Late Life Health Behavior

Integrating Health Beliefs and Temporal Perspectives

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This article outlines psychosocial model for studying health behavior in later adulthood. Fundamental elements from the Health Belief Model are integrated with concepts of temporal perspective, forming the basis of process-oriented stages which compose the proposed framework. Considerations relating to the older adult's family support network are incorporated at selected points in the decision-making process. Indications in theory and research suggest the potential feasibility of such an integration and its relevance for older adults. Provision for a focus upon long-term treatment of chronic conditions occurs through inclusion of feedback from successive contacts with the health care system. Special attention should be given to the perceived severity of a target condition, since actual or perceived time pressure to seek treatment may have significant impact on the complexity and scope of one's decision process.

The widely recognized health risks accompanying later adulthood place prime importance on understanding the factors influencing the health behavior of older adults. A number of conceptual frameworks have been proposed for studying personal health behaviors (e.g., Anderson, 1973; Becker, 1979;

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Fabrega, 1973; Igun, 1979; McKinlay, 1972; Segall, 1976; Suchman, 1966). Very often, however, considerations of special relevance for specific age groups are not directly incorporated in the process of model development. Chronological age is typically reported as a post hoc correlate of a model's applicability. When age does then surface as an important consideration, refinements to the model become necessary. Gerontological health research can profit from building upon those existing conceptual frameworks which have demonstrated some utility despite not yet being applied systematically to older adults.

This article outlines a working model for approaching the study of older adults' health-related behavior in response to suspected or diagnosed physical illness. Three major points have guided development of the working model. First, significant emphasis was given to fundamental concepts from the Health Belief Model (HBM), a psychosocial framework introduced by Rosenstock (1966). Selection of the HBM was based upon the authors' belief that the HBM's fundamental concepts have been given sufficient empirical support to warrant extension to an older adult sample.

Second, the proposed working model attempts to introduce considerations of potential significance for understanding the individual's response to late life chronic illness. More specifically, the concepts of *temporality* and *time perspective* are of central importance in the working model. In addition, attention is given to perceptions of family support and to the role of a *family resource person*—an individual who may be called upon for assistance during health care. While not an exhaustive set of factors, these represent considerations not always evident in other models, including the HBM.

Finally, the working model adopts a "process" orientation, proposing sequential steps underlying personal health behavior in late life. Although such hypothesized stages are an element of various models (e.g., Fabrega, 1973; Igun, 1979), many theoretical frameworks have functioned more as "content" models, serving primarily as inventories of relevant psychosocial variables. Before proceeding to the working model, background literature will be briefly reviewed.

Health Belief Model

Impetus for development of the HBM came from research, theory, and observations indicating that nonutilization of preventive health services is significantly related to personal attitudes and beliefs regarding health and the health care system. Four generic health beliefs are the fundamental elements of the HBM: (1) the individual's perceived susceptibility to a given illness or resusceptibility to one which is currently being experienced; (2) perceived seriousness of the target illness; (3) benefits which are expected to occur from contact with the health care system; and, (4) the perceived barriers to and costs of contact with the health care system.

These beliefs are considered to be significant determinants of an individual's readiness to approach health services, and subsequently to adhere to prescribed treatment regimens. In practice, these beliefs occupy an intermediate level in the organization of the HBM. More basically, each of the four represents a broad domain of health beliefs that can be operationalized by illness-specific statements, or other more general in nature. In contrast, perceptions of susceptibility and seriousness can themselves be combined to determine the individual's degree of perceived threat from illness. Similarly, perceived benefits and perceived barriers/costs may jointly define the individual's expectancy that health care will produce the desired outcome (see reviews by: Becker, 1979; Becker et al., 1977; Becker and Maiman, 1975; Rosenstock, 1966, 1974).

While the greatest amount of attention has been given to these fundamental health beliefs, two other components are important in the HBM's framework. The first is the concept of a cue, perceived as either external or internal, which triggers the individual's readiness to take action. Examples of cues include: media advertising, a perceived change in personal vigor, observing someone with a health problem, physician reminders for periodic checkups, passing comments about one's appearance. Second is a general set of "modifying and enabling factors," left relatively unspecified in the outline of the HBM, but which generally includes: personal demographic characteristics, psy-

chological and social variables, and prior and current experiences with the health care system.

It seems accurate to describe the HBM as a "content" model which specifies a domain of potentially relevant psychosocial variables, as opposed to a "process" model in which variables are placed in a hypothesized or empirically determined relationship. However, in the authors' opinion, the numerous empirical studies emanating from the HBM have been sufficiently supportive to warrant extension of the model's fundamental variables to later adulthood.

Several modifications have in fact been incorporated into the HBM during its model-building process. During this process of development the Health Belief Model has become as much a broad framework for guiding the study of psychosocial variables as it is a model restricted to a small set of core health beliefs. This appears to be due to the variety of ways in which perceptions of severity, susceptibility, costs, benefits, threat, and health motivation can be operationalized. Similarly, the generic categories of "modifying and enabling factors" and "cues" are very openended, although they have not been a major focus of HBM research. The breadth of these health beliefs, coupled with the clarity with which the HBM has been discussed, provides a sound basis for extending its central elements to older adults. The integration proposed here is based on conceptual and empirical indications that such an integration is highly likely to yield beneficial research on older adults' health behavior.[1]

Time Perspective and Temporality

The study of time perspective has a long tradition in psychological research, being treated as a general personality characteristic in what is now a sizable body of literature (e.g., Cottle and Klineberg, 1974; Fraisse, 1963; Gorman and Wessman, 1977). In their review of this literature, Wallace and Rabin (1960: 213) stated that time perspective concerned "the study of 'macroevents' revolving around the relationships between persons' past, present, and future within their phenomenological frames of reference."

Similarly, Lewin (1952: 75) has defined time perspective as "the totality of the individual's view of his psychological future and psychological past existing at a given time." These descriptions directly indicate the existence of an "inner' life space of past, present, and future, populated by events and activities with a personally meaningful content and order, and toward which individuals hold certain judgmental and/or attitudinal reactions.

Incorporating a temporal dimension into the working model seems advisable for two basic reasons. First, review of a growing body of time perspective research indicates that older adults may possess constricted future expectations (Rakowski, 1979). More specifically, individuals may evidence less distant personal projection, fewer expected life events, and/or perceive a less important future. Other factors which may reflect change are in the direction of less future planning and a future of less anticipated pleasantness.

For many persons, these changes can be very understandable given their life situation. In addition, there is no reason to propose a necessary age-specific restriction of temporality due simply to "aging." Correlates such as poor health, recent life stresses, and low socioeconomic status may be significant antecedents and amenable to intervention efforts. In immediate practice, however, the causes of restricted future expectations are often not the primary concern. Beliefs that the future is unimportant, that one has accomplished all that was intended in life, or that one is living on "borrowed time" are almost sure to have some impact on health behavior. It can also be argued that approaching and participating in health services requires some capability to create realistic images both of oneself in the future and of the probable impact of health care. Furthermore, in the presence of restricted future expectations and an overall limited temporality, health beliefs may need to be relatively stronger in order to promote effective personal health behavior.

A second rationale for incorporating a temporal dimension is not based upon personality, but lies in the well-documented prevalence of chronic illness among older adults. Such health problems have a high likelihood of being extended over long

periods of time, perhaps with an indefinite termination. As a result, consideration of one's health could naturally involve extensive attention to the future or to a past-future continuum. Therefore, even in the case of an individual expressing minimal future orientation and espousing a "one-day-at-a-time" lifestyle, a model of older adult health behavior should possess a capability for addressing long-term consistencies or changes in health behavior.

Temporality and Health Behavior

Research to date does not appear to have integrated fundamental Health Belief Model concepts with time perspective, although many indirect or unexplored references seem to exist in theory and data. This is understandable given the orientation of each line of research. "Time perspective" has traditionally denoted the study of a general personality characteristic, represented by a correspondingly large set of temporal dimensions, while the initial illness-specific nature of the HBM has only gradually lent itself to an examination of general health beliefs.

A temporal element has, of course, been present in health behavior literature. However, the most general observation is that inclusion or interpretation of temporal material has not been guided by a conceptual framework that would permit elaborating research findings beyond their initial reporting. The health behavior literature would very likely profit from attention directed in this area.

Among the more prominent is Zborowski's (1969) incorporation of temporal perspective, investigating differential response to pain among Irish, Italian, Jewish, and "Old American" ethnic groups. Like other writers (e.g., Kluckhohn and Strodtbeck, 1961; Maxwell, 1971), Zborowski acknowledged cultural differences in temporal orientation and their probable influences on individual personality. He then extended such general dispositions to the specific area of health attitudes and behavior, finding several intergroup differences. While his discussion does not

specify "standard" or "traditional" temporal dimensions, his treatment is in fact of rather broad scope.

Temporality exists in the context of other potential determinants of health behavior. In his model of illness behavior, Fabrega (1973) included the concepts of an individual's deliberating among treatment plans, of an anticipated future time when relief (benefits) will be seen, and of anticipated long-term vulnerability. Zola (1973: 683) proposed five "patterns of triggers to the decision to seek medical aid," one of which he termed a "temporalizing of symptomatology." Two general forms were noted in the subsequent discussion: (1) giving the symptoms a period of time to clear up before seeking help; and (2) noticing the recurrence of a suspected problem after a period of remission. As Zola suggested, these are experiences very likely common to most persons.

Studying the responses of patients to heart attacks, Cowie (1976) reported the presence of a "retrospective reconstruction" of their situations. In this process, patients reinterpreted their past so that their current position would become more understandable. Interestingly, Cowie also suggested that the sudden onset and severity of pain may have prevented persons from utilizing the "temporalizing" procedure proposed by Zola (1973). It is certainly reasonable that in many cases (such as heart attack), the individual will not have an opportunity or predisposition to engage in a personal debate regarding the decision to seek medical care.

Following a different line of thought, Shannon (1977) proposed that the individual possesses an organization of personal life activities in spatial and temporal terms, which defines the extent of one's territory both at any given moment and over time. Regular patterns are established which introduce order (and perhaps rigidity) to current and future activities. Consequently, the demands of health behavior should be viewed in the context of adjustments that would be necessary to the already established space-time structure. Of course, considerations such as the expected disruptions in lifestyle if health care is *not* sought must also be examined. However, Shannon's discussion provides another insight into the potential significance of temporal perspective.

Other studies with some incorporation of a time dimension can be cited (e.g., Battistella, 1971; Ben-Sira, 1977; Frazier et al., 1977; Hill, 1978; Martin and Segal, 1977; Matus et al., 1978). Perhaps the presence of a temporal element in health-related beliefs is self-evident; it is certainly not difficult to infer in most studies beyond those which employ strictly demographic correlates of health behavior and health-service utilization. Even if not immediately evident, it appears that a logical step from current literature is to more deliberately incorporate time perspective dimensions into health-behavior research. Since such concepts have not been particularly evident in older adult health behavior research, these extensions seem especially timely.

Family Support and Shared Expectations

The potential significance of a family support system is recognized by health care researchers, policy makers, and direct care providers, in addition to older adults and family members themselves. The current emphasis on gerontological service delivery in fact has a strong basis in the belief that the family has for too long been an underutilized and perhaps unrecognized resource, although it is also necessary to be aware of realistic barriers to—and stresses on—a family's involvement (e.g., Brody, 1973; Fengler and Goodrich, 1979; Kent and Matson, 1972; Sussman, 1976; Treas, 1977).

The proposed working model incorporates family-based considerations in its framework, emphasizing the presence of congruent health and treatment-related expectations among the older adult and family resource person(s). Also included is the concept of a general family time perspective, based upon the older adult and the family's view of the older member's involvement in the family's future activities.

Surveys of older parents and their adult children have indicated both a readiness by parents to seek support from their children and a general willingness by children to at least attempt providing assitance (Auerbach et al., 1977; Brody, 1966; Fandetti and Gelfand, 1976; Shanas, 1962; Troll, 1971). In studying the

decision to institutionalize older parents, Brody (1966) and York and Calsyn (1977) have reported that the "dumping" of parents into nursing home is a relatively infrequent event. Further, Brody (1966) observed that initially approaching a nursing home was often precipitated by the death or illness of a key family member, decreasing the family's resources and perhaps increasing its burden. York and Calsyn (1977) reported that the majority of relatives (usually adult children) stated that they knew of services which might be contacted to help maintain the nursing home applicant in their own home. In addition to other issues, York and Calsyn suggested that these adult children and relatives had become so mentally exhausted by their caretaking that they were unable to assess these options realistically. An implication here is that knowledge of services is not enough to ensure their utilization—a point accepted by service providers. At least part of the explanation for York and Calsyn's finding may therefore involve the childrens' or relatives' inability to realistically include the older person in future projections of the household. A continued concern, however, was indicated by the relatives' expressed interest in workshops designed to teach communication skills that would allow improving the quality of contact during visits to the institutions. Again, it would seem that such readiness to maintain a high-quality interaction might be based to some degree on perceiving a future for the older family member, even if not in the household.

In a broader-based study incorporating health care as one component, Seelbach and Sauer (1977) reported on the concept of perceived filial responsibility by older parents. The authors found that normative expectations representing extended-family and nuclear-family styles of interaction were differentially associated with morale in certain first-order subgroups of their sample, those subgroups being blacks, marrieds, males, and persons between the ages of 65 and 70. Discussing their data, Seelbach and Sauer state (1977: 498):

> It may be that those persons who have "extended" types of expectancies are out of tune with their offsprings' expectations. They may, for example, experience dissonance when their ex-

tended filial expectancies are at variance with the more nucleated ones often held by their more modern, urbanized offspring.

Finally, although rather novel in time perspective research, there is sufficient reason to anticipate the existence and utility of family time perspective and health-related expectations for better understanding the elderly's health behavior. The concept of "filial responsibility" is not new to social gerontology (Schorr, 1960; Sussman, 1953, 1965). Essentially, this refers to the belief and expectation that adult children will provide support for their parents, which includes serving as a resource during illness. Related to this, Blenkner (1965) proposed that a "filial crisis" may arise for middle-aged adult children faced with the realization that their aging parents may soon require support. While the overall process is proposed to constitute a developmental task of personality, one facet of it requires a shift in perspective, resulting in a view of oneself as dependable. This process and attitude are almost certainly based to a large degree on the adult child's images of the future, images which at that point in life are likely to be heavily influenced by the expected health of parents. In a very real sense, it can be argued that the involvement of family members must incorporate the belief that older parents have a place in the family network. In fact, it is difficult to imagine how such concern could be maintained without what Johnson and Bursk (1977) have referred to as the "psychologically extended family"—a parallel to the sociological concept of a modified extended family—in which the older parent has a perceived future in the family network.

In sum, there is good reason to believe that introducing the variables of congruent health expectations and family time perspective will yield useful information. Applying a temporal perspective to older parent-adult child interactions seems to be an appropriate extension of both time perspective and the area of parent-child interaction.

A Working Model of Older Adult Health Behavior

It appears that no attempt has yet been made to conceptualize a model for guiding the study of older adult health behavior. A preliminary elaboration would therefore serve as a useful starting point to generate research investigations. This section outlines such a working model, discussed here in lettered paragraphs corresponding to the lettered components of Figure 1.

The working model begins its focus by presuming the absence of a particular health problem (A and B). A series of decision points then follows, culminating with the initial health-care visit (G), and if necessary, continued contact (H). Our intent is to outline a comprehensive set of steps which may occur and a set of specific variables which may be significant, realizing that the detail involved will not apply to every older adult in every situation. As discussed above, emphasis will be placed on elaborating sets of variables representing the domains of health beliefs, time perspective, and family supports.

(A) *Existing time perspectives.* In the absence of any specific concern about health, three major facets of time perspective are distinguished: personal time perspective, family-related time perspective, and health-related time perspective. Each of these facets is discussed briefly below with representative questions of interest.

Personal Time Perspective. Questions pertaining to personal time perspective focus upon events in—and general judgments of—one's own life. Because other persons are likely to be involved in these personal events or judgments, information on family and health-related time perspectives could be obtained indirectly by inference, even though this information was not directly asked for. However, due to the multidimensional nature of time perspective (e.g., that related to home, job, family) and the realistic limits on asking for spontaneous responses to open-ended questions, it is advisable to employ direct questioning in specific areas such as the family and health.

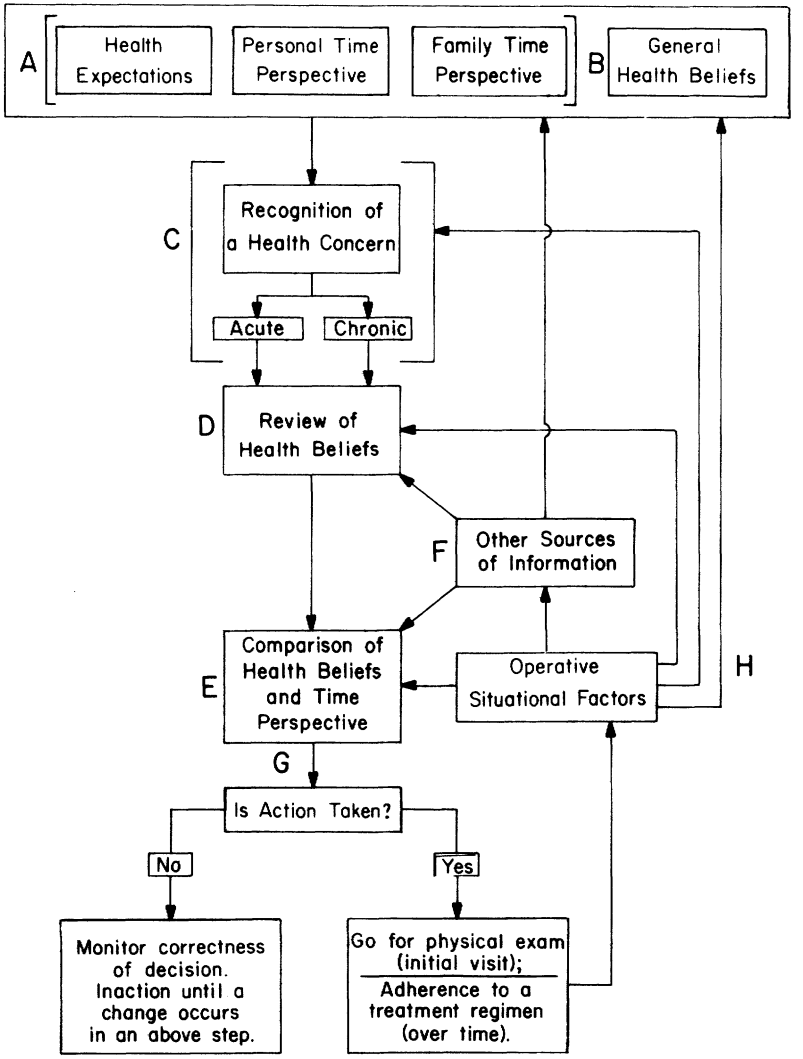

Figure 1: Diagram Representation of the Proposed Working Model of Later-Life Health Behavior (letters indicate major steps and correspond to accompanying discussion in the text)

Answers to questions pertaining to personal time perspective would be integrated into the working model as direct predictors of health behaviors. Information of interest includes:

(1) Is the individual primarily past, present, or future oriented?
(2) Does the individual spontaneously report life events that he or she is looking forward to? If so, how many?
(3) How far into the future do the individual's expectations extend?
(4) How far into the future—and in how much detail—does an individual usually plan?
(5) To what extent does the individual perceive alternatives or options in his or her future?
(6) Is the future generally perceived as being pleasant or unpleasant?
(7) How important is the future believed to be?
(8) Does the individual feel that he or she has accomplished all that was intended? What is the person's sense of timing, relative to societal norms?
(9) Is there a feeling of living on "borrowed time" due to one's age or current situation?
(10) What is the individual's perceived personal future locus of control?

It is expected that answers to questions such as these constitute a general context which the individual would apply to any matter of personal interest, including health or illness-specific concerns.

Family Time Perspective. Factors from this emphasis consist of expectations held by the older adult in regard to the family context. Of particular interest is the degree to which these expectations are shared among family members. Information of interest includes:

(1) Does the respondent perceive a future role in the family?
(2) How important is the role which they expect to play in the family?

(3) How important are expected family-oriented events which involve the family members?

(4) Does the older adult expect to be somehow important in the family even after death?

(5) Does the respondent perceive that his or her expectations in family, both for self and others, are shared by the other members?

(6) In the absence of family members, does the individual have expectations relative to her or his friends? If so, of what sort are they?

The significance of these expectations is their perceived or actual contribution of external social pressure from significant others to the personal motivations for health maintenance.

Health-Related Expectations. In the absence of cause for illness-specific concerns, it is still reasonable to assume the existence of general expectations regarding one's health, though, like general time perspective, they may more often be implicitly accepted than consciously thought out. The information obtained may in fact be one facet of health beliefs. However, their temporal nature, in the context of our emphasis on time perspective, justifies abstracting them here for special attention. Information of interest included below is representative of an application of temporality to general health beliefs.

(1) How long is one's present state of health expected to continue?

(2) What is the respondent's personal future health expectation in relation to other persons of the same age, sex, occupation, race, and so forth?

(3) How much functional decline will be tolerated before help is sought?

(4) What is the position of one's expected health in a lifespan perspective, looking from past to present to future?

(5) What degree of support is anticipated to be available from family members?

As with general personal time perspective, these expectations set a general belief context and contribute to a process hypothesized to occur at a later time. Provision should also be made for obtaining an indication of the strength or certainty of these beliefs and perceptions. It is very likely that personal, health, and family time perspectives are related empirically and conceptually, although they have been discussed here separately.

(B) *General health beliefs* represent another set of preexisting variables that may influence recognition of a specific health threat. In the present working model, these beliefs are the person's self-rated health (also viewed relative to others) and the fundamental Health Belief Model variables of perceived susceptibility, severity, barriers, and benefits assessed both on a general level and relative to certain major illnesses of later adulthood. Also important is the extent to which these beliefs are grounded in medical evidence and prior personal experience. The function of these beliefs is expected to lie in their influence on the individual's sensitivity to—or interpretation of—initial indications of illness or disease.

(C) *Recognition of a health concern* by the older person is the next step. Professional diagnosis of a specific condition will not yet have been made. This element of the model includes:

(1) The individual's criteria for differentiating "health" and "illness."
(2) The individual's judgments of the specific diagnosed problem(s) or potential problem(s).
(3) Certainty concerning the perception of the symptom(s).
(4) The individual's perception of the problem as acute or chronic.

The Health Belief Model concept of "cue" is very useful here in accounting for illness recognition. The cue would have to be strong enough to overcome any tendency not to admit a health threat, as determined by factors in (A) and (B) above.

(D) Precipitated by recognition of a health threat, the working model next proposes that the individual consciously *review health beliefs,* both related to the specific problem(s) and others more general in nature. Different belief content may also be prompted by whether an acute or a chronic problem is anticipated. An important task in validating the model will be to determine, at this step, an appropriate set of variables for any given type of health problem (e.g., arthritis, prostate cancer, emphysema, angina). Some of these are based upon standard Health Belief Model variables; others attempt to apply temporal perspective to the assessment of health belief in order to investigate whether such a procedure can improve the prediction and understanding of older adults' personal health behavior. Treatment-related expectations are reserved largely for the following step. Variables of interest can include *illness-specific beliefs.*

(1) Perceived susceptibility and resusceptibility to the suspected disease or illness.

(2) Anticipated severity of the condition if left untreated and the areas of major impact.

(3) Perceived treatment alternatives in traditional medicine.

(4) The total range of perceived alternatives, including possibilities other than a physician/hospital visit.

(5) Perceived cause of the current illness episode (e.g., disease versus punishment for prior actions, externally imposed versus due to self-neglect).

This last variable should not be rapidly dismissed simply to avoid dealing with the possibility of religious or moral interpretations of illness by an individual. It is commonly recognized that physical and mental illness are often perceived as having imposed and personal loci of blame, respectively, resulting in less rapid utilization of mental health services. Similarly, a problem may be attributed to "normal irreversible aging" or to the "will of God," as opposed to a disease entity. Models of health behavior at least tacitly assume a degree of motivation by the individual, perhaps fostered by significant others, to seek care and improve health.

However, certain perceptions of the nature of an illness may forestall such motivations, and therefore need to be considered.

Another set of factors at this point in the working model comprises *general health beliefs.*

(1) Expectations that other problems may be found, and their anticipated severity.

(2) General motivation toward achieving and maintaining good health.

(3) Motivation to avoid poor health.

(4) Belief in the general efficacy of seeking treatment.

(5) Perceived barriers to health-service participation.

The variables in (D) correspond to questions which can require detailed and relatively deliberated answers by a respondent. Both the scope and thoroughness of the individual's own review process relative to these questions are likely to differ among individuals and to exhibit self-report bias. It should be noted that if an investigation is initiated after health care for a specific problem has begun, step (C) may become unnecessary, with (A), (B), and (D) essentially composing a single phase.

(E) *Comparison of treatment-related health beliefs and time perspectives* is the next major element of the working model. Although discussed here as a separate process for the purpose of detail, there can be overlap in time with the preceding review of health beliefs. In fact, the opportunity to make these reviews will be affected by the amount of time available before some action must be taken. For many persons, such an opportunity may be a "luxury," since it has often been observed in research and clinical practice that a condition perceived as very serious and requiring quick action will result in a much shorter and less complex decision process. Because of that possibility, this step in the process should be given close attention when examining the relationship of temporality with health beliefs, and of both with health-related behavior.

Information of interest can include:

(1) Potential benefits of treatment for the major areas of illness impact.

(2) The time before benefits from treatment will first be evident.

(3) The length of time treatment benefits are anticipated to last.

(4) The expected difficulty of maintaining benefits of treatment.

(5) The expected interference of illness and/or treatment with daily activity.

(6) The change in the anticipated pleasantness and importance of the future, due to treatment.

(7) The expected changes in one's family situation due to treatment.

(8) The increase in number of perceived life options or alternatives the individual feels are available.

(9) When benefits will be seen from treatment, relative to how far in advance the individual normally plans and how far into the future plans are projected.

(F) *Other sources of influence* on health behavior occupy a significant but somewhat indeterminable position in this working model. Although the importance of these considerations cannot be underplayed, the relative absence of data does not yet permit specifying at what points in the working model their influence is most direct. Consequently, we have indicated that these influences may occur at any point before action is taken on a target problem, serving either to promote, delay, or hinder the health behavior. However, it must be stressed that these variables may override any effect of temporal perspective, health beliefs, or perceived family support, whether to the individual's advantage or detriment. For example, not only may the older person's own perceptions of extreme severity affect the decision process, but similar opinions by a close family member may have a comparable impact. In another framework, these considerations might be presented as the primary elements in health service participation, while those of major concern to this report might be included as the "significant nonmodel variables." In neither case, however, would it be advisable to ignore the other set.

Data of interest include:

(1) Prior experience with the health care system, both in general and relative to the specific problem(s).

(2) Recommendations from the lay-referral network.

(3) Characteristics of the individual's family environment, such as number of available family resource persons, shared family time perspective, communication, residential proximity, or congruent health beliefs.

(4) Direct knowledge about the person(s) or service(s) to be contacted.

(5) Availability of transportation.

(6) Use of home remedies.

(7) Cultural or subgroup norms concerning matters such as: the amount of pain and inconvenience to be tolerated, sex-role characteristics, criteria for being "attractive," or acceptable sick-role behaviors.

(8) Seasonal or daily climatic conditions.

(9) The amount of time which the individual can afford to spend deliberating.

In the present context, these may serve as important "control" variables in understanding readiness to utilize a health service. A family time perspective is included at this point in the model in addition to its earlier placement. This reflects the dual nature of shared expectations, which at this point represents the motivation of family members to help, rather than the viewpoint of the older person. In the case of continuing chronic conditions, prior experiences with one's condition and with the health-care system are likely to be a major consideration shaping present attitudes and behavior. Therefore, such prior experiences should be given appropriate attention.

(G) *Action Steps.* The next step in the working model entails the actual health behavior—*taking or not taking action.* If action is not taken, it is assumed that a change must occur in one or more prior steps in order for the decision process to be reinitiated, such as change in the perceived importance of the future, greater perceived severity due to a possible illness not evident earlier, greater family support, increase in expected life options due to treatment, and so on.

If action is taken on a suspected problem, the target health behavior would be an initial approach to health services, such as

undergoing a preventive exam or diagnostic test for a specific illness. Characteristics of the way that visit is managed—such as delay in making the appointment, successfully completing preliminary questionnaires cooperation during the visit, or making another appointment if the first has been missed or cancelled—are all potential dependent variables. While the decision process represented by the working model may lead to the visit itself, it may not produce a fully committed response in the sense of an all-or-none phenomenon.

(H) *Since health care participation is ongoing,* particularly in the area of compliance, the working model contains a "feedback" component for considering a variety of situational factors which may become operative during treatment. These factors may in turn affect any point in the decision process and might include: a physician's specific diagnosis or prognosis, explanations provided by health care personnel, firsthand experience with the health service and professionals, characteristics of the treatment regimen, reactions by family and friends, the extent to which initial expectations were or were not met, and apparent changes in one's condition observed by self-monitoring. Feedback may also be received directly from one's own actions (e.g., having carried through with the health service visit might positively influence an intrapersonal factor such as the individual's health goals). Changes in the life situation of a participant unrelated to the person's own health care may also be among these factors—illness of spouse, promotion in job, necessary major purchases, greater demands on one's time.

Concluding Comments

This working model represents a proposed integration of temporal perspective and family support with concepts from the Health Belief Model for the purpose of furthering our understanding of older adults' health behavior and health service participation. Both preventive and compliance components of health behaviors are contained within the working model, although somewhat different sets of questions will be included in

a protocol, depending upon the focus of any given study. It is also assumed that any research will enter an ongoing process in which "existing" health status, time perspective, family support, and health beliefs may already be in a state of change. It is evident from this discussion that a single initial assessment of time perspective and health beliefs will very likely lose predictive accuracy in long-term studies of health behavior, due to information subsequently obtained from repeated contact with the health program.

The various questions proposed under each major step in the working model cannot yet be given set priorities in research with older adults. Research can therefore be profitably directed in four major areas: (1) establishing the relative meaningfulness to older adults of the individually proposed questions and variables, (2) investigating the validity of the several stages, (3) determining whether additional information needs to be requested under any given stage, and (4) applying the stages and major variables to specific illness conditions (e.g., hypertension, angina, diabetes, glaucoma). At the same time, it should be stressed that the proposed model assumes the existence of a conscious decision-making process and the availability of time for such a process to occur. Further, the various factors noted in stage F (Other Sources of Influence), may also mediate the influence of health beliefs and temporal perspective.

In effect, the proposed working model is based primarily upon individual perception (e.g., health beliefs, family support, personal futurity, characteristics of health care) within the context of the type of health care being provided (preventive versus diagnostic versus acute care versus chronic care versus rehabilitation). However, it is recognized that personal perceptions may be complemented or hindered by considerations such as family support, climate, geography, finances, prior experience with the health care system, and input from friends and associates. Although family supports were considered important in constructing the working model, the fact that not all persons have family contacts justifies placement of these factors in stage F. By its emphasis on beliefs and perceptions, the working model focuses on the least common denominator possessed by all

persons in contact with the health care system. It then becomes important to determine the impact of other variables which assume relevance for specific subgroups of persons. Certain aspects of the working model will be easier to investigate than others, if only because limitations exist on the gathering of data. However, if the model is accurate, the information obtained should indicate whether the desired integrations are possible.

The actual role of psychosocial variables in older adults' health care has still to be determined. Any given health-care activity is actually an element in a long-term process, from first recognizing a health concern, to initially approaching a health service and following a chronic or acute care regimen, to preventive habits, if necessary, to avoid recurrence. Even if temporal and general health beliefs are most significant only at the point of initial contact with health services or a family physician, that role is deserving of attention. From a practical perspective, research guided by the proposed working model may lead to the identification of covert—and perhaps unconscious—barriers to health care resting in patient perceptions or in patient-family member interactions. Having realized these factors, intervention may be designed with physicians to address such concerns early in the treatment process or with patients and family members in a face-to-face context. Models of health behavior are by nature open to criticism due to the assumptions necessary in their construction. However, the reading of individual research obviously unguided by a conceptual framework is bound to lead to the frustration of trying to integrate reports with little, if any, a priori basis for comparison. One hopes that the long-term process of model building will be accompanied by more immediate applications to clinical care of the older adult patient.

NOTE

1. The central elements of the proposed working model (health beliefs, temporal perspective, family resource persons) are currently under investigation in a longitudinal study of the health behavior of chronically ill older adults at a geriatric ambulatory outpatient clinic (Rakowski and Hickey, 1979).

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