe Books, 1972).

36. Feldman, Jacob, *The Dissemination of Health Information* (Chicago: Aldine Publishing Company, 1966).

D. *The Need for Health Care Based on the Medical "Model"*

To what extent does the public share the assumption that medical care based on the current medical model is a necessity?

Several items have been used on the two most recent national studies carried out by the Center for Health Administration Studies which seem to be measuring a basic belief in the medical system. Agreement with five items which represented little faith in the medical system varied from 14% to 45% of the total population. Moreover, race and poverty level affected the responses on these items. In most cases Blacks showed somewhat more skepticism toward the medical system's capabilities than did Whites, and those below poverty level more skepticism than those above. For some subgroups the percent agreeing with one or more of these statements represented over half of the total groups responding; however, perhaps of greater significance is the extent to which the majority of Americans do believe in the efficacy of the medical system.³⁷ More will be presented on these items later.

Do differences in the value placed on the medical care system result in differences in behavior among groups?

Here the value people place on medical care is looked at as an independent variable. Many studies have found that, in the larger picture of behavior, people's expressed beliefs about the medical care system have little impact.^{9,38} However, several researchers have found that in more restricted instances expressed beliefs seem to make some difference. Kravits reasoned that attitudes toward the medical care system should perhaps not be expected to determine whether or not people go to the doctor for symptoms which can only be cured by a physician. However, in the area of "discretionary care," that is, treatment for less serious problems and preventive

37. Kravits, Joanna, "The Relationship of Attitudes to Discretionary Physicians and Dentist Use by Race and Income," in *Equity in Health Services* ed. by Andersen, Ronald, et al., (Cambridge, Mass: Ballinger Publishing Company, 1975).

38. Aday, Lu Ann and R. Eichhorn, *The Utilization of Health Services: Indices and Correlates*, Department HEW Publication # (HSM) 73-3003.

health action, beliefs more likely would play an important role. Therefore, she looked at the relationship between faith in the medical care system and the use of doctors for discretionary care versus not using a physician at all during the course of a year. Her interesting finding was that for some groups—Blacks below and above poverty level and Whites below the poverty line—there was a substantial relationship between many of the expressions of belief and discretionary use of medical services. But, for more privileged Whites there was not a strong relationship.³⁷

E. *Becoming One's Own Primary Physician*

*How understanding and wise are people, in general, about health matters?*²

Sources describing the general knowledge of the public about medicine and disease would not encourage an optimistic answer to this question.³⁸

Feldman found in 1955 that at least one third of his national sample could not name any symptoms of three common illnesses. Therefore although a majority seemed rather well informed, a very sizable portion of the American population apparently was not. However, Feldman cautions that, although respondents cannot remember symptoms in the absence of them, there is a possibility that, when confronted with one, people recall that it may be caused by one of these diseases. Feldman also points out that in the decade from 1945 to 1955 the best informed sectors of the population increased their knowledge of illnesses more than did the less informed groups.

In addition Feldman asked both his national sample of consumers of medical care and their physicians to state what percentage of people should see a doctor for care of twelve symptoms. The results were remarkably similar, and it may be concluded that respondents were as informed as physicians about their symptoms. On the other hand, those who experienced the same symptoms saw the doctor much less frequently than either physicians or the general public thought they should.³⁶

Samora and others gave four different samples of respondents a list of questions about illness which a panel of doctors had previ-

ously judged patients should be able to answer with a score of 86% correct. In fact, the average percent of questions answered correctly was between 46 and 66 for all groups.⁴⁰ Boyle reports that a sample of outpatients in Great Britain had substantial gaps in knowledge about the location of vital body organs.⁴¹ McKinlay's results show less than 50% of respondents adequately understood most of twelve different commonly used medical terms, although medical service utilizers understood them better than non-utilizers.⁴²

A survey carried out for Blue Cross Association showed that not only were subscribers ill informed about their medical benefits, but even when they agreed to read their booklets and give opinions on them, they defaulted in almost a third of the cases.⁴³

Can people learn to be their own GP's?

The evidence suggests an optimistic answer to this question. Although little data directly addressing this point has been gathered, there is apparently ample public interest in programs where people learn to take responsibility for more of their own care, and generally the results—the ability of people to apply the learning successfully—are believed to be positive.^{44,45} A recent conference on self-help groups (groups of laymen with a common health or disability problem who meet and counsel with each other)⁴⁶ presented evidence of the popularity and success of these groups.

A study conducted for the Food and Drug Administration in 1972

40. Samora, Julian, L. Saunders and R.F. Larson, "Knowledge about Specific Diseases in Four Selected Samples," *Journal of Health and Human Behavior* 3 (No. 3) (1962) pp. 176-185.

41. Boyle, Charles M., "Differences Between Patients' and Doctors' Interpretation of Some Common Medical Terms," *British Medical Journal*, 2-247-308 (No. 5704) (May, 1970) pp. 286-89.

42. McKinlay, John B., "Who is Really Ignorant-Physician or Patient?" *Journal of Health and Social Behavior* 16 (March, 1975) pp. 3-11.

43. Blue Cross Association, "Report of Survey of Subscriber Understanding of Benefit Booklets." Mimeo, covering Memorandum March 28, 1975.

44. *The Activated Patient Newsletter*, Vol. 1 and 2. Center for Continuing Education, Georgetown University, Arlington, VA. 1975-1976.

45. Lewis, Mary Ann, "Child Initiated Care". *American Journal of Nursing* (April 1974) pp. 652-655.

46. Conference on "Self-Help in Health," June 8, 1976. Sponsored by the New Human Services Institute in New York. Various papers were distributed at this conference documenting this point.

was designed to "investigate fallacious or questionably health beliefs and practices and susceptibility to them." Indeed, the definition of a "fallacious" health practice is an issue in itself that does not receive consensus, even from health professionals, and which certainly changes over time. However, what the study really showed was that people were very willing to act on the kinds of health information that reached them when they felt they had a problem that could be treated. About a quarter of the sample (taken from the national population) had been on reducing diets in the past three years, and more than 80 percent practiced self-medication for minor ailments.⁴⁷

Another kind of evidence is available in the growing body of literature evaluating physician extenders, such as nurse practitioners, physician's assistants, and medex personnel. These people are given training programs that vary in length from a few months to a year or more. This training is usually based on some prior experience in the health field, although a college degree is not necessarily required.⁴⁸ Evidence is that even though they have had much less training than physicians, these people are able to carry out routine medical care and handle many medical problems.^{49,50,51} Moreover, although the public expresses some misgivings about allowing non-physicians to do certain common and not technically difficult medical tasks,¹⁴ in fact, those who are treated by such practitioners usually give them a high evaluation in terms of satisfaction with their services.^{52,53,54,55}

47. *A Study of Health Practices and Opinions*. National Analysts, Inc. (June, 1972).

48. American Medical Association and U.S. Department of HEW Summary of Training Programs: Physician Support Personnel, DHEW Publication, (NIH) 73-318.

49. Opp, Marcia, "Close-up of Physicians' Assistants," *World News* (May 19, 1975).

50. Lewis, Charles E., and B.A. Resnik, "Nurse Clinics and Progressive Ambulatory Patient Care," *New England Journal of Medicine* 37 (No. 277) (1967) pp. 1236-1241.

51. Duncan, Burris, et al., "Comparison of the Physical Assessment of Children by Pediatric Nurse Practitioners and Pediatricians," *American Journal of Public Health* 61 (1971) pp. 1170-1176.

52. Pondy, Louis, et al., "A Study of Patient Acceptance of the Physician's Assistant," Duke University, GSBA Paper No. 27. (1970).

53. Lewis, Charles E., "The Efficiency of New Health Manpower," Paper presented at the Invitational Health Services Research Conference, Chicago, Illinois (December 8-9, 1971).

54. Ford, Patricia Ann, et al., "The Relative Roles of the Public Health Nurse and the Physician in Prenatal and Infant Supervision," *American Journal of Public Health* 56 (No. 7) (July, 1966) pp. 1097-1103.

55. Lairson, Paul D., "Physician's Assistants at Kaiser: Distinctive Patterns of Practice," Paper presented at American Public Health Assoc. 100th Annual Meeting (November 12-16, 1972).

What evidence exists that elementary knowledge of illness and medical care leads to better use of the medical system?

A series of researchers have explored the relationship between beliefs about health and illness, and behavior in obtaining health services within the framework of the "Health Belief Model." These results are summed up in a recent monograph edited by Becker.⁵⁶ Several types of beliefs are consistently examined in this model: the perceived seriousness of illness (or of a specific illness); one's own believed susceptibility (or resusceptibility) to an illness; the perceived benefits of possible action versus the perceived costs. These are looked at in conjunction with demographic and social structural variables, other social psychological variables, and a set of variables called "cues to action" which subsume announcements in the paper about health programs available and similar types of events that make certain health behaviors salient to people.

These variables have been looked at in efforts to predict, principally, preventive health care, although they have also been used to examine illness behavior and sick role behavior, especially compliance with medical regimens.

One difficulty in evaluating the results is the multitude of ways in which the key concepts have been measured. However, researchers have had some success in predicting preventive health behavior when all the belief variables are operating in the "right" direction. Within the set of variables, "perceived susceptibility" seems to be a good predictor in many studies; "perceived severity" seems to have a complex effect—it works generally in the expected direction, but when it leads to great fear about an illness, appropriate behavior does not necessarily result. "Benefits" versus "costs" of care has served as a good predictor in many studies.

One confounding issue is that many of the results relating to the Health Belief Model have been from small samples of people interviewed in circumstances in which there had been a certain amount of publicity for the preventive health action in question. One national study was carried out in which this was not the case. The re-

56. Becker, Marshall H., *The Health Belief Model and Personal Health Behavior*, Health Education Monograph 2 (No. 4) (Winter 1974).

sult was poor predictive ability of any of the health belief model variables except "benefits to action". Thus, it is suggested that some sort of announcement or advertising of a health care program—what Becker and his colleagues call "cues to action"—is of catalytic importance for the belief variables of the model to predict appropriate behavior.⁵⁷

Becker has reported good results in predicting compliance with medical care by a low-income population using this belief model.⁵⁸ In the more general review of findings in this area Becker points to the importance of other variables—many of which are not belief variables per se—in interaction with the belief variables used.⁵⁶

Other literature on compliance with medical care offers supporting information on this issue. Tagliacozzo and Ima found that, within a sample of poor, Black, clinic patients, knowledge about chronic diseases predicted a propensity to continue in care. However, they found that it was a better predictor where anxiety was low as well as under certain conditions that would otherwise reduce motivation to see a doctor. Finally, there was a stronger relationship for patients suffering from hypertension than diabetes, implying that the kind of illness interacts with the person's judgment.⁵⁹

A number of authors have brought evidence to bear on the question through more probing analyses of doctor-patient communication and the doctor-patient relationship. One finding is that compliance with medical care is most apt to occur where the patient feels he has received adequate answers to his questions about the illness and information as to how to treat it.^{60,61} Davis also suggested that a lack of information flow from the doctor to the patient was an attribute of doctor-patient encounters that resulted in low compliance, although

doctor visits that led to high compliance by the patient were not especially characterized by the patient receiving good information about his illness.⁶²

In summary, these findings indicate that the public is not especially bright or sophisticated about medicine and not always motivated to learn more about medical care. However, in the face of symptoms individuals do make use of the information that reaches them. And, when properly motivated and informed about illness, people care for themselves appropriately and may become competent in delivering more of their primary care than they are customarily encouraged to do.

III. Additional Analyses

This section examines data on health beliefs from two surveys carried out by the Center for Health Administration Studies in an effort to throw additional light on the possible receptivity of the population in the United States to self-care programs. The first survey was conducted in 1963 and the second in 1970. Published works from both have already been cited above.

The data below bear on three questions:

1. Has there been a general change in health knowledge of the population from 1963 to 1970?
2. Has there been a change in more general health attitudes during that period—in other words, can we describe further the "emerging zeitgeist?"
3. How might we isolate those who are most apt to be receptive to self-care programs, and who are they?

The two surveys carried out by the Center for Health Administration Studies offer the advantage that many of the same knowledge and attitudinal items were included on both. Heretofore, we have cited findings from various studies on the assumption that differences in wording of items have not substantially affected the results obtained. The first two questions above will be answered here with data which is controlled for this possible source of variation.

57. Rosenstock, Irwin M., "The Health Belief Model and Preventive Health Behavior," In *The Health Belief Model and Personal Health Behavior* ed. by Marshall H. Becker, *Health Education Monographs* 2 (No. 4) (Winter 1974) pp. 354-386.

58. Becker, Marshall H., et al. "A New Approach to Explaining Sick-Role Behavior in Low-Income Populations," *American Journal of Public Health* 64 (March 1974) pp. 205-216.

59. Tagliacozzo, Daisy M., and K. Ima, "Knowledge of Illness as a Predictor of Patient Behavior," *Journal of Chronic Disability* 22 (1970) pp. 765-775.

60. Korsch, Barbara M., et al., "Gaps in Doctor-Patient Communication," *Pediatrics* 42 (No. 5) (November 1968) pp. 855-870.

61. Francis, Vida, et al., "Gaps in Doctor-Patient Communication," *New England Journal of Medicine* 280 (1969) pp. 535-540.

62. Davis, Milton S., "Variations in Patients' Compliance with Doctor's Advice: An Empirical Analysis of Patterns of Communication," *American Journal of Public Health* (1968) (Vol. 58) pp. 274-286.

A. Changes in Health Knowledge from 1963 to 1970

In both 1963 and 1970 a series of ten items to measure general knowledge of symptoms and illnesses were included on the health attitude instrument presented to all heads of households and their spouses. Respondents were asked to state whether they "agreed," "disagreed," or were "undecided" about each item. The percent who gave the correct response to each item (according to current medical knowledge) for both years is reported in Table 1.

For both years the majority of respondents did answer correctly on most of the items. One of the two where most of the people were incorrect was an item on tuberculosis, an illness which fortunately has diminished in prevalence over that period of time.⁶³ However, the other concerned diabetes, a condition which has increased in importance and one which requires careful monitoring. And, even for those items where the majority of the respondents answered correctly, a significant percentage of the United States population is apparently ignorant.

Although there appears to be a real change in health knowledge from 1963 to 1970, as measured by most of these items, it has not always resulted in an improvement. In fact, for four out of the ten items, fewer responded correctly in 1970 than in 1963. Two of these items concerned tuberculosis. However, the other two are concerned with heart disease and cancer, two prime killers of our era.

The correct responses for both years were averaged to see if, overall, there was any improvement in health knowledge. For 1963 the mean percent of correct responses was 60.5, whereas in 1970 it was 61.5 percent. These findings reinforce the earlier conclusions that health knowledge is deficient in the United States, and is apparently not improving very much.

Table 2 shows a breakdown of the average percent of correct responses on these knowledge items by major age, residence, education, income and race groups. There is little difference in the aver-

TABLE 1

PERCENT WHO ANSWERED CORRECTLY ON HEALTH KNOWLEDGE
ITEMS IN 1963 AND 1970

Item	1963 (percent)	1970 (percent)	Sig. ^a
1. Shortness of breath after light exercise may be a sign of cancer	55	67	p < .001
2. Shortness of breath after light exercise may be a sign of heart disease	71	62	p < .001
3. Coughing or spitting up of blood may be a sign of tuberculosis	83	77	p < .001
4. Coughing or spitting up of blood may be a sign of diabetes	47	56	p < .001
5. Open sores or ulcers that do not heal may be a sign of cancer	78	75	not sig.
6. Open sores or ulcers that do not heal may be a sign of heart disease	68	74	p < .01
7. Unexplained loss of weight may be a sign of tuberculosis	63	53	p < .001
8. Unexplained loss of weight may be a sign of diabetes	39	43	p < .05
9. Pains in the chest may be a sign of heart disease	79	82	p < .10
10. Pains in the chest may be a sign of tuberculosis	18	26	p < .001
AVERAGE CORRECT	61	62	not sig.

^aThese levels of significance are computed for each item using t tests of the null hypothesis that the two samples from 1963 and 1970 are from the same population.

age percent of correct responses made by the different age and residence groups. The groups between 35 and 44 do appear to have slightly higher scores for both years than do the other age groups, and the oldest has the lowest average correct, but differences are so

63. Statistical Abstract of the United States, 95th Annual Edition, Prepared under the direction of William Lerner, Chief, Statistical Compendia Staff U.S. Department of Commerce. Social and Economic Statistics Administration, Bureau of the Census, Table No. 86, p. 62 (1974).

TABLE 2
PERCENT WHO ANSWERED CORRECTLY ON HEALTH KNOWLEDGE ITEMS
IN 1963 and 1970
(average across items)

Age	1963	1970
Less than 35	61	61
35-44	62	64
45-54	61	64
55-64	58	61
65 and over	56	58
<i>Residence</i>		
Rural farm	57	63
Rural non-farm	60	62
Large SMSA	60	58
Small SMSA	61	61
Other Urban		64
<i>Education</i>		
8th grade or less	56	57
High school only	60	62
Attended college	66	65
<i>Family Income</i>		
Low	56	58
Middle	59	61
High	64	65
<i>Race</i>		
White	61	62
Black	57	53

slight as to be of doubtful significance. On the other hand, it is clear that the most educated group tends to answer more correctly than the least educated. This difference is also reflected in the income breakdown. In addition, there was a tendency for Whites to have a better knowledge of these items than Blacks in 1970, although the pattern was not so clear in 1963.

Although most of the groups show a higher average of correct responses in 1970 than in 1963, this is not the case for the large SMSA population, nor for Blacks. Moreover, none of the changes are of

such magnitude to suggest a *major* improvement in health knowledge of the group.

B. Changes in general health attitudes from 1963 to 1970: the "emerging zeitgeist"

A more general series of attitude items that treat beliefs about the efficacy of the medical system and the confidence in doctors was also included in both the 1963 and 1970 national surveys. These were in the form of statements for which heads of households and spouses of heads were asked to circle the answer that corresponded to their level of agreement with the item. Choices were: "strongly agree," "tend to agree," "tend to disagree" and "strongly disagree." For this analysis, the responses are dichotomized into "agree" and "disagree." In addition, one of these items in the identical form was included in a national survey in 1955, and responses from that study are also given.

Table 3 shows the percent of respondents nationwide who agreed with each of the statements for each year. The first five items listed have been shown in factor analyses of the 1970 data to be highly correlated with each other; therefore they will be discussed part of the time below as a single item that seems to measure a tendency to be skeptical of the powers of modern, institutionalized medicine. It is clear, however, that they do describe different sources of skepticism, and the level of agreement about them varies from item to item. The sixth item, although correlated at a significant level (negative direction) with the first five, is less apt to behave in the same way, although it, too, measures belief in the ability of medical science.⁶⁴ Perhaps it yields different results from the other items because agreement with it indicates such an extreme level of faith in the power of medicine. The last two items seem to focus more on confidence in the actual behavior of doctors and the care they provide.

The results for each year show the majority of the population does

64. Ware, John E., and M.K. Snyder, Draft report summarizing factor analyses of the health opinions questionnaire used by the Center for Health Administration Studies, University of Chicago in 1970.

not endorse those statements that show a skepticism toward medicine, nor does the majority show distrust of motivations and care of doctors. However, although a small minority believes "you can get over most any disease without getting medical aid" (Item 1), a much larger minority believes in the efficacy of "strong will power" (Item 2) and "home remedies" (Item 3). Likewise a large minority believes a person "has to expect a good deal of illness" regardless of how well he follows his doctor's orders (Item 4) and that a "person understands his own health better than most doctors do" (Item 5). Moreover, the minority that does not accept the statement that "modern medicine can cure most any illness" (Item 6) is between 35 and 40 percent. A minority over 30% believes "doctors are more interested in their incomes than in making sure everyone receives adequate medical care" (Item 7), whereas a much smaller minority — around 10 percent — is critical of the care they have "received from doctors in the last few years" (Item 8). These conclusions are valid for both years.

However, within these broad outlines, there are some significant differences between the two years. Four of the six items which express general faith in medicine per se show a growing confidence in medicine (Items 1 through 4). These items, which are presented in the skeptical form, have fewer endorsements. For two of these items, response differences across the years are small. However, the change in results obtained from the two statements about the efficacy of will power and expecting a good deal of illness over the years is not likely to be a chance finding. With respect to the fifth item, there is a curious change. From 1955 to 1963 the public showed less support of the notion that "a person understands his own health better than most doctors do," but since then the belief in this statement has stabilized or even, perhaps, increased. The sixth item shows a dramatic change toward less confidence in medicine. Because this statement is rather extreme — "modern medicine can cure most any illness" — perhaps we may accept this as growing realism of the population, that is, an awareness of the ultimate limitations of medicine to do absolutely everything.

Where the statements about the behavior of doctors are concerned, the public definitely shows growing skepticism. Confidence in doctors has apparently diminished, albeit only slightly.

TABLE 3

PERCENT WHO AGREED^a WITH HEALTH BELIEF ITEMS
IN 1955, 1963 AND 1970

Item	1955 ^b (percent)	1963 (percent)	1970 (percent)	Sig. ^c
1. If you wait long enough, you can get over most any disease without getting medical aid		14	13	not sig.
2. Good personal health depends more on an individual's strong will power than on vaccinations, shots, and vitamins		36	29	p<.001
3. Some home remedies are still better than prescribed drugs for curing illness		35	32	not sig.
4. No matter how well a person follows his doctor's orders, he has to expect a good deal of illness in his lifetime		49	43	p<.01
5. A person understands his own health better than most doctors do	40	35	36	not sig. (significance checked only between later two years)
6. Modern medicine can cure most any illness		63	55	p<.001
7. Most doctors are more interested in their incomes than in making sure everyone receives adequate care		33	39	p<.01
8. The care I have generally received from doctors in the last few years was excellent		91	88	p<.05

^aIn 1955 the choices were "agree" and "disagree." In 1963 and 1970 the choices were "strongly agree," "tend to agree," "tend to disagree," and "strongly disagree." The percentage shown here for 1963 and 1970 includes the first two categories.

^bThe survey reported here is the one on which the report, *The Dissemination of*

Although these are the results for the nation as a whole, it is interesting to know whether this "spirit" is the prevailing one of subgroups of the country. Do various groups often singled out for policy purposes tend to respond similarly on these items, and are they changing in the same direction? Some early analyses on these items by race and poverty level have already been presented (Section II), but additional groups will be examined here and all will be compared over time.

Changes in health attitudes by age

It is clear from Table 4 that for both years there is a tendency for the age groups to respond differently to the items. Items 1 through 5 drew much more support from the older groups than the younger; indeed, there appears to be a clear linear relationship by age. Likewise, Item 6 drew less support from the older than the younger groups. These findings support the conclusion that older people are somewhat more skeptical of the competence of medical science than are younger. On the items dealing with the behavior of doctors, the results are not so clear. In 1963 older people showed more skepticism of doctors' motivations (Item 7) than did younger, but in 1970 they did not. In 1963 all groups expressed about the same level of confidence in the care received from doctors, but in 1970 older people actually expressed more (Item 8).

Across the years, for all the items, the groups seem to have changed in the same direction as the general population although many of the differences are not statistically significant. The younger population shows more skepticism of the behavior of doctors now than formerly (Items 7 and 8), while the oldest population shows about the same. Across all but two of the items there is a smaller difference in response between the oldest and youngest groups in 1970 than there was in 1963. Five of the first six items, some of which yielded over a 20 percent difference in response between the oldest and the youngest group in 1963, yielded a smaller difference in 1970 (the exception is Item 4). The populations were more

Health Information, by Jacob Feldman (Chicago: Aldine Publishing Co., 1966) is based. The marginals given here were not reported in the publication.

^aThese levels of significance are computed for each item using t tests of the null hypothesis that the two samples from 1963 and 1970 are from the same population.

TABLE 4
PERCENT WHO AGREED WITH HEALTH BELIEF ITEMS IN 1955, 1963 AND 1970 BY AGE^a

Item	Age	1955 (percent)	1963 (percent)	1970 (percent)	Sig. ^c
1. If you wait long enough, you can get over most any disease without getting medical aid	Less than 35		10	10	not tested
	35-44		11	10	"
	45-54		14	14	"
	55-64		19	17	"
	65 and over		24	18	not sig.
			p<.001 ^b	p<.05 ^b	
2. Good personal health depends more on an individual's strong will power than on vaccinations, shots and vitamins	Less than 35		26	23	not sig.
	35-44		27	25	"
	45-54		39	26	p<.01
	55-64		45	34	p<.05
	65 and over		54	43	p<.05
			p<.001 ^b	p<.001 ^b	
3. Some home remedies are still better than prescribed drugs for curing illness	Less than 35		29	26	not tested
	35-44		29	30	"
	45-54		34	32	"
	55-64		42	27	"
	65 and over		49	43	not sig.
			p<.001 ^b	p<.001 ^b	
4. No matter how well a person follows his doctor's orders, he has to expect a good deal of illness in his lifetime	Less than 35		45	33	p<.001
	35-44		43	35	p<.10
	45-54		50	44	not sig.
	55-64		58	54	"
	65 and over		59	62	"
			p<.001 ^b	p<.001 ^b	

TABLE 4 — continued

Item	Age	1955 (percent)	1963 (percent)	1970 (percent)	Sig. ^c
5. A person understands his own health better than most doctors do	Less than 35	26	27	30	not tested
	35-44	35	30	36	not sig.
	45-54	47	35	36	not tested
	55-64	60	43	39	not sig.
6. Modern medicine can cure most any illness	65 and over		52	45	
			p<.001 ^b	p<.01 ^b	
	Less than 35		70	61	p<.05
	35-44		67	61	not sig.
7. Most doctors are more interested in their incomes than in making sure everyone receives adequate medical care	45-54		61	52	p<.10
	55-64		57	47	p<.10
	65 and over		55	47	not sig.
			p<.001 ^b	p<.01 ^b	
8. The care I have generally received from doctors in the last few years was excellent	Less than 35		30	37	p<.10
	35-44		31	42	p<.05
	45-54		30	39	p<.10
	55-64		39	41	not sig.
	65 and over		41	39	not sig.
			p<.01 ^b	not sig. ^b	
	Less than 35		90	85	p<.10
	35-44		90	84	p<.10
	45-54		92	89	not sig.
	55-64		92	91	not sig.
	65 and over		92	94	not sig.
			not sig. ^b	p<.01 ^b	

^aSee notes Table 2^bSignificance of difference reported between the oldest and youngest age categories using a two-tailed t test for the years indicated.^cSignificance of difference reported across years between same age groups using a two-tailed t test.

homogeneous in 1970 than they were in 1963 in their belief in the motivations of doctors (Item 7) but not in their belief that they have received excellent medical care (Item 8). In 1963 all age groups tended to respond identically on this last item, whereas in 1970 the younger had lost confidence in doctors while the older groups had gained a little.

Changes in health attitudes by residence

Table 5 shows that for 1963 there is a tendency for the rural populations, especially the rural farm group, to be more skeptical of modern medicine than the urban (Items 1 to 5). This is true to a much weaker extent for 1970, and it is not true with respect to the belief in the ultimate limits of medicine (Item 6). On the items expressing confidence in the behavior of doctors, there is no clear tendency for the groups to differ (Items 7 and 8).

In most cases the groups have changed in a direction similar to the general population. Across the years, again, the predominant impression is one of greater homogeneity between the groups, regardless of residence.

Changes in health attitudes by education of head of household

For each year, as shown in Table 6, the least educated group is the most apt to be skeptical of medicine and the most educated group is the least (Items 1 to 5). The middle group falls somewhere in between the two on most items. Those from households where the head has an education at the eighth grade level or less are more apt to think doctors are more interested in their incomes than giving adequate care (Item 7). On their assessments of medical care received, the groups are very similar.

However, again, there is some evidence that the groups have become more similar over the years. There was a slight, although not significant, tendency for the most educated group to become slightly *more skeptical* of the ability of modern medicine according to responses on three of the five items purporting to measure this, while the rest of the population has become a little *more believing* in the efficacy of scientific medical care (Item 1 through 5).

TABLE 5
PERCENT WHO AGREED WITH HEALTH BELIEF ITEMS IN 1955, 1963 AND 1970 BY RESIDENCE^a

Item	Residence	1955 (percent)	1963 (percent)	1970 (percent)	Sig. ^c
1. If you wait long enough, you can get over most any disease without getting medical aid	Rural Farm		21	14	not tested
	Rural Non-Farm		14	15	"
	Large SMSA		11	11	"
	Small SMSA		14	14	"
	Other Urban			10	
			p<.05 ^b	not sig. ^b	
2. Good personal health depends more on an individual's strong will power than on vaccinations, shots, and vitamins	Rural Farm		47	35	p<.10
	Rural Non-Farm		38	33	not sig.
	Large SMSA		32	27	"
	Small SMSA		35	25	p<.01
	Other Urban			30	
			p<.01 ^b	not sig. ^b	
3. Some home remedies are still better than prescribed drugs for curing illness	Rural Farm		46	43	not tested
	Rural Non-Farm		35	34	"
	Large SMSA		31	29	"
	Small SMSA		34	31	"
	Other Urban			33	
			p<.01 ^b	not sig. ^b	
4. No matter how well a person follows his doctor's orders, he has to expect a good deal of illness in his lifetime	Rural Farm		65	56	not sig.
	Rural Non-Farm		51	45	"
	Large SMSA		43	43	"
	Small SMSA		48	41	p<.05
	Other Urban			40	
			p<.001 ^b	p<.10 ^b	

TABLE 5—continued

Item	Residence	1955 (percent)	1963 (percent)	1970 (percent)	Sig. ^c
5. A person understands his own health better than most doctors do	Rural Farm		48	43	not tested
	Rural Non-Farm	47	37	38	"
	Large SMSA	32	31	34	"
	Small SMSA	41	34	35	"
	Other Urban	45		37	"
			p<.001 ^b	p<.001 ^b	
6. Modern medicine can cure most any illness	Rural Farm		63	51	p<.10
	Rural Non-Farm		63	59	not sig.
	Large SMSA		60	51	p<.10
	Small SMSA		65	56	p<.10
	Other Urban			55	
			not tested ^b	not tested ^b	
7. Most doctors are more interested in their incomes than in making sure everyone receives adequate medical care	Rural Farm		36	37	not sig.
	Rural Non-Farm		35	39	"
	Large SMSA		33	43	p<.10
	Small SMSA		32	39	p<.05
	Other Urban			36	
			not tested ^b	not tested ^b	
8. The care I have generally received from doctors in the last few years was excellent	Rural Farm		91	87	not sig.
	Rural Non-Farm		92	88	"
	Large SMSA		89	85	"
	Small SMSA		92	88	"
	Other Urban			89	
			not tested ^b	not tested ^b	

^aSee notes Table 2. Large SMSA's include the ten largest; small SMSA's are all others. Other urban includes all those in urban areas by the census definition; farm and non-farm residences were as identified by the interviewer.

^bSignificance of difference reported between the rural farm group and the urban group most similar to it using a two tailed t test for the year indicated. The difference was not tested where it appeared insignificant.

^cSignificance of difference reported across years between same residence groups using a two-tailed t test. The difference was not tested where it appeared insignificant.

TABLE 6
PERCENT WHO AGREED WITH HEALTH BELIEF ITEMS IN 1955, 1963 AND 1970
BY EDUCATION OF HEAD OF HOUSEHOLD^a

Item	Education	1955 (percent)	1963 (percent)	1970 (percent)	Sig. ^c
1. If you wait long enough, you can get over most any disease without getting medical aid	8th Grade or Less High School Only Attended College		22 12 7 p<.001 ^b	19 12 11 p<.05 ^b	not tested " not sig.
2. Good personal health depends more on an individual's strong will power than on vaccinations, shots, and vitamins	8th Grade or Less High School Only Attended College		51 33 23 p<.001 ^b	42 27 20 p<.001 ^b	p<.05 p<.05 not sig.
3. Some home remedies are still better than prescribed drugs for curing illness	8th Grade or Less High School Only Attended College		48 32 21 p<.001 ^b	46 30 24 p<.001 ^b	not tested " "
4. No matter how well a person follows his doctor's orders, he has to expect a good deal of illness in his lifetime	8th Grade or Less High School Only Attended College		64 47 31 p<.001 ^b	65 42 27 p<.001 ^b	not tested p<.10 not sig.
5. A person understands his own health better than most doctors do	8th Grade or Less High School Only Attended College	56 33 24	48 32 23 p<.001 ^b	49 37 25 p<.001 ^b	not tested " "

TABLE 6 — continued

Item	Education	1955 (percent)	1963 (percent)	1970 (percent)	Sig. ^c
6. Modern medicine can cure most any illness	8th Grade or Less High School Only Attended College		61 64 63 not tested	54 58 51 not tested	p<.05 p<.10 p<.01
7. Most doctors are more interested in their incomes than in making sure everyone receives adequate medical care	8th Grade or Less High School Only Attended College		42 32 26 p<.001 ^b	44 39 35 p<.10 ^b	not sig. p<.05 p<.05
8. The care I generally received from doctors in the last few years was excellent	8th Grade or Less High School Only Attended College		91 90 92 not tested	90 86 88 not tested	not sig. p<.10 not sig.

^aSee notes Table 2.

^bSignificance of difference reported between the group with the least and the group with the most education using a two-tailed t test for the year indicated. The difference was not tested where it appeared insignificant.

^cSignificance of difference reported across years between same education groups using a two-tailed t test. The difference was not tested where it appeared insignificant.

Changes in health attitudes by family income

As might be expected, the pattern for each year by income is similar to the pattern by education (Table 7). That is, those with the lowest family incomes are most apt to mistrust the ability of modern medicine whereas those with the highest incomes are more confident in it (Items 1 to 5). Those with the lowest incomes were most likely to be critical of the motivations of doctors in 1963 (Item 7), but this tendency was no longer so apparent in 1970. Finally, the groups are quite similar with respect to their confidence in medical care received.

Across the years the groups defined by income have also become more similar, as they have each changed generally in the direction of the population as a whole.

TABLE 7

PERCENT WHO AGREED WITH HEALTH BELIEF ITEMS IN
1963 AND 1970 BY FAMILY INCOME^a

Item	Family Income	1963 (percent)	1970 (percent)	Sig. ^c
1. If you wait long enough, you can get over most any disease without getting medical aid	Low	22	17	not tested
	Middle	13	13	"
	High	9	10	"
		p<.001 ^b	p<.01 ^b	
2. Good personal health depends more on an individual's strong will power than on vaccinations, shots, and vitamins	Low	49	38	p<.01
	Middle	35	30	not sig.
	High	29	20	p<.05
		p<.001 ^b	p<.001 ^b	
3. Some home remedies are still better than prescribed drugs for curing illness	Low	48	42	not tested
	Middle	33	31	"
	High	26	26	"
		p<.001 ^b	p<.001 ^b	
4. No matter how well a person follows his doctor's orders, he has to expect a good deal of illness in his lifetime	Low	63	58	not sig.
	Middle	50	43	p<.10
	High	40	32	p<.10
		p<.001 ^b	p<.001 ^b	
5. A person understands his own health better than most doctors do	Low	50	44	not tested
	Middle	30	35	"
	High	29	32	"
		p<.001 ^b	p<.05 ^b	

Changes in health attitudes by race

The general effects of race on these beliefs has been outlined in one of the sources reviewed in Section II.³⁷ They are summarized in Table 8.

Both races tend to reflect the general population trends in the way they have changed over the years. The two groups are certainly not dramatically more similar in 1970 than they were in 1963. They responded in significantly different ways to most of these items in 1963, and they still do on at least three of the eight items. In both years the Black population showed somewhat greater skepticism than Whites about medicine in general as well as the motivations of physicians. However, as far as their own care is concerned, both groups responded with a similar high level of approval.

Summary and conclusions from changes in health attitudes from 1963-1970.

The slightly greater homogeneity in beliefs about medical care across population groups is paralleled by a more homogeneous ex-

TABLE 7—continued

Item	Family Income	1963 (percent)	1970 (percent)	Sig. ^c
6. Modern medicine can cure most any illness	Low	62	52	p<.01
	Middle	66	56	p<.05
	High	63	57	not sig.
7. Most doctors are more interested in their incomes than in making sure everyone receives adequate medical care	Low	42	40	not sig.
	Middle	32	40	p<.05
	High	28	37	p<.05
		p<.001 ^b	not sig. ^b	
8. The care I have generally received from doctors in the last few years was excellent	Low	90	89	not sig.
	Middle	91	86	"
	High	92	88	"
		not tested	not tested	

^aSee notes Table 2. Income was divided into low, medium, and high thirds of the population. For 1963 low included those under \$4,000 per year, middle was \$4,000 to \$6,999, and high was \$7,000 and over. In 1970 low family income was under \$6,000 per year, middle was \$6,000 to \$10,999, and high was \$11,000 and over. The income breakdowns were not available for the 1955 data.

^bSignificance of difference reported between the group with the lowest and the group with the highest income using a two-tailed t test for the year indicated. The difference was not tested where it appeared insignificant.

^cSignificance of difference reported across years between same income groups using

TABLE 8
PERCENT WHO AGREED WITH HEALTH BELIEF ITEMS IN
1963 AND 1970 BY RACE^a

Item	Race	1963 (percent)	1970 (percent)	Sig. ^c
1. If you wait long enough, you can get over most any disease without getting medical aid	White	13	13	not tested
	Black	18 not sig. ^b	18 not sig. ^b	"
2. Good personal health depends more on an individual's strong will power than on vaccinations, shots, and vitamins	White	35	27	p<.01
	Black	46 p<.001 ^b	39 p<.10 ^b	not sig.
3. Some home remedies are still better than prescribed drugs for curing illness	White	32	31	not tested
	Black	53 p<.001 ^b	48 p<.01 ^b	"
4. No matter how well a person follows his doctor's orders, he has to expect a good deal of illness in his lifetime	White	47	42	p<.05
	Black	67 p<.001 ^b	59 p<.01 ^b	not sig.
5. A person understands his own health better than most doctors do	White	34	35	not tested
	Black	44 p<.05 ^b	46 p<.10 ^b	"
6. Modern medicine can cure most any illness	White	63	55	p<.05
	Black	66	57	not sig.
7. Most doctors are more interested in their incomes than in making sure everyone receives adequate medical care	White	32	38	p<.01
	Black	45 p<.01 ^b	55 p<.01 ^b	not sig.
8. The care I generally received from doctors in the last few years was excellent	White	91	86	p<.10
	Black	92 not tested	87 not tested	not sig.

^aSee notes Table 2. Those of Oriental race are excluded from this analysis because they are too few in number.

^bSignificance of difference between Whites and Blacks using a two-tailed t test for the year indicated. The difference was not tested where it appeared insignificant.

^cSignificance of difference reported across years for racial groups using a two-tailed t test. The difference was not tested where it appeared insignificant.

perience with the medical system in 1970 than in 1963, as measured by percent seeing a physician during the year. The equalizing of this experience probably reflects the institution of the Medicaid and Medicare programs.⁶⁵ Usually attitudes such as those reported in this section are used to explain behavior in the medical system³⁷, but it stands to reason that they are also affected by the rate of interaction with providers. It may be that a more similar experience by different demographic groups within the medical care system has had the effect of rendering their beliefs about its efficacy and the behavior of physicians more alike.

The general picture is one of people who believe in medicine and are not especially disappointed in doctors or the care they are getting. However, the trends show stronger belief in the usefulness of medicine, within limits, while at the same time belief in one's ability to assess one's own health has not diminished and has perhaps increased for some groups. There is also a growing skepticism of doctors' motivations and slightly greater criticism of the quality of care received. This pattern indicates a slightly better climate for self-care activities in 1970 than in 1963.

C. Identifying a group receptive to self-care programs.

Here a preliminary effort is made toward identifying groups most apt to be interested in the opportunity to take part in self-care programs. Because no question has been asked in any national survey to date purporting to expressly identify such a group, a proxy measure is developed here and then examined with respect to characteristics of the groups it tends to identify. The approach used is essentially to identify attitudinal dimensions as well as one behavioral dimension which are hypothesized to discriminate between those more likely and less likely to be interested in self-care activities and which are measurable from the data gathered in the 1970 national survey.

65. Andersen, Ronald *et al*, *Health Service Use: National Trends and Variations*, Department of Health, Education and Welfare Publication No (HSM) 73-3004 (October 1972).

For each of the four attitudinal dimensions which are measured by scales, as explained in more detail below, the "scores" which respondents could obtain were dichotomized into two groups, a higher and lower half. For example, if there were six possible scores in a given scale, all individuals with scores 1, 2, and 3 would be assigned one summary score, and those with scores 4, 5 and 6 another. Values were manipulated so that a high score is always assumed to be related to a tendency *toward* self-care and a low score is expected to have a negative correlation with self-care. As on some of the scales the responses are highly skewed, the same is then true of the distribution of responses into "high" and "low" on the dichotomies that result from the above procedure. This means that, on some of the dimensions, a very small minority are included in the group potentially interested in self-care activities, whereas on others a majority holds a high score. This method of dividing the population seems, however, to best respect the integrity of the original responses to the questions on the instrument.

In addition, respondents' scores on the dimensions are added to discern if indeed there are some groups who are more apt than others to be high scorers on all dimensions and, thus, presumably (assuming additivity of the dimensions) most apt to be motivated toward self-treatment programs. Because there is no means to validate the proxy measure used for propensity toward interest in self-care, the conclusions below are presented with caution.

The first two dimensions treat satisfaction with medical care. It has been assumed throughout this paper as well as in other sources that have been cited above that dissatisfaction with existing medical services should motivate people to seek alternative means for receiving care. As noted above, the items from the 1970 survey measuring satisfaction tended to cluster along two dimensions, one treating the convenience and cost of services and the other the characteristics of providers.^a Therefore, the two dimensions are treated separately here, and the assumption is made that they will reinforce each other.

The third dimension discriminating the group interested in participating in self-care activities is a general belief in the efficacy of medical care. The items used to measure this tendency which have been shown to be highly correlated with each other have already

been presented in some analyses above.^b This hypothesized characteristic of the self-care population is probably more open to debate. Clearly in the works of Carlsen⁴ and Illich⁵ just the opposite may be inferred. They each argue that more skepticism of the powers of medicine is essential for a healthier society, and they base their support of self-care activities on the need for independence of the ideology of the institutionalized medical system. These two writers, however, represent the more radical "wing" of the self-care movement (although Navarro would argue, *potentially* more politically conservative).⁶⁶ The courses in self-care developed by Sehnert⁶ and Kwitman⁷ on the other hand appeal to a group which basically believes in health care practices that, if not central to the practice of medicine in the narrow sense, are compatible with it. These courses cover principles for exercise, nutrition, and preventive care as well as basic diagnostic procedures usually done by doctors and nurses. This is the first reason for including these belief items.

^aThe question presented to heads of households and their spouses read:

"Thinking over the medical care you and those close to you have received over the past few years from doctors and hospitals, how satisfied have you been with each of the following: . . ."

Items on the cost-convenience dimension include:

1. Waiting time in doctor's offices or clinics.
2. Availability of medical care at night and on weekends.
3. The out-of-pocket costs of the medical care received.

Items on the provider characteristics dimension are:

1. The information given to you about what was wrong with you.
2. The information given to you about what you should do at home to treat illness.
3. The courtesy and consideration shown you by doctors.
4. The courtesy and consideration shown you by nurses.
5. The follow-up care received after an initial treatment or operation.
6. Concern of doctors for your overall health rather than just for an isolated symptom or disease.
7. Information you have been able to obtain to help you choose a physician.

^bThe items used to measure this dimension are as follows (with high self-care potential measured by disagreement with them):

1. If you wait long enough, you can get over most any disease without getting medical aid.
2. Good personal health depends more on an individual's strong will power than on vaccinations, shots, and vitamins.
3. Some home remedies are still better than prescribed drugs for curing illness.
4. A person understands his own health better than most doctors do.

66. Navarro, Vincente, "The Industrialization of Fetishism or the Fetishism of Industrialization: a Critique of Ivan Illich," *Social Science and Medicine* (1975) pp. 351-363.

There is another reason for using a scale measuring belief in medical care efficacy to help delineate the self-care groups. Agreement with the actual items used, which would indicate *skepticism* toward the institutionalized health care system, may not so often indicate a *commitment to self-reliance*, but rather a *sense of fatalism* about health. In fact, it is possible that agreement would be expressed by people of both types — the very autonomous as well as the resigned. An examination of the individual items clarifies this. The first one states that “you can get over most any disease without getting medical aid” simply if you “wait long enough.” The next expresses faith in “will power” rather than “vaccinations, shots and vitamins.” These both advocate very passive behavior. The third admittedly does not suggest complete inaction, as it expresses belief in “home remedies” rather than “prescribed drugs.” The final item used on this scale, that a person “understands his own health” better than the doctor, implies confidence in one’s wisdom, but no particular action. Thus, we suggest that an expression of agreement with these items and, therefore, skepticism about modern medical care may likely derive from a spirit of resignation rather than independence in the area of health.

The fourth dimension measured is one which discriminates between those who do and do not believe that paramedics can carry out some of the procedures for which doctors are responsible in our society. The rationale for including this scale is that people who do not have confidence that others besides physicians can do the doctors’ work, are probably apt to feel they themselves could not learn to do it either.^c

The fifth dimension is a behavioral one. On the basis of the above dimensions it is argued that a person is in an attitudinal state of readiness for self-care, but there is no reason to be certain he would

“make time” for a program of self-care. The last measure divides the sample of respondents into those who have during the past year actually sought preventive care, dental or medical, versus those who have not.^d Those actively seeking preventive services in the past are assumed to be more likely to be willing to participate in a self-care program in the future. It may be argued that this dimension indicates a tendency to rely on the system rather than on oneself. However, the services measured on this scale are presently not available on a self-care basis, but are generally promoted as actions that should be taken by people interested in preserving their health.

Finally, a summary scale is developed by adding scores on all of the above dimensions.

Table 9 shows the intercorrelations between the five dimensions described above. They appear to be quite independent of each other, with two exceptions. First, the two areas of satisfaction are very highly correlated with each other. As noted above, because these two sets of attitudes do nonetheless behave somewhat independently of each other, and because the dissatisfied group is now considered very important in developing policy, both dimensions are included in the summary scale presented below. There is also a fairly high correlation between belief in the health care system and obtaining preventive care.

Tables 10 through 15 show the percentage of population subgroups that are often singled out for policy purposes who score high in receptivity to self-care programs on each of the dimensions. Tables by sex are introduced in this section although they were not presented in earlier findings. As women’s groups have been active in the area of self-care, establishing clinics for women which are run by non-professionals and publishing materials about health^{67,68}, it was felt that women in general might show greater receptivity to self-care than do men.

^cFor this scale, respondents were asked: “. . . Would you be willing to let a nurse or doctor’s assistant . . .

1. Do the preliminaries of a medical examination before the doctor comes in, including medical history taking, blood pressure, and so on.
2. Decide whether or not you need to see a doctor when you go to a doctor’s office or clinic when you are not feeling well.
3. Provide follow-up care and treatment after a physician has diagnosed your condition and prescribed treatment.
4. See pregnant women and babies on their regular visits when nothing seems to be “wrong.”

The choice of answers included “yes,” “undecided” and “no.” Answers were given a 2 for “yes,” a 1 for “undecided” and 0 for “no,” scores were added, and respondents were sorted into two groups on the basis of whether or not their responses fell above or below the median potential summary score.

^dItems of preventive care included all dental care in the past year for preventive purposes, e. g., teeth cleaning, fluoride treatments, etc. as well as physical exams that were done in the absence of new symptoms or requirements for insurance, work, etc.

TABLE 9
CORRELATES BETWEEN MEASURES OF POTENTIAL INTEREST
IN SELF-CARE

	SELF-CARE MEASURES			
	Dissatisfaction Cost- Convenience (1st Dimension)	Dissatisfaction Provider Characteristics (2nd Dimension)	Medical Care Efficacy (3rd Dimension)	Acceptance New Practitioners (4th Dimension)
Dissatisfaction Provider Character- istics (2nd Dimension)	Gamma* = .80 Tau b** = .28			
Belief in Health System (3rd Dimension)	Gamma = .01 Tau b = .00	Gamma = -.08 Tau b = -.02		
Acceptance New Practitioners (4th Dimension)	Gamma = .05 Tau b = .02	Gamma = -.04 Tau b = -.01	Gamma = -.13 Tau b = -.06	
Obtained Preventive Care (5th Dimension)	Gamma = -.04 Tau b = -.02	Gamma = -.04 Tau b = -.01	Gamma = .30 Tau b = .13	Gamma = -.08 Tau b = -.04

*Gamma is Goodman and Kruskal's gamma statistic.

**Tau b is Kendall's tau b statistic.

Scores on potential interest in self-care by age

It is clear from Table 10 that the population of the United States feels and behaves differently concerning the various measures as a function of age. There is a marked tendency for the older people to express less dissatisfaction on each dimension than the younger (an observation which has been previously reported from this data),¹⁵ as well as less belief in medical care, (as pointed out above with respect to the individual items). However, they are more accepting than the younger of the concept of non-physicians taking an active role in medical treatment usually carried out by a physician. With respect to preventive care, on the other hand, they are clearly less likely to take action.

Scores on potential interest in self-care by residence

Table 11 presents data by residence. As pointed out in previous reports,¹⁵ there are not very strong differences between the various urban and rural groups in their tendency to be dissatisfied on both the cost-convenience and the provider characteristics dimensions of medical care received, although the urban dwellers who are not in the central city may be slightly more content with the cost and convenience of services to them. These same two groups, however, are the ones more apt to believe in medical care. The rural farm group, on the other hand is somewhat more likely than others to accept allied health practitioners in primary care roles, whereas they are the least likely to seek preventive care. Those in SMSA's outside the central city — the suburbanites in effect — are most likely to have dental care and physical exams in the absence of symptoms.

67. Berkeley Women's Health Collective, *Feeding Ourselves* (Boston, New England Free Press, 1972).

68. Boston Women's Health Book Collective, *Our Bodies Ourselves; A Book by and for Women* (New York: Simon and Shuster, 1971).

TABLE 10
PERCENT WHO SCORED HIGH ON EACH OF THE MEASURES
OF POTENTIAL INTEREST IN SELF-CARE BY AGE

Age	SELF-CARE MEASURES				
	Dissatisfaction Cost- Convenience (1st Dimension)	Dissatisfaction Provider Characteristics (2nd Dimension)	Medical Care Efficacy (3rd Dimension)	Acceptance New Practitioners (4th Dimension)	Preventive Care (5th Dimension)
Less than 35	38%	11%	85%	49%	48%
35-44	41	9	80	52	47
45-54	32	7	76	58	43
55-64	34	7	67	60	38
65 and over	25	4	59	64	33
Total %	35%	8%	75%	55%	45%
	Gamma = -.13 Tau c = -.09	Gamma = -.26 Tau c = -.06	Gamma = -.34 Tau c = -.20	Gamma = .17 Tau c = .13	Gamma = -.16 Tau c = -.10

*Tau c is Kendall's tau c statistic.

*Scores on potential interest in self-care by education
of household head*

From Table 12, it is clear that the relationship between both of the dissatisfaction measures and education of the household head is quite weak. On the other hand, there is a strong linear relationship between education and belief in the efficacy of medical care, with the most educated much more apt to score high on this dimension than the least educated group. The relationship between education and acceptance of new practitioners in place of the doctor is curvilinear. The least and most educated groups are somewhat more likely to support this concept than the middle, high-school educated group. Finally, there is a very strong relationship between the head's education and seeking of preventive care, with the least educated not at all likely to receive dental services or medical exams in the absence of symptoms, whereas almost half of the middle group and somewhat more than half of the most educated group do.

Scores on potential interest in self-care by family income

The relationship between family income and each of the self-care measures is very similar to that for education (Table 13). On the satisfaction measures there is essentially no effect from family income, but for belief in medical care efficacy there is quite a strong linear relationship, with the most affluent showing the most support for these items. The least affluent are more apt than either of the other two groups to accept allied health practitioners in physician roles, but much less apt than the other groups to receive preventive care.

Scores on potential interest in self-care by race

As pointed out previously,¹⁵ and indicated again in Table 14, Blacks are somewhat less satisfied with the cost and convenience aspects of the care they receive than are Whites, although both are similar with respect to their evaluation of aspects of care more closely related to the physician or other practitioner himself. Both groups are also similar with respect to their willingness to accept

TABLE 11

PERCENT WHO SCORED HIGH ON EACH OF THE MEASURES OF POTENTIAL INTEREST
IN SELF-CARE BY RESIDENCE

Residence	SELF-CARE MEASURES				
	Dissatisfaction Cost- Convenience (1st Dimension)	Dissatisfaction Provider Characteristics (2nd Dimension)	Medical Care Efficacy (3rd Dimension)	Acceptance New Practitioners (4th Dimension)	Preventive Care (5th Dimension)
Rural farm	38%	8%	68%	64%	34%
Rural non-farm	36	6	72	55	41
SMSA central city	36	9	74	53	44
SMSA other	34	9	81	54	53
Other urban	32	7	79	56	44
Total %	35%	8%	75%	55%	45%

TABLE 12

PERCENT WHO SCORED HIGH ON EACH OF THE MEASURES OF POTENTIAL INTEREST
IN SELF-CARE BY EDUCATION OF HEAD OF HOUSEHOLD

Education	SELF-CARE MEASURES				
	Dissatisfaction Cost- Convenience (1st Dimension)	Dissatisfaction Provider Characteristics (2nd Dimension)	Medical Care Efficacy (3rd Dimension)	Acceptance New Practitioners (4th Dimension)	Preventive Care (5th Dimension)
Less than high school	33%	5%	58%	60%	28%
High school only	35	9	78	50	45
More than high school	36	8	87	58	61
Total %	35%	8%	75%	55%	45%
	Gamma = .04 Tau c = .02	Gamma = .12 Tau c = .02	Gamma = .44 Tau c = .22	Gamma = -.01 Tau c = .00	Gamma = .40 Tau c = .25

TABLE 13
PERCENT WHO SCORED HIGH ON EACH OF THE MEASURES OF POTENTIAL INTEREST
IN SELF-CARE BY FAMILY INCOME

Income	SELF-CARE MEASURES				
	Dissatisfaction Cost- Convenience (1st Dimension)	Dissatisfaction Provider Characteristics (2nd Dimension)	Medical Care Efficacy (3rd Dimension)	Acceptance New Practitioners (4th Dimension)	Preventive Care (5th Dimension)
Less than \$6,000	34%	7%	63%	62%	29%
\$6,000-\$10,999	36	9	77	52	42
\$11,000 and over	35	8	84	52	57
Total %	35%	8%	75%	55%	45%
	Gamma = .00 Tau c = .00	Gamma = .04 Tau c = .04	Gamma = .36 Tau c = .18	Gamma = -.12 Tau c = -.08	Gamma = .38 Tau c = .25

non-physicians in medical care. However, as pointed out earlier, Whites are more apt than Blacks to express belief in medical care and they are far more likely to seek preventive care.

Scores on potential interest in self-care by sex

Differences by sex in each of the measures of potential interest in self-care are not as striking as anticipated, and if anything they are contrary to expectations. Table 15 shows that men appear slightly more dissatisfied with the cost-convenience aspects of medical care and perhaps even the provider-characteristics dimension. Both sexes are identical in belief in the efficacy of medical care. Men are more apt than women to be accepting of new practitioners, but women are more likely to have obtained preventive care.

Summary scores on potential interest in self-care

Tables 16 through 21 present summary scores on potential interest in self-care by each of the demographic groups discussed above. These measures are computed by adding scores from each of the dimensions so far described. In each case the respondent received a "1" for a dimension if he had a score that indicated possible interest in self-care and "0" if he did not. The summary measure is a cumulated score from all the dimensions. Although the relationships are not especially powerful, it is clear that the younger groups are more inclined to score high with respect to interest in self-care activities than the older groups. Apparently with advancing age, the propensity to respond negatively on more dimensions increases. With respect to residence interest in self-care seems distributed across all the groups, although the SMSA suburban group seems to have slightly higher scores. There is a somewhat stronger relationship between the summary score and education. Clearly, those in the most educated group have the greatest propensity to score high on possible interest in self-care activities, and those with less than a high school education the least tendency. The relationship to income is somewhat weaker than that to education, but it also is in the positive direction, overall. Those with highest incomes receive the highest scores. The relationship between race and self-care interest is not extremely pronounced, but the white race tends to show somewhat more receptivity to self-care. The results by sex show little dif-

TABLE 14
PERCENT WHO SCORED HIGH ON EACH OF THE MEASURES OF POTENTIAL INTEREST
IN SELF-CARE BY RACE¹

Race	SELF-CARE MEASURES				
	Dissatisfaction Cost- Convenience (1st Dimension)	Dissatisfaction Provider Characteristics (2nd Dimension)	Medical Care Efficacy (3rd Dimension)	Acceptance New Practitioners (4th Dimension)	Preventive Care (5th Dimension)
White	34%	8%	77%	58%	47%
Black	42	7	59	59	29
Total %	35%	8%	75%	55%	45%
	Gamma = .17 Tau c = .05	Gamma = -.10 Tau c = -.01	Gamma = -.39 Tau c = -.41	Gamma = .09 Tau c = .02	Gamma = -.37 Tau c = -.12

¹Those of Oriental race are excluded from this analysis because they are too few in number.

TABLE 15
PERCENT WHO SCORED HIGH ON EACH OF THE MEASURES OF POTENTIAL INTEREST
IN SELF-CARE BY SEX

	SELF-CARE MEASURES				
	Dissatisfaction Cost- Convenience (1st Dimension)	Dissatisfaction Provider Characteristics (2nd Dimension)	Medical Care Efficacy (3rd Dimension)	Acceptance New Practitioners (4th Dimension)	Preventive Care (5th Dimension)
Male	38%	9%	75%	59%	43%
Female	33%	7%	75%	52%	47%
Total %	35%	8%	75%	55%	45%
	Gamma = -.12 Tau c = -.06	Gamma = -.14 Tau c = -.02	Gamma = .00 Tau c = .00	Gamma = -.15 Tau c = -.07	Gamma = .07 Tau c = .04

TABLE 16

PERCENT¹ WITH EACH SUMMARY SCORE ON POTENTIAL INTEREST
IN SELF-CARE BY AGE

Age	SCORE					
	LOW 0	1	2	3	4	HIGH 5
Less than 35	2%	16%	41%	30%	9%	2%
35-44	4	17	37	29	11	2
45-54	4	21	39	28	7	2
55-64	5	25	36	25	9	0
65 and over	8	28	40	19	4	1
Total %	4%	21%	39%	27%	8%	1%

Gamma = -.16

¹Where percents do not add up to 100% it is due to rounding error.

TABLE 17

PERCENT¹ WITH EACH SUMMARY SCORE ON POTENTIAL INTEREST
IN SELF-CARE BY RESIDENCE

Residence	SCORE					
	LOW 0	1	2	3	4	HIGH 5
Rural farm	4%	23%	39%	27%	7%	1%
Rural nonfarm	6	23	35	28	9	0
SMSA central city	5	22	39	26	8	2
SMSA other	2	17	41	28	10	2
Other urban	5	19	41	28	7	1
Total	4%	21%	39%	27%	8%	1%

¹Where percents do not add up to 100% it is due to rounding error.

ference, but males may be slightly more likely to accept self-care than females. It seems that women, most of whom are not in the vanguard of women's movements, may be a little more inclined to dependency on their interactions with the medical care system than are men.

One qualification to the above findings should be noted. The results using the scale without the preventive care dimension showed much weaker relationships on all variables but sex. There was essentially no relationship between family income or race and interest in self-care. For sex, omission of the preventive care measure led to a

TABLE 18

PERCENT¹ WITH EACH SUMMARY SCORE ON POTENTIAL INTEREST
IN SELF-CARE BY EDUCATION OF HEAD OF HOUSEHOLD

Education	SCORE					
	LOW 0	1	2	3	4	HIGH 5
Less than high school	7%	30%	40%	19%	4%	0%
High school only	5	21	39	26	8	2
More than high school	1	12	37	35	13	2
Total	4%	21%	39%	27%	8%	1%

Gamma = .31

¹Where percents do not add up to 100% it is due to rounding error.

TABLE 19

PERCENT¹ WITH EACH SUMMARY SCORE ON POTENTIAL INTEREST
IN SELF-CARE BY FAMILY INCOME

Income	SCORE					
	LOW 0	1	2	3	4	HIGH 5
Less than \$6,000	6%	26%	40%	22%	6%	0%
\$6,000-\$10,999	4	21	40	28	7	2
\$11,000 and over	3	16	38	30	11	2
Total	4%	21%	39%	27%	8%	1%

Gamma = .20

¹Where percents do not add up to 100% it is due to rounding error.

stronger relationship, with men showing more inclination to self-care. Therefore, to the extent that the preventive care variable measures a disposition to take discretionary health action, our interpretations of the summary scores seem reasonable. If, however, the preventive health dimension is simply measuring willingness to spend money on care that is rarely covered by insurance or a greater dependency on the system our inferences need to be tempered.

A summary of this data brings the discussion back to some obser-

TABLE 20
PERCENT¹ WITH EACH SUMMARY SCORE ON POTENTIAL INTEREST
IN SELF-CARE BY RACE²

Race	SCORE					HIGH 5
	LOW 0	1	2	3	4	
White	4%	20%	39%	27%	8%	1%
Black	9	25	36	25	6	1
Total	4%	21%	39%	27%	8%	1%

Gamma = .16

¹Where percents do not add up to 100% it is due to rounding error.

²Those of Oriental race are excluded from this analysis because they are too few in number.

TABLE 21
PERCENT¹ WITH EACH SUMMARY SCORE ON POTENTIAL INTEREST
IN SELF-CARE BY SEX

SEX	SCORE					HIGH 5
	LOW 0	1	2	3	4	
Male	4%	20%	38%	27%	9%	2%
Female	4%	21%	40%	27%	8%	1%
Total	4%	21%	39%	27%	8%	1%

Gamma = .04

¹Where percents do not add up to 100% it is due to rounding error.

variations on social movements in the United States. According to the preceding analysis, it seems that the ideology of self-care is best reflected in the thinking of those who are younger, white and suburban (albeit to a slight degree). More especially, it is characteristic of those with higher incomes and particularly with high educational attainment. Successful social movements in the United States have been reform movements rather than revolutionary movements, and they have had narrow goals (rather than objectives to change major aspects of the social structure) that are implemented by influencing elites.² Clearly those with the highest education and income are the elites within our society, thus the prognosis for self-care seems optimistic. However, those who might be judged most "in need" of the movement appear to be the least likely candidates.

IV. Needed new research

It is clear as a result of the foregoing analysis that there is a prime need for more explicit indicators of willingness to participate in self-care programs. More specifically, in terms of the assumptions originally outlined, the needs for research are as follows:

The value of health and medical services

As has been pointed out above, there are a number of researchers working on the sticky methodological problems in measuring consumer values. Successful research in this area would greatly inform the assumptions made about where health and medical care lie in the value structure of Americans. Moreover, it would be useful for the self-care movement to know to what extent health and medical care are *one* value to Americans and to what extent they are differentiated, with health as a broader issue. Where does *each* rank in the public's priorities when rated on the same scale?

Consumer satisfaction

This is also an area that is receiving increasing attention from health researchers. The mystery of why people still report general satisfaction with their medical care, given all the publicity about poor medical services, has yet to be resolved. Moreover, an important area which has not been touched is a comparison of consumer satisfaction across services to see if medical care and doctors in particular truly have a special standing by the measures used in comparison with, say, the supermarket, the hairdresser, lawyers, government services, and others.

The value of independence

We need more direct measures of how strong the desire for independence really is. What do people really wish to be able to do for themselves? What services would they like to be able to perform, and which would they take the time to learn to do? Precisely, are people interested in learning to perform more of their own primary care? Are they interested in other aspects of good health, such as

nutrition and exercise? Would they actually participate in activities to learn these skills?

What are the determinants of expressions of interest in this area, and who are the groups who say they would actually take some action? What other beliefs do these people express? Are they the beliefs hypothesized above — dissatisfaction with health care, belief in the medical system, and agreement that non-physicians can perform primary care? Are these the people most apt to have sought other preventive care from the medical system?

Related questions are: How compelling is the authority of physicians? Are they seen as needed figures of respect and awe? How does the public interpret the increasing incidence of malpractice suits? Do they see these as unusual cases, or do they accept them as indicators of substandard medical care in general?

Necessity of medical care

Is the public ambivalent about the usefulness of medical care? Is skepticism about medical care a fatalistic response, or are some of the responses expressing faith in home remedies, will power, and one's own assessment of health more carefully reasoned? How much belief is there in the importance of nutritional practices, exercise, and other health-related behavior as alternatives to medical care?

Becoming a source of primary care

What are the steps that lead people to participate in self-care activities? To what extent is publicity about such programs an important "cue to action"?

Do people who have made the effort to inform themselves in the area of self-care actually improve their own care? Do they retain and use the knowledge they have been exposed to? Finally, do they use the system more successfully than the less informed when they are obliged to seek technically more sophisticated care?

Other needed research

A number of other areas of needed research on self-care seem implied by the above, although they do not come directly out of the assumptions of the self-care movement analyzed here.

First of all, a baseline study on health practices and attitudes

across the United States and within major population groups seems in order. We need to know what people actually can and will do for themselves in a variety of areas and the beliefs they hold which complement their behavior.

We need to know more precisely what kinds of self-care programs that go beyond current practices and attempt to train people to carry out more of their primary care have been successful. There is some evidence in the literature that patients with specific illnesses have benefitted from patient education programs and that, in addition, the health services system may also benefit in terms of lowered costs and more efficient use of services.^{69,70,71,72} More information on the economic, manpower, and quality of care effects of various types of programs is necessary to determine whether or not this is an area which deserves much greater emphasis because of the long-term benefits to be derived in the health of the population and the economy in general.

Therefore, a broader issue is, will the generally "well" population benefit from self-care programs as well with respect to self-perceived and evaluated health status measures and more general measures of personal well-being? Would they utilize fewer formal medical care services? Are they less likely to become involved in costly major illness episodes? Does their use of preventive health measures change significantly?

It is necessary to obtain answers to the above questions for different population subgroups and people of various income and educational levels.

There are, of course, difficult methodological problems in exploring these issues. However, the ultimate justification for the self-care movement, as well as for the formal medical system to which the self-care movement is reacting, depends on answers to such questions.

69. Healy, Kathryn M., "Does Preoperative Instruction Really Make a Difference?" *American Journal of Nursing* 68 (January 1968) pp. 62-67.

70. Karam, George, "Teaching Can Improve Healing," *Hospitals* 47 (March 1973) pp. 38, 134.

71. Egbert, Lawrence D., et al., "Reduction of Postoperative Pain by Encouragement and Instruction of Patients," *New England Journal of Medicine* 270 (No. 16) (April 1964) pp. 825-827.

72. Rosenberg, Stanley G., "Patient Education Leads to Better Care for Heart Patients," *HSMHA Health Services Reports* 6 (September 1971) pp. 793-802.