Delay and Noncompliance in Cancer Detection

A Behavioral Perspective for Health Planners

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PERHAPS MORE THAN ANY OTHER DISORDER, successful treatment of cancer requires medical intervention before symptoms become visible to the patient. The value of early detection and treatment is widely acknowledged by both laymen and public health authorities. To promote early diagnosis, the National Cancer Act of 1971 has mandated the establishment of cancer screening facilities on a nationwide basis (Fink, D. J., 1975). Few would dispute the need for an improved detection and triage capacity aimed at decreasing the mortality rate from cancer, but the availability of new screening facilities alone cannot reduce the cancer death rate.

Indeed, medical intervention may play only a limited role in controlling cancer, for several reasons. First, economic, environmental, and educational factors may contribute more than medical care in reducing mortality, as was the case with infectious diseases during the 19th century (McKeown, 1965). Second, the individuals most likely to utilize cancer detection facilities may not necessarily be those in greatest need. Cancer incidence and mortality are highest among poor people and racial minorities (Lilienfeld et al., 1972;

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Henschke et al., 1973), yet the most consistent users of preventive health care facilities tend to be educated, socially advantaged whites (Coburn and Pope, 1974; McCullough and Gilbertson, 1969; Kegeles, 1965; Whited, 1962). Third, even individuals who do go for screening often fail to take prompt action when informed of suspicious findings. While all these issues are important in understanding and planning early detection, this article considers only the last. Delay and noncompliance following cancer screening reflect basic problems in the United States health care system which must be overcome if early detection efforts are to be maximally useful.

Researchers in health and illness behavior have devoted much attention to the reasons why individuals delay approaching health care providers for recognized or suspected maladies, and, when they do, why they fail to comply with treatment directives. But, with few exceptions, these investigators have focused only indirectly on the willingness of individuals to move promptly from the initial step to the next in the health care system. The movement of individuals from early detection facilities to sources of conclusive diagnosis and treatment represents an important example of this process. If it were found that the same factors accounting for noncompliance and delay in traditional health care settings also deterred individuals from promptly following up their visits to early detection facilities, the applicability of a large body of research and theory would be extended. This extension could generate suggestions for improving movement between other points in the health care system, a process of growing importance as health services become increasingly differentiated and complex.

Delay in approaching health care providers results from people's reluctance to consider themselves sick or vulnerable to disease as well as from other, more concrete factors. In his well-known conceptualization of the sick role, Parsons writes that "most normal people ... are motivated to underestimate their chances of falling ill, especially seriously ill" (1951:443). Empirical researchers have reported many attitudinal and social structural variables that discourage individuals from viewing themselves as ill and seeking professional help. Koos writes that given similar symptoms, lower class persons are less inclined than upper class persons to think that they are ill and to consult physicians (1954). Suchman implies that many consider themselves ill and in need of help only if they experience obvious need in the form of pain and other "severe, con-

tinuous, incapacitating, and unalleviated" symptoms (1965). Mechanic lists psychological factors as deterrents to seeking help, including stigmatization, social distance, feelings of humiliation, and concrete considerations such as time, money, and effort (1968:131). Emphasizing concrete variables, Andersen notes that individuals are often unlikely to seek medical care in the absence of "enabling factors," such as personal, family, and community resources (1968). Aday adds that those who have no regular source of medical care are less likely to see physicians in response to disabling illness than those who do (1975:453).

Even after initial contact with physicians, similar factors often motivate patients not to comply with medical regimens. In their extensive review of the literature, Becker and Maiman (1975) suggest that patients who do not perceive their symptoms as serious are less likely to follow physicians' instructions than those convinced that they are or may become seriously ill. Battistella notes that individuals who are optimistic about the ability of medicine to successfully treat serious illness are less likely to delay recommended treatment than others (1971). Korsch states that weak doctor-patient relationships, appearing as poor communication or unfulfilled expectations, increase both delay and noncompliance (1968).

The factors that contribute to delay and noncompliance in general medicine seem likely to occur in cancer screening as well. Features of early detection that weaken doctor-patient relationships appear especially likely to discourage prompt follow-up. Detection facilities are typically large, automated affairs that provide multiphasic testing. Davis reports that administration of large numbers of tests in general medicine tends to discourage compliance with medical directives (1960). And, according to several studies, health professionals who have no regular association with their patients a characteristic of doctors at screening centers — command less authority over their acts than family physicians (Chauney, 1967). Cancer, though, is sufficiently different from other diseases to caution the investigator against automatically assuming the applicability of findings observed in other illnesses. The dread with which most people perceive cancer seems likely to cause them to delay in seeking conclusive diagnosis when informed of suspicious indications, a factor that encourages victims of other illnesses to seek help (Cobb et al., 1954; Kutner and Gordon, 1961).

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Delay and noncompliance in cancer screening, though, may depend less upon anxiety related to cancer or features of the screening facility than processes that link early detection to other points in the health care system. Early detection initiates a progression of events more complex than the traditional doctor-patient relationship. The individual who undergoes screening is not a patient in this sense; rather, he or she retains the sole responsibility, independent of any contractual relationship, of procuring definitive diagnosis and treatment from a physician outside the screening center. Linkages of this kind are highly problematical, depending entirely on the individual's willingness and ability to maneuver successfully through a highly fragmented system of health care delivery. Before instituting largescale multiphasic screening efforts, a society concerned with reducing mortality from cancer must understand the factors that inhibit this process and take steps to minimize their influence.

Case Study: The Metropolitan Screening Center

To learn more about the problem of noncompliance among persons screened, a well-established cancer detection facility in a large American city surveyed its clients in cooperation with researchers from the University of Chicago. The Metropolitan Screening Center (a fictitious name for an existing facility) was founded in the 1930s and is perhaps the oldest of its kind in the United States. Clients at Metropolitan undergo an extensive battery of tests, including most standardized cancer detection procedures, such as x-rays, proctoscopy, and mammography. The battery requires less than 3 hours to complete, and in 1977 the total fee was \$80.00. The Center screens about 2000 people every month, uncovers suspicious symptoms among about 12% of them, and in an average year discovers approximately 120 proven cases of cancer. There is a high level of satisfaction with the procedure, and many come back for retesting at regular intervals of from 1 to 3 years. Although Metropolitan aims at detecting cancers at presymptomatic stages, individuals are informed of signs of other illness or abnormality. The Center's program includes such noncancer-related procedures as hearing and vision testing, electrocardiography, and testing for diabetes. The screening begins with a set of health history questions which, like most of the Center's functions, is automated: the subject responds to questions appearing on a television screen by pressing buttons on a typewriter-like computer terminal.

Physicians perform complete physical examinations on all clients and conduct certain specialized procedures, while nurses and technicians administer many of the other tests. The individual has the option of returning to the Center for a consultation with the physician when analysis of the test results is completed. Physicians tend to advise of possible problems at the examination only in the case of obvious findings, otherwise reserving their comments for consultation sessions. After screening, those who do not attend the consultations receive a letter from the Center informing them, if appropriate, of suspicious findings in general language. If the name of a regular family physician has been offered on the intake form, the Center sends that physician a copy of the test results in the form of a computer printout. The Center attempts to keep track of client responses to findings indicating the possibility of cancer, sending forms to family physicians asking whether their patients have been examined. When persons with suspicious findings name no regular physician, they receive requests to inform the Center of the name of the physician they now choose. The Center attempts to consider a suspicious case "closed" only when it receives confirmation from a physician that the patient has been examined. Toward that end, up to four reminders are mailed to screened individuals and their physicians.

Study Design and Method

The University of Chicago researchers attempted to determine why persons failed to comply with the directive to seek prompt medical attention. They studied 430 active case records of the Center's clientele who had received word of suspicious symptoms but whose doctors had not returned forms indicating completed medical follow-up. The researchers reached 300 of the 430 clients and conducted short telephone interviews covering demographic characteristics, attitudes about Metropolitan, and activity in response to the findings of the screening. Personal interviews were attempted with the 47 who reported never having seen a doctor in response to Metropolitan's findings, and 30 were successfully com:

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pleted. Both the telephone and personal interviewing employed standardized research instruments. In addition to directly asking respondents about their motives for delay and failure to follow up, statistical analyses were performed to determine which attitudes and demographic characteristics predominated among those who engaged in lengthy delay or failed altogether to seek definitive diagnosis and treatment.

Before this study began, Metropolitan reported that 35% of the cases in which it found indications of possible cancer remained active. This rate of incomplete follow-up would have been alarming if it meant that an equivalent percentage of cases with suspicious findings had not consulted physicians in response to Metropolitan's directives. The survey, though, revealed that a majority had actually consulted physicians. Of the 300 individuals contacted, only 16% had not seen a physician in response to letters from and consultations at Metropolitan. Many screened individuals who contacted their physicians had done so only after extended periods of delay. As Table 1 shows, only about 40% of the sample contacted a physician within 2 weeks of receiving the first letter from Metropolitan. The investigators adopted a working definition of "noncompliance" which included all those screened who delayed 16 weeks or longer, as well as those who never contacted physicians. According to these criteria, 24%, or 70 individuals, were in noncompliance. On the basis of this finding, a total noncompliance rate of 8.4% was estimated among all individuals in whom Metropolitan detected indications of cancer. The 300 persons reached in the telephone survey were drawn from a pool representing 35% of the Center's suspicious cases. The

Symptoms and	l Follow-up in 292 Cl	ients
Weeks Elapsed	Cli	ents
Follow-Up	No.	%
0-2	118	40.4
3-11	87	29.8
12-15	17	5.8
16 or longer*	70	24.0
Total	292	100.0

 TABLE 1

 Weeks Elapsed Between Notification of Symptoms and Follow-up in 292 Client

*Includes "indefinite."

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total percentage of noncompliant individuals appeared to be 24% of this pool, or 8.4%.

The discrepancy between the percentage of active cases reported by Metropolitan and our estimate of noncompliance reveals a problem in the Center's system of tracking its clientele. While the Center occasionally makes contact by telephone, it ordinarily follows up cases by sending letters at periodic intervals to clients and physicians, closing cases only when the latter reply. Apparently, many screened individuals and physicians neglect or ignore the reporting procedure, leaving numerous compliers among Metropolitan's backlog of active cases. Although this finding suggests that Metropolitan should modify its follow-up system, it provides the investigators an opportunity to compare compliers with noncompliers selected from the same universe or highly similar universes. The characteristics of Metropolitan's reporting system, which relies heavily on the ability of often over-burdened physicians' offices to return the required forms, imply no systematic differences in the selection of compliers and noncompliers among the names that the Center provided.

Without assuming that the sample necessarily represented the universe of Metropolitan's total clientele, the researchers analyzed the data to learn and correlate patterns of behavior and social structure with delay or failure to follow up. It seemed highly possible that several different patterns would be detected. Data from both the telephone and face-to-face interviews were required to make judgments about these patterns. The telephone interviews provided systematic, quantitative data on delay, while the personal contact with noncompliers provided opportunity for more detailed understanding of their experiences.

Study Results

Social Background, Attitudes, and Contact with Physicians. Both the Center's case records and the telephone interviews on each client provided much quantitative data on social characteristics, attitudes toward medical care and multiphasic screening, and contact with other parts of the health care system. Two telephone questions attempted to measure delay, the first asking whether the clients had ever contacted a physician in response to Metropolitan's findings - 3

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Table 2 demonstrates the zero-order Pearson correlations among social background variables, attitudes, indicators of contact with the health care system, and delay in follow-up.1 It is immediately evident that clients who listed a family physician on the Center's intake forms did not delay as long in contacting a physician as those who listed none. Respondents who reported relatively recent visits to a physician also tended to delay follow-up less than others. The small number (12) of respondents who were referred to the Center by health care providers tended to avoid delay, as did those who cited a "periodic routine to maintain good health" as an important reason for seeking screening, those with several relatives who had had cancer, and those with relatively high occupational status measured according to a slightly modified version of Blau and Duncan's classification scheme (1967:467). There was little relation between delay and attending the Center in response to symptoms of illness, satisfaction with the Center, recommendation by the Center for surgical consultation, age, race, level of education, and marital status.

The major determinants of prompt follow-up appeared to be five variables: three were related to contact with the health care system (listing a regular physician, having recently visited a physician, and having been referred by a provider), one was attitudinal (considering periodic, routine checkups an important reason for attending Metropolitan), and one a social background variable (occupational status). To test the authenticity of these relations, all five variables were entered in a series of regression equations (Table 3). The first

¹As in most social science research, the variables included in Table 2 do not reflect the ideal characteristics of the statistical model upon which Pearson product-moment correlation is based. Statisticians and econometricians, though, have suggested that correlation (and multiple regression) have sufficient flexibility to be suitable for analysis of data which depart from the standard linear model and variables of lower order than interval measures. A convincing application of the method of least squares to dichotomous variables, for example, appears in J. Kmenta (1971:410-411). The method may also be applied to ordinal variables with the understanding that the standard errors of the coefficients are greater than for interval scales, a feature of the analysis which does not interfere with Table 2's primary function of locating a set of variables significantly related to delay.

Correl	ation Coe	fficients	s Amor	TAB 1g Varia	LE 2 ibles Ro	elated t	o Delay	/ in Fol	low-Up	*_				
Variables	-	2		4	s	6	٢	8	6	0	=	12	13	4
 Delay Regular physician listed Recent visit to physician Recent visit to physician Periodic checkups important Had symptoms Referred by provider Referred by provider No. of cancers in family Satisfaction with clinic. Surgical consult recommended Occupation Age Level of education Level of education 				03 03 03 03 03 03	03 03 - 03 - 03 - 03 - 03 - 03 -	03 03 03 03 - 03 - 0	1 4 4 1 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	- 10 - 10 - 10 - 10 - 10	- 01 - 01 - 01	<u>1955</u> 1971	- 13 - 30 - 09	1 <u>10</u>	18	1
*All values are Pearson product-moment co	rrelations.	20.02	for all v	alues of	10 or er	eater								

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	Standardized	Partial Regression	on Coefficients
Independent Variables	Eq. A	Eq. B	Eq. C
Regular physician listed	27†	27†	28†
Recent visit to physician	10	10	.12*
Periodic checkups important	07	06	_
Referred by provider	16†	16*	15+
Occupation	18†	.15+	16†
Age	.01	_	
Level of education	.06		
No. of cancers in family	06	_	_
R²	.17	.16	.16

			TABLE	3				
Standardized	Partial	Regression	Coefficients	from	Equations	Predicting	Delay	in
	I	Medical Fol	low-Up (Line	ear Te	erms Only)			

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equation (equation A) also included age and educational level, background variables that explain much behavior and thought, and the number of blood relatives who had had cancer. None of these variables was significant in equation A, and when dropped to produce equation B, decreased the amount of variance explained only slightly. Under the assumption that all important relations in this system were linear, equation C constituted the most efficient model to explain delay in follow-up. In this equation, the three items relating to contact with the health care system and the single background variable of occupational status explained nearly as much variance in delay as the less parsimonious equation A.

Although it is undeniable that contact with the health care system and occupational status explained a major portion of the variance in delay, the conclusion that attitudinal and experiential factors are unimportant is premature. Like most survey data, analysis of responses to the telephone interviews revealed interactive and nonlinear relations. This paper explores only two such relations. As Table 4 shows, a meaningful relation between considering routine checkups important and prompt follow-up existed only among individuals who reported two or more blood relations with cancer. Table 5 demonstrates that attributing importance to routine checkups is related to delay in a curvilinear manner; those who considered routine examination of moderate importance tended to delay follow-

^{*}p 0.05. †p 0.01.

TABLE 4
Percentage of Clients with Prompt Follow-Up (2 Weeks or Less) by Number of
Family Members with Cancer and Attitude Toward Routine Checkups

No. of Family Members With Cancer	Believe Checkups Important	No.	% with Prompt Follow-Up
0-1	Yes	63	40.6
	No	25	37.9
2 or more*	Yes	19	57.6
	No	4	25.0

*p <0.10.

TABLE 5

Relation Between Attitude Toward Importance of Periodic Checkups and Delay in Follow-Up*

Weeks Elapsed Before Follow-Up	Checkups Slightly Important (%)	Checkups Moderately Important (%)	Checkups Very Important (%)
0-2	36.2	22.6	46.6
3-11	32.5	29.0	27.3
12 or never followed up.	31.3	48.4	26.1
No. of clients	80	31	161

*Gamma = -0.17; p <0.10.

TABLE 6

Standardized Partial Regression Coefficients from Equations Predicting Delay in Medical Follow-Up (Interactions and Nonlinear Terms Included)

Independent Variables	Standard Regression	ized Partial Coefficients
	Eq. A	Eq. B
Regular physician listed	30†	28†
Referred by provider	16†	14†
Occupation	14*	15†
Recent visit to physician	-	12*
Periodic checkups important (quadratic representation)	_	12*
Periodic checkups important (interaction with no. of cancers in family)	13*	-
R ²	.16	.18

*p <0.05. †p <0.01. up longer than either those who considered the routine very important or slightly important.

The equations in Table 6 demonstrate the statistical significance of these nonlinear relations even when all other variables have explained all they can. Equation A in Table 6 contains an "interaction term" whose magnitude is the value the respondent placed on periodic examinations when one or more cancers had occurred in family members, and zero when none had occurred. The interaction term is significant at the 0.05 level, even when the three most important predictors of delay that appeared in Table 3 (listing a regular physician, attending Metropolitan at the suggestion of a provider, and occupational status) are included in the same equation.

Similarly, a term representing the curvilinear relation between valuation of periodic examinations and delay is statistically significant even after several other variables have explained all they can. Equation B in Table 6 represents the value individuals placed upon periodic examinations as the outcome variable of a quadratic equation of the following form: $y = 1 + 3x + x^2$, where x equals the value respondents placed on periodic examinations according to the four-point scale used in the questionnaire format. The quadratic equation creates a new variable representing valuation of examinations, in which the inverted U-shaped relation depicted in Table 5 between delay and valuation of examinations is transformed into a straight line. This procedure, which allows a nonlinear relation, demonstrates that the individual's valuation of periodic examinations is significant at the 0.05 level in predicting delay.

It seems reasonable to conclude from Table 6 that some attitudinal and experiential variables do help explain delay of medical follow-up among the Metropolitan Center clients. The tendency not to delay of those who reported family cancer deaths and also valued periodic checkups suggests that perceived threat promotes prompt contact. The importance of belief in periodic checkups is more complex; individuals with middle-level commitments delayed medical checkup significantly longer than those with weak or strong commitments. The equations in Table 6, though, still indicate that regular contact with the health care system or doctors is most important in determining length of delay. It is noteworthy that the 12 individuals who reported that health care providers referred them to the Center all indicated that these providers were doctors, usually

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their regular family physicians. Face-to-face interviewing provided amplification of the influence of physicians in determining delay.

Personal Explanations of Delay. Metropolitan clients who never followed up their visits or did so after 16 weeks explained their noncompliance in face-to-face interviews. They reported difficulties in obtaining medical care, an explanation consistent with the importance of regular contact with the health care system indicated by the regression analysis. Several noncompliers told us that they had not been able to locate "good family doctors" following the retirement or death of their regular primary-care physicians or relocation to their current locale. Some said they were unable to find a regular source of medical care. One recent migrant to the region decried the fact that he had not located a "reliable" physician since his arrival and wished that Metropolitan maintained a "list of good doctors" for clients to contact when their examination indicated the necessity. Two ghetto dwellers reported similar, concrete difficulties in following up Metropolitan's recommendations. One indicated that she had not followed up because the only primary-care facility in her neighborhood was a "Medicaid Mill," which she preferred to avoid. The other indicated that a primary-care clinic existed in her neighborhood connected with a local hospital. She was reluctant to attend this clinic, though, because it did not provide regular care by the same physician on successive visits. Finally, one woman told us she had made a conscientious yet frustrating attempt to procure a surgical consultation after Metropolitan informed her of a suspicious mammogram. The respondent said she had gone to a large clinic for the consultation but had encountered so many "bureaucratic procedures," seeing "everybody but a doctor," that she abandoned the effort.

The association between noncompliance and a weak connection with the health care system, though, is not a simple matter of physical access. Face-to-face interviewing suggested that mistrust of the health care system may have deterred many from establishing close connections with physicians. Many noncompliers, for example, expressed highly critical attitudes in response to a question about the merits of "physicians in America today." They frequently commented that doctors did not care about their patients, tended to be careless in their examinations, and let their skills become obsolete. They condemned physicians' "monopoly" power, and characterized

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them as "robber barons" and "rip-off artists." They blamed doctors for the death of relatives through the administration of "experimental" drugs and lack of sufficient attention. They criticized the failure of the medical profession to communicate effectively with laymen, sometimes charging that information was purposely withheld to gain control over patients.

Of course, the dread associated with cancer suggests that at least some of these comments represented justification for inaction. Faceto-face depth interviewing techniques designed to detect this process revealed several obvious instances of justification and denial in which clients abandoned their original explanations as the interview sessions progressed. One individual who had cited difficulty in making a doctor's appointment eventually said: "I'm just a lazy person," and, "I'm having too much fun to go see the doctor." In some cases, respondents would at last admit extreme fear of the dread disease, commenting: "If I have cancer, I don't want to know about it." One older woman with a suspicious mass in her urinary tract at first offered an elaborate justification of her inaction in terms of the time costs of medical attention: "I don't have time. I can't make time. I'd have to go to the hospital and that would take time. ... I have to take care of my son who is sick, and I can't stop working. Maybe after I retire. . . ." But a few moments later she said, with a show of emotion: "I know I'm ignoring this condition. I'm really very afraid."

Several noncompliers' comments suggested that they failed to follow up because the Center had not lived up to their expectations. They had attended Metropolitan to obtain a diagnosis in clearer, more concise terms than they expected of primary care physicians. These individuals were doubtlessly disappointed when they received letters from the Center containing only the most general of information, such as "missing enzyme" or "rectal finding," along with instructions to see a doctor. Others who visited Metropolitan in search of more personal attention than they found in regular doctors' offices or clinics were equally disappointed, citing the impersonal features of Metropolitan's screening process: "You're like an object going down an assembly line," and, "I felt just like a slab of meat." Finally, some respondents who visited Metropolitan to be assured that they were in good health felt disappointed when presented with positive test results. Perhaps clients with these expectations compose the middle range of commitment to periodic examination in which

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delay and noncompliance abound. They are willing to make occasional gestures toward preventive health care but are unready psychologically to deal with serious developments.

An Analysis of Delay. Researchers on health care delivery have devoted much attention to delay in contact with health professionals and noncompliance with recommended treatment. They have focused only indirectly on movement from one point to another within the health care system following initial contact. Cancer screening—an activity that can function effectively only if users move reliably from a screening center to other parts of the system-represents an important example of this problem. Our study indicates that the same factors motivate cancer patients to delay contacting health care providers as motivate patients in other contexts. Our face-to-face interviews clearly indicated that many noncompliers feel invulnerable. The multiple regression analysis supported this observation, providing evidence that some individuals whose families were free from cancer viewed the Center's findings with less urgency than those with relatives who died of cancer. These findings are quite similar to those previously reported linking perceived danger to health care seeking (Becker and Maiman, 1975; Hochbaum, 1954).

The quality of communication between physician and patient appeared quite important in promoting or discouraging follow-up among Metropolitan clients. The physician himself often played an important though inadvertent part in facilitating the client's process of denial. A large proportion of noncompliers reported that physicians at Metropolitan told them of a finding but either stated or implied that it was not serious. Many clients ignored the Center's subsequent letters advising medical follow-up. To some, it appeared that Metropolitan was sending warnings about conditions that were medically "trivial." Others were seeking to minimize the seriousness of a finding, and seized upon any comment made by the physician to ease their minds and justify inaction.

The most important predictors of prompt follow-up at Metropolitan, however, were strong connections with other parts of the health care system. As cited above, numerous researchers have reported analogous phenomena in other areas of medical care: regular use of health care resources, access to care, trust of physicians, and belief in medical technology coincide with prompt .

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approach and compliance. These similarities are especially striking in view of the differences suggested by some investigators between illness behavior related to cancer and other diseases. Our findings confirm R. Fink's observation in one of the few previous studies of factors affecting follow-up in cancer screening (1976) that regular use of health services correlates positively with prompt patient response to positive findings.

Systematic research on access to health care suggests a specific mechanism that may explain much of the noncompliance observed. Aday and Andersen (1975:75-76) report that individuals with the poorest access to regular medical care-those with no regular doctor or who are forced to wait long periods of time before being seentend to be least satisfied with medical care and least likely to seek it when needed. Similarly dissatisfied individuals among Metropolitan clients seem likely to ignore its directives, especially when they sought screening at Metropolitan as an alternative to regular diagnostic services elsewhere that they perceived as inadequate. When these persons find that Metropolitan does not provide the quick, comprehensible diagnosis or personal attention they seek, they become even less likely to seek care in the wider system. Persons caught up in this cycle of dissatisfaction in general appear to be the best candidates for noncompliance. Conversely, those with strong preexisting connections with the health care system and positive attitudes toward it seem to move promptly from early detection to points of more definitive diagnosis.

Improving the Efficacy of Screening

While health planners and physicians generally accept the importance of early cancer detection through screening, its effectiveness requires much innovatice thinking. The benefits of a large-scale early detection network depend in large part on the acceptability of screening by high-risk segments of the population, including large numbers of socially disadvantaged individuals. Greater percentages of these populations must be made aware of the importance of screening

What takes place within screening centers after they are built and used by clients, though, is more important. The worrisome rate of noncompliance at Metropolitan may reach alarming proportions in newer, less well-established settings. Planners and operators of screening facilities need to comprehend the relation between important features of the health care system and individual actions. Health care providers frequently "blame the victim" for delay and noncompliance in seeking treatment, overlooking the disillusionment many people feel with health care in the United States (Ryan, 1968:161-162). Cancer screening encounters the same problems of delay and noncompliance as other health care activities and, in the long run, can function no better than the health care system as a whole.

Screening center personnel face important immediate tasks. They must promote an accurate concept of the role of screening, conveying to users that it is in no way a substitute for primary care. They need to realize that the most successful users are those who realize the limitations of physicians and therefore seek regular screening. Although some respondents to our survey would undoubtedly like to dispense with physicians entirely, few considered this a concrete option, instead taking the initiative to supplement the care they offer. Physicians in screening centers have the obvious responsibility of communicating effectively with clients about their findings. They must understand that their words are important determinants of the patient's future follow-up behavior; they must decide when to calm anxieties and when to stimulate concern. Physicians who avoid making decisions of this kind often do their patients a disservice.

But the crucial factor in the success of large-scale cancer screening is the linkage between this activity and other features of the health care system. Nation-wide cancer screening may be meaningless if the relation of this activity to the health care system in general is not strengthened. It is hardly useful to advise an individual of symptoms if he has no ready access to follow-up care and is disinclined to make the effort to locate a suitable provider. Some people obviously require active encouragement to follow up, and it is not unreasonable for screening centers to actually make appointments for their clients before they leave the facility. More far-reaching changes needed to insure optimal function of early detection have less to do with individual prompting than systematic availability of physicians' services. Planners of screening efforts may choose to focus on augmented public health insurance programs or placement of screening facilities within health maintenance organizations. Even perfect access, though, would be meaningless without a high level of confidence in the medical profession. The comments of noncompliers

sampled in this study suggest that the screening center depends heavily on the medical profession's charisma for its legitimacy and authority over the client's acts. At least within the sample reported here, feelings of confidence often lead clients to procure access to the wider health care system despite numerous concrete difficulties. Building confidence in the medical profession, then, seems as important for cancer control as improving access to primary care or erecting early detection facilities themselves.

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