

# A Study of Preventive Health Attitudes and Behaviors in a Family Practice Setting

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Preventive health care has been identified as a major function of the family physician. The ability of the family physician to significantly affect the preventive health status of a patient and his/her family is largely dependent on the preventive health attitudes and health care practices of the patient. This preliminary study identifies some of the attitudes towards preventive health and reported health care practices of a sample of patients in a model family practice unit. The authors found that social position was significantly associated with assessment of personal health, attitudes towards preventive health practices, and attitudes toward the preventive function of the physician. While the majority of the study population was willing to spend time to obtain preventive health care services, the same population was almost evenly divided about their willingness to spend extra money to obtain these services. The physician was cited as the most frequent source of health care information by respondents in this study.

Family practice is committed to the concept of comprehensive medical care including health maintenance and preventive health.<sup>1</sup> Preventive health behavior in this study follows Kasl and Cobb's<sup>2</sup> definition as behavior aimed either at the prevention of disease or at the detection of disease in an asymptomatic stage. Examples of the former used in the present analysis are immunizations; of the latter, a pap smear or general physical examination.

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Training programs in family medicine have increasingly emphasized the accumulation of a routine data base and the periodic health assessment. Buck<sup>3</sup> suggests that preventive medicine at the personal level should become the responsibility of the family physician. The "Lifetime Health-Monitoring Program" described by Breslow and Somers<sup>4</sup> in 1977 added impetus to the concept of prevention as one of the primary features of good medical care. Frame and Carlson<sup>5</sup> reviewed many major common diseases, systematically defining those entities which should be screened and how this screening should occur. Significant success in this endeavor depends on whether the consumer "buys into" this concept of health maintenance and prevention, and utilizes preventive health care services.

Bullough<sup>6</sup> reported that socioeconomic status is

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a determining factor in the utilization of preventive health care services. Her data suggest that powerlessness, hopelessness, and social isolation were barriers to preventive health care utilization in a low socioeconomic urban population. Cochman<sup>7</sup> and Suchman<sup>8</sup> explored other psychological factors affecting preventive health care behavior, while Podell<sup>9</sup> and Coburn<sup>10</sup> examined preventive health utilization patterns in other populations. These studies were descriptive in nature and focused almost exclusively on lower socioeconomic populations in large cities where continuity of care was lacking.

As Stamps<sup>11</sup> pointed out, "the success of family practice is partially dependent on the patient utilizing the family physician in a manner consistent with . . . the model of family practice." Family medicine, then, is in a unique position to examine the preventive health care attitudes and practices of a cross section of health care consumers. With this information the family physician can provide better health education and more appropriate preventive health measures to meet the needs of his/her patients.

The purpose of this study is twofold: (1) to describe the preventive health attitudes found in a family practice setting; specifically, attitudes toward the concept of preventive health care, the preventive function of the physician, and the time/cost involved in obtaining preventive health care; and (2) to compare these preventive health care attitudes with preventive health behaviors by social position.

## Methods

The data for this report were obtained from responses to a questionnaire designed to assess specific preventive health care attitudes and practices. The questionnaire was mailed early in the summer of 1978 to a random sample of ten percent (225) of the families active as patients in the family medical center at the University of Kentucky, Lexington. Ninety-two questionnaires were returned for a 39.8 percent response rate. This includes questionnaires obtained by these follow-up methods. First, a postcard reminder was mailed two weeks after the initial mailing; then telephone calls were made to the remaining nonrespondents.

Fifteen percent of nonrespondents could not be reached by telephone or mail.

The questionnaire was divided into three sections. The first section requested demographic information used to construct social position in this study. The second section requested responses to statements about five areas of preventive health, namely, importance of health, preventive health care practices, preventive function of the physician, cost, and value of time to obtain preventive health care services. The last section consisted of a series of check-off statements about whether or not specific family members had regular medical check-ups, their sources of health care information, and reports of specific recent preventive health care activities engaged in by each family member.

The statements eliciting attitudinal responses, in the second section, were constructed by designing 20 statements about different facets of preventive health care. The statements were pretested on random patients and nurses in the family medical center for clarity and consistency in interpretation. Sixteen statements remained in this section of the finished questionnaire.

Response patterns to these statements were examined using a modified Likert-type<sup>12</sup> scale with five possible choices—strongly agree, agree, uncertain, disagree, and strongly disagree. The responses were scaled from +2 to -2 depending on whether the statement reflected a positive or negative concept about preventive health care. For simplification in analysis, the five response modes were collapsed into three: agree, uncertain, and disagree. The statements were devised to begin with "many people" think instead of "I" think or "I" feel. Information suggests that people respond more accurately about their own personal feelings when they feel they are dealing with group comparisons rather than with a personally directed "I" statement.<sup>13</sup>

Hollingshead's<sup>14</sup> *Two-Factor Index of Social Position* which weights the occupation and formal education of the head of household was used to divide the study population into social positions. The five levels of social position, as originally defined by Hollingshead, were collapsed for simplicity into three levels—high, middle, and low. The responses to each item on the questionnaire have been analyzed by these three social position categories. The groups may be distinguished as

follows: the high social position group is composed of families where the head of the household is a business or professional person with a college or additional graduate education; the heads of households of the middle group are white collar workers, small business proprietors, or skilled workers with a high school education or some college training; the heads of households of the low group are semi-skilled to unskilled workers with generally less than a completed high school education.

Hollingshead's original index has been validated under varying conditions to assure that it adequately differentiates members of urban populations along lines reflective of social class behavior. It was developed in a university community and thus has some similarity and application to the Lexington area. The reduction of five levels to three levels is arbitrary in this data analysis.

The objection can be raised that the data from a 40-percent return rate (92) may not be representative of the entire study population of 225. When the social position distribution of the questionnaire sample (92) was compared to the social position distribution of the entire study sample (225) (obtained from a concomitant chart review), there was no statistically significant difference between the social position make-up of these two samples. The data from the questionnaire therefore have a high likelihood of representing the entire study population of 225.

The relationship between social position and various items on the questionnaire was examined using Kendall's Tau B and Gamma which are measures of association for ordinal scale data. Gamma-scores of .25 or more and Kendall's Tau B with a P value of .05 or less were considered significant enough to support associations between preventive health care attitudes/practices and social position.

## Results

The demographic characteristics of the 92 heads of households in this study were remarkably similar to the demographic characteristics of the general population of the Lexington area.<sup>15</sup> The heads of households ranged in age from 21 to 72 years, with a mean age of 37 years. The predominant age

group was the 31-to-35-year-old subset. This group accounts for 29 percent of the sample respondents. More than 70 percent of the heads of households had some form of college education, and the mean income was \$12,500. Twenty-five percent of respondents did not enter their race but a chart review of this sample from the family medical center revealed that 20 percent were nonwhite.

Thirty-eight percent of the heads of households indicated they were women. In other studies where women have been reported as a significant proportion of the heads of households, the study sample was drawn from a low socioeconomic population. Factors which may have influenced this high a proportion of female heads of households included the university community with its increased educational, social, and employment opportunities.

The study population was stratified by education and occupation using a collapsed version of the Hollingshead Two Factor Index of Social Position. Seventeen heads of households could not be classified into social position groups because they were retired, unemployed, or in school thus eliminating the weighting of occupation. When social position was used in data analysis, N equals 75. Fifty-five percent of the study population were in the middle social position group, while 23 percent had criteria placing them in the high social position group and 22 percent fell into the low social position group. With almost equal high and low social position groups and a preponderant middle social position group, this study population is a sample of a cross section of different levels of our society.

The average income (\$13,500) of the high and middle social position groups was identical, while the average income (\$6,300) of the low social position group was much lower. Social position in this study is a more sensitive discriminator of social stratification than income alone.

Table 1 displays responses by social position to a question asking, "How do you rate your own health?" With a range of responses from "excellent" to "poor," the only assessments of health as low as "fair" were found in the low social position group respondents (31 percent). All of the respondents in the high and middle social position groups rated their health as "excellent" or "good." The difference in the response patterns regarding assessment of personal health when the high/

Table 1. Individual Assessment of Personal Health			
Assessment	Percent by Social Position		
	High	Middle	Low
Excellent	47	40	19
Good	53	57	50
Fair	0	0	31
Poor	0	0	0
Nothing Entered	0	3	0

Table 2. Attitudes by Social Position Toward Preventive Health Care Practices in Response to Statement: "Many People Expect Their Doctor to Ask About Daily Life Habits Which May Affect Their Health"			
Social Position	Attitude (%)		
	Agree (Positive)	Uncertain	Disagree (Negative)
High	24	35	41
Middle	67	19	14
Low	73	20	7
Entire Study Population	58	23	19

middle social position groups were compared to the low social position group is significant to the .001 level (Kendall's Tau B test of association). This indicates that there is a strong relationship between social position and assessment of personal health.

The next section of the questionnaire contained 16 statements assessing attitudes towards 5 different categories of preventive health care. The most positive responses were found in the following categories: the importance of health, preventive health care practices, and the value of time expended to obtain preventive health care services. The majority of study respondents agreed that these concepts were important to them regardless of social position. When the responses to statements about the preventive vs curative function of the physician were examined, there was almost an

even division of opinion. Cost of preventive health care as a category was the only area which elicited a significant negative response from the entire study population. Forty-five percent of respondents were either uncertain or unwilling to expend additional monies for preventive health care services.

The statement in Table 2 was designed to measure attitudes toward preventive health practices. The agree (positive) response rate for the entire study population was 58 percent. However, a marked difference existed in the positive responses between the high social position group (24 percent) and the low social position group (73 percent). This difference is significant to the .001 level. This indicates that there is an association between attitudes towards preventive health care practices and social position. The data suggest that

**Table 3. Attitudes by Social Position Toward the Preventive Function of the Physician in Response to Statement: "A Doctor's Main Job Is To Cure an Illness You Already Have Rather Than Prevent One From Developing"**

Social Position	Attitude (%)		
	Agree (Negative)	Uncertain	Disagree (Positive)
High	12	0	88
Middle	15	7	78
Low	38	12	50
Entire Study Population	20	7	73

**Table 4. Attitudes by Social Position Toward the Cost of Preventive Health Care in Response to Statement: "Health Insurance That Pays for Coverage for Routine Health Check-Ups Is Worth the Extra Cost"**

Social Position	Attitude (%)		
	Agree (Positive)	Uncertain	Disagree (Negative)
High	41	24	35
Middle	60	24	17
Low	60	20	22
Entire Study Population	55	23	22

people in the high social position group are much less likely to expect that daily life habits will be assessed or that this task is even important to their future health when they are compared to persons in the lower social position groups.

The statement in Table 3 was designed to measure attitudes about the preventive health function of the physician. Over 50 percent of the respondents in each social position group disagreed with this statement. This suggests that at least a simple majority of respondents in all three social position groups perceived the physician as possessing a preventive function. When response patterns between social position groups were compared, the high social position group's positive response rate of 88 percent was much greater than the positive

response rate of 50 percent for the low social position group. These differences are statistically significant ( $P \leq .01$ ). The preventive function of the physician was perceived more strongly by the high social position group. This suggests that there is an association between social position and how strongly people perceive the preventive function of the physician.

Table 4 displays the response pattern to a statement designed to measure attitudes about buying preventive health care services. Fifty-five percent of all respondents agreed with this statement. Although the high social position group was less positive (41 percent) than the low social position group (60 percent), the differences between the groups are not statistically significant. The

**Table 5. Health Information Source Ranked by Importance and Social Position**

High Social Position	Middle Social Position	Low Social Position
1. Medical Doctor	1. Medical Doctor	1. Medical Doctor
2. Magazines	2. Magazines	2. Pamphlets
3. Pamphlets	3. Newspapers	3. Newspapers
4. Reference Books	4. Pamphlets	4. Television
5. Newspapers	5. Reference Books	5. Magazines
6. Nurses	6. Television	6. Reference Books
7. Family	7. Nurses	7. Nurses
8. Schools	8. Family	8. Family
9. Television	9. Pharmacist	9. Pharmacist
10. Pharmacist	10. Schools	10. MD Office

most interesting feature about the response pattern to this statement is the high degree of uncertainty found across all social position groups regarding the concept of spending extra money for prevention. No other aspect of preventive health care provoked this high a level (23 percent) of uncertainty. If the number of uncertain and negative responses are combined into a "not-positive" response mode, then close to one half (46 percent) of the respondents did not agree with this statement. Another statement in the questionnaire designed to assess attitudes toward the notion of saving money to pay for preventive health care services elicited a similar response pattern including the high degree of uncertainty. When the responses to these cost statements were analyzed by income levels instead of by social position, a similar pattern of uncertainty and negativity emerged. These data may have implications for the acceptability and delivery of preventive health care services.

The third portion of the questionnaire requested that respondents identify their sources of health information, checking them off from a comprehensive list. Respondents were not asked to rank order these sources. The individual could mark as many health information sources as were appropriate for him or her. Space was provided for individuals to identify their own personal sources of health information not found on the list. Table 5 is a ranking of all the sources of health information in descending order by the number of times each item was checked by persons in different social position groups. "Medical Doctor" was men-

tioned most frequently, with written material following second and third, regardless of social position. Television, as a source of health information, gradually increased in importance as social position decreased. This suggested that television was a more frequently utilized source of health information for people with less formal education and lower occupational status. Preventive health education may affect preventive health utilization. Knowledge of these sources of health information for different levels of our society may be important in assessing and changing preventive health behaviors.

The final portion of the questionnaire consisted of a check-list eliciting data regarding whether the adult family members had obtained a physical examination, pap smear, or breast examination within the previous year. There were virtually no differences in the reported occurrence of physical examinations between male and female respondents. When these data were analyzed for differences between social position groups, the moderate differences that did occur are not significant by standard tests of significance. With almost two thirds of the adults in this study reporting a physical examination within the year, sex and social position were not significantly associated with the frequency of this preventive health activity in this study population.

When the self-reported occurrence of pap smears and breast examinations was analyzed, the reported frequency of these two preventive health care activities decreased with social posi-

tion. The most striking example of this is the frequency of pap smears reported by high social position women (93 percent) compared to that reported by women in the low social position group (69 percent). These differences were not, however, statistically significant ( $.10 > P > .05$ ). Data for breast examinations showed a similar but less striking trend.

## Discussion

It has been well established that social status or stratification is associated with health attitudes and practices. In a classic study, "The Health of Regionville" (1954), Koos<sup>16</sup> determined social class by occupation alone. He found that people in higher social classes were much more likely to have an identified family physician and reported a higher incidence of preventive health examinations when compared to persons in the lower social class. A more recent study by Tyroler<sup>17</sup> in 1965 found that tooth salvage, used as an indicator of preventive health care, increased with social class. Coburn and Pope<sup>10</sup> reported in 1974 that men in upper socioeconomic levels were much more likely to have dental check-ups and polio immunizations but not preventive medical check-ups when compared to men of lower socioeconomic levels. Indeed, social position or class appears to be an important predictor of preventive health care attitudes and utilization. This pilot study, then, is one of the first reported attempts within the discipline of family medicine to describe the consumer's perceptions and activities regarding prevention and health maintenance.

One of the most interesting findings in this study was the low assessment of personal health by respondents in the low social position group compared to respondents in the high and middle social position groups. It was not possible to document the actual health status of the participants in this study population. Thus, a comparison of actual health status vs perceptions of health cannot be addressed. This finding corresponds to data reported by Bullough<sup>6</sup> which suggest that persons in lower social groups feel powerlessness, social isolation, and hopelessness. These feelings may also contribute to a low assessment of per-

sonal health, low perceptions about prevention, and ultimately the low utilization of preventive health care services.

The majority of respondents in this study valued health and were willing to spend time learning that they were healthy. However, their response to statements about the importance of health care practices was not overwhelmingly positive. Only 24 percent of the high social position group expected physicians to inquire about habits important to their health. On the one hand, this might reflect significant doubts that this kind of disclosure would benefit them. On the other hand, this information rarely may have been asked of the patient in the past, or when it was requested it rarely may have been acted upon by the physician. Clearly, less than one fourth of the high social position group perceived this inquiry about life health habits as a preventive health care activity. At the other end of the spectrum, persons in the low social position group responded positively to this statement, expecting their physician to inquire about life habits which affect their health. More precise information needs to be obtained regarding perceptions of preventive health care practices from these different strata of our society.

The perceptions of the curative vs preventive function of the physician have implications for the utilization of preventive health care services. When one half of the persons in the low social position group did not perceive the physician as a preventer of disease, they may be less likely to utilize the physician for preventive health care. This has been confirmed in other studies previously mentioned.<sup>10,16,17</sup> When analyzing actual preventive health utilization data, the reported breast examination and pap smear data in this study suggested a similar decreased utilization pattern among women in the low social position group.

If persons in the low social group were convinced of the preventive role of the physician, this conviction might increase awareness and utilization of preventive health care services. To change perceptions and behaviors requires knowledge of where people obtain their health information. Physicians need to be in the forefront of preventive health care education since in this study all social position groups listed the physician as the most frequent source of health information. Whether or not physicians are convinced that pre-

ventive health care activities are worth the time and effort is a question this study does not address. Studies should be carried out to determine the manner in which the physician's efforts in preventive health care education might be enhanced. This study indicates that the role of television as a source of preventive health education to persons in lower social position groups might be further explored.

The economics of health care are complex and preventive health care is no exception. In the responses to statements in the study about saving money for preventive health care activities and buying insurance that pays for preventive care, there was not an overwhelming agreement that preventive health care services were worth the extra cost. Forty-five percent of the respondents were either uncertain or had negative attitudes about the individual economic value of preventive health care services. These findings suggest that many persons are not convinced that preventive health care activities are economically worthwhile. Some persons may perceive preventive health care services as a nonessential luxury while others may believe these services are so fundamental to good health care that no additional cost is necessary. For those persons who are willing to pay for preventive health care services, economic considerations may not be the most important factor in determining their preventive health care utilization. The attitudes and practices of our society towards the cost and value of preventive health care services deserves study in greater depth.

The data presented here begin to demonstrate preventive health care attitudes and practices in a family practice population. The numbers are small and further work is needed to confirm and expand these findings.

This study has focused on attitudes towards preventive health care and self-reports of preventive health care practices. There is an association between social position and how individuals assess their own health; between social position and attitudes towards preventive health care practices; and between social position and the perception of the preventive function of the physician in a family practice setting. More information is needed about physician perceptions of preventive health, preventive health care education, and obstacles to engaging in preventive health activities.

Family medicine needs to look outside the traditional health care system for answers and improved methods of providing preventive care to its patients. This has best been stated by Sackett<sup>18</sup>: "the present health structure does not have as profound an effect as factors lying outside the system on the health of the general population. . . . the factors affecting health tend to be outside the system: social, economic, family, and government."

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