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A Brief Life-Graph Technique for Work with Geriatric Patients*

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ABSTRACT: Patients aged 60 or older from the practice of a private physician (n = 32) and from a geriatric outpatient clinic (n = 132) responded to a questionnaire designed to assess perceived present and future health, treatment expectations, and general future projection. Of interest was the extent to which present health, as measured by a brief life-graph technique, might be predictive of perceptions in these other areas. Results from the two samples were consistent in suggesting that present health ratings were related to anticipated future health, general future projection, and certain treatment expectations. However, expectations of when benefits from treatment would begin, and of the probable duration of treatment, were not predicted in either sample. The life-graph technique seems useful for practitioners' interactions with older patients and for understanding these patients' extended views of their health.

Attention to psychologic and social factors affecting geriatric health care has become increasingly evident in recent years (1–7). Though approached from varying perspectives, one objective of these efforts is to sensitize professionals to the many opportunities that exist for facilitating appropriate personal health behaviors among older adults. One of these areas of influence, broadly defined, relates to the perceptions of health status and treatment expectations which a patient brings into the health care context.

The well-documented prevalence of chronic diseases and conditions in later adulthood enhances the importance of identifying patients' health- and treatment-related perceptions at an early point in care. The presence of a chronic problem generally entails the initiation of a continuing interaction between practitioner and patient, which will be more intimate and frequent than that for acute conditions. Since medical care involves the potential for differing sets of priorities and values held by physician and patient, the extended span of time which accompanies a chronic disorder can only serve to increase the number of opportunities for these differences to become evident and influential. Given such a possibility, success at later points of care is highly dependent on the comprehensiveness of information about the patient obtained during initial diagnosis and the determination of a treatment regimen.

Another important consideration is introduced into geriatric care by the frequent need to develop new physician-patient relationships. For example, the eventual retirement or death of one's established physician produces an obvious gap which must be filled. Referral to specialists (e.g., cardiologist, surgeon, rheumatologist, ophthalmologist) presents a similar situation. Conversely, the older adult may relocate to a warmer climate or nearer to family members, and that means finding a new physician. The process of mutual learning which occurs between patient and physician in these situations presents a significant challenge, since compliance with treatment often depends on a patient's satisfaction with the quality of interaction (8).

Since patients' opinions of their present health

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status are a customary focus of discussion in a clinical setting, it seemed important to investigate whether this information also contains subtle indications of the patient's *future* perceptions, which could later either facilitate or hinder effective care. This report discusses a brief life-graph technique, with potential utility for information-gathering in the process of doctor-patient interaction. Essentially, such a technique allows a patient to place perceptions visually in an obvious temporal framework, rather than to rely solely on abstract judgment. With a life-graph procedure, ratings are given for successive intervals of time for a specific variable being investigated. Other authors have successfully used life-graphs with older adults, often with the purpose of measuring their perceived quality of life across the lifespan (9–12). This technique appeared to have application to the health care setting due to its relative brevity and ease of presentation. Further, a review of standard assessment indices (5) indicated that a temporal framework, within which health perceptions might be better interpreted, was usually absent.

Attention was given to the degree to which self-rated current health (as indicated on the life-graph) predicted the patient's anticipated future health, treatment expectations, and overall distance of thinking into the future. In the context of an office or clinic appointment, where realities of medical care often place a premium on the use of time, such indications may facilitate a physician's information-gathering with the patient. The care of older adults presents the additional possibility of encountering patients with restricted ability to answer detailed questionnaires or to converse at length. As a result, drawing maximum information from the fewest number of questions can be a major clinical benefit.

PATIENTS AND METHODS

Patients for the present report were drawn from two separate sources in the same community: 1) older patients being treated by a physician in general family practice, and 2) patients at a university-based, geriatric outpatient clinic. Data from both settings were collected concurrently. Rather than combine the samples, they were analyzed separately to examine the consistency of results from two settings.

Questions responded to by the patients were directed toward personal health perceptions, treatment expectations, and distance of personal future thinking. Preliminary work with an earlier sample ($n = 44$) has suggested that the instrument for data collection be focused on general beliefs and expectations, since an obvious rise in patients' stated uncertainty occurred as questions became more specific. Most items in the survey utilized predetermined categories to assist in responding, with an option available to indicate uncertainty. A selected number of items which had given prior evidence of a wide range of possible responses (e.g., listing of current problems, distance of personal future thinking) were open-ended, with categories subsequently collapsed for analysis.

Sample 1: Private Practitioner

Participants

Patients in this sample were 21 women and 11 men ($n = 32$), with an average age of 71.2 years (range, 60–86 years). Reflecting the local area, they were primarily Caucasian and from professional backgrounds. All participants were non-paid volunteers, residing in the community. Presenting complaints and self-reported conditions were representative of the variety of usually chronic problems characteristic of later adulthood. No single condition was predominant.

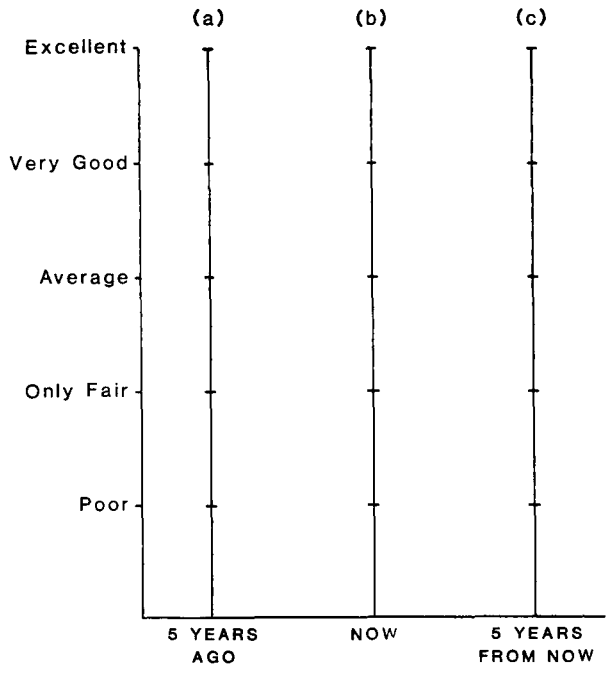
Procedure

Patients aged 60 or over were invited to participate through a letter signed by the physician. Questionnaires were placed in the files of persons who expressed an interest, then were given to the patients after their next appointment, and returned by mail after being completed. Patients were therefore surveyed in the context of their regular course of health care, with no specially scheduled visits or other procedures.

Variables of interest

Self-rated present health was indicated on the life-graph shown in the Figure. The past five-year health and the anticipated five-year health were also marked on the same display. Due to the limited sample size, present health ratings were collapsed into two categories: 1) Below Average, and 2) Average or Above.

Questionnaire items used as dependent measures included: (a) perceived likelihood of new problems in the coming months (Not Likely vs Likely/Not Sure); (b) five-year future health, based on the life-graph (Below Average/Not Sure



Representation of the life-graph technique. Directions were given to indicate one's health status by marking anywhere along the appropriate vertical lines. For patients at the geriatric clinic, "very good" and "fair" were omitted in an attempt to simplify the format.

vs Average vs Above Average); (c–d) expected difficulty with making office visits and with following treatment (both: Little vs Noticeable/Not Sure); (e) anticipated beginning of treatment benefits (Soon vs Not Sure/Long); (f) anticipated duration of treatment (Short vs Not Sure/Long); (g) distance of personal future thinking (One Month or Less vs Four Years or More); and (h) distance of personal future planning (One Month or Less vs Two Years or More).

Analysis

Results of chi-square analysis, summarized in Table 1, suggested the clinical potential of the life-graph technique. Achieving statistical significance: patients reporting average or better health, as opposed to below-average health, also tended to anticipate average or better five-year future health (71 percent vs 0 percent). In trends approaching significance: average or better health ratings were associated with perceiving little likelihood of near future problems (62 percent vs 25 percent), expecting little difficulty with treatment (71 percent vs. 37 percent), and with longer future thinking (65 percent vs 29 percent) and planning (60 percent vs 25 percent). Conversely, therefore, patients reporting below-average present health tended to express less favorable future health outlooks, were less optimistic about the ease of treatment, and projected a shorter distance into the future. Overall, the impression from these data was that a report of present health contained subtle clues of a patient's perceptions in other areas.

Sample 2: Geriatric Clinic

Participants

Patients in this sample were 95 women and 37 men (n = 132) who answered a mailed questionnaire prior to their initial appointment at the geriatric clinic. The average age was 73.09 years (range, 60–92 years). Similar to the patients in the other sample, the persons in this group were primarily caucasian and usually from average or above average socioeconomic backgrounds. Also similarly, self-reported symptoms and conditions were indicative of the variety of chronic problems in later life which impair mobility and general health without requiring frequent supervision or dependence on others.

Procedure

New patients awaiting their first appointment were reached by mail, through the inclusion of a cover letter and a questionnaire in a packet of materials routinely sent by the clinic. Persons interested in participating completed the questionnaire and brought it with them to the clinic. Again, patients were surveyed in the normal course of their medical care, with no specially scheduled visits or other procedures.

TABLE 1
Summary of Analyses of Private Practitioner's Patients, with Life-Graph Present Health Used as a Predictor

Dependent Measure	Association
Health Status:	
five-year future health	$X^2 = 12.09$, $df = 2$, $p < .003$
likelihood of new problems	$X^2 = 3.39$, $df = 1$, $p < .07$
Future Projection:	
distance of future thinking	$X^2 = 3.11$, $df = 1$, $p < .08$
distance of future planning	$X^2 = 2.80$, $df = 1$, $p < .10$
Treatment Expectations:	
beginning of benefits	(non-sig.)
duration of treatment	(non-sig.)
difficulty of treatment	$X^2 = 2.84$, $df = 1$, $p < .10$
difficulty of visits	(non-sig.)

Variables of interest

Patients' life-graph ratings of current health were employed as a predictor of responses in other areas of clinical interest. The larger sample size permitted forming more differentiated categories for several of the variables than was possible for patients from the private practice, with the criterion that a category contain 10 percent or more of the sample. For the most part, this resulted in creating a separate category for uncertainty and non-response. Present health life-graph ratings were categorized as Below Average, Average, and Above Average.

Geriatric clinic patients responded to the same set of items included in Table 1. In an attempt to reduce visual complexity, the life-graph was modified by omitting "very good" and "fair," leaving "excellent," "average," and "poor" as the anchors. If still an effective predictor in this more basic form, it was believed that usefulness of the technique might be extended by greater simplicity.

Analysis

Analysis again supported the initial expectation that the present health, lifespan index would be a statistically significant predictor of various other measures (Table 2).

Future health

Persons reporting *above-average* present health, as opposed to below-average health, also tended to anticipate little likelihood of new problems in the coming months (68 percent vs 17 percent). Similarly, 73 percent (vs 4 percent) anticipated above-average health in the five-year future. Uncertainty, or actually expecting health problems, were therefore correspondingly low for both near and five-year future health in the above-average group. In contrast, 83 percent of persons with *below-average* ratings either expected new problems in the near future or were not sure, while 81 percent expected below-average five-year future health or were uncertain. A rating of *average* present health showed no such obvious patterns, with patients in this category more evenly distributed in perceptions of future health.

TABLE 2

Summary of Analyses of Geriatric Clinic Patients, with Life-Graph Present Health Used as a Predictor

Dependent Measures	Association
Health Status:	
five-year future health	$X^2 = 67.15$, $df = 6$, $p < .001$
likelihood of new problems	$X^2 = 14.87$, $df = 4$, $p = .005$
Future Projection:	
distance of future thinking	$X^2 = 16.89$, $df = 6$, $p < .01$
distance of future planning	$X^2 = 18.31$, $df = 6$, $p < .006$
Treatment Expectations:	
beginning of benefits	(non-sig.)
duration of treatment	(non-sig.)
difficulty of treatment	$X^2 = 17.89$, $df = 4$, $p < .002$
difficulty of visits	$X^2 = 12.25$, $df = 4$, $p < .02$

Personal future projection

Present health ratings were associated with both distance of future thinking and planning. Of persons reporting above-average health, 50 percent indicated they projected more than 10 years or for the rest of their lives, whereas only 14 percent gave a distance of one year or less. In contrast, only 10 percent of persons with *below-average* health ratings evidenced relatively far thinking, while 62 percent gave a distance of one year or less. A present health rating of *average* showed no clear pattern.

For the variable of future planning, 46 percent of patients rating above-average health also showed the farthest planning, while only 9 percent said that they planned for one year or less. In contrast, no one reporting below-average health fell into the farthest category of planning, and 57 percent reported one year or less. Again, average health showed no clear pattern. As might be expected, above-average health ratings were more often associated with thinking and planning an intermediate distance of 2–10 years, than were below-average health ratings (thinking, 23 percent vs 14 percent; planning, 27 percent vs 14 percent).

Treatment expectations

Present health ratings were not associated with expectations of when benefits from treatment were expected to begin and for how long treatment would last. In retrospect, this outcome was not surprising, given the high prevalence of nonspecificity and uncertainty in these two areas, so that categories actually may not have been very different. However, present health was related to perceived difficulty of making clinic visits and following treatment.

Although the majority of the sample expected little difficulty with visits, this was evidenced by 100 percent of persons expressing above-average health, 67 percent of persons in average health,

and 57 percent of those noting below-average health. Correspondingly, expectations of difficulty with clinic visits or of uncertainty were most evident among persons with average or below-average health ratings.

For the variable of expected treatment difficulty, 96 percent of persons rating above-average health also expected little difficulty, the remaining 4 percent being uncertain. In contrast, little difficulty was expected by only 53 percent of persons reporting either average or below-average health, the other 48 percent anticipating some difficulty or being uncertain. Given the fact that minimal difficulty was the majority expectation for both variables, the predictive usefulness of the present health measure was strong evidence in favor of the life-graph technique.

DISCUSSION

The general success of the life-graph present health index in predicting responses in three separate areas (expected future health, personal future projection, and treatment expectations) gives support to its potential as a tool for identifying concerns among non-crisis, ambulatory geriatric patients. When used early in the process of care, indications inferred from the rating of present health may assist in directing inquiry to develop a comprehensive knowledge of the patient's view of her or his condition. Based upon its usage here, the life-graph would appear to be readily incorporated into standard questionnaires completed by the patient before an appointment, or when informally presented as an additional question during the appointment itself.

When employing this technique, it is noteworthy that patients reporting "average" health did not present as clear a pattern as did those giving ratings which were clearly above or below average. In the group drawn from a private practice, average and above-average ratings behaved similarly in data analyses, and so were collapsed into one category. With the geriatric clinic patients, however, average ratings formed a clearly different category in analyses and presented a pattern of results which was neither optimistic nor pessimistic. Based on the data in this report, therefore, a report of below-average or even average health could be pursued by a transition to a specific inquiry about expected future health, the extent of one's personal future thinking, and treatment-related concerns. Not every patient with average or below-average self-rated health will present one or more of the concerns noted here. In addition, patients are not likely to present *all* of the concerns as a group, in the nature of general predispositions (13). However, the degree of association observed in our data suggests that pursuing future-oriented concerns will be worth the effort.

In response to follow-up questions, it may be that perceptions of present health directly affected perceptions in these other areas, or that perceived present health status is itself a conveniently obtained indication of other factors which were influencing the patient. If perceived present health is a direct cause, the physician or nurse's clinical judgments of the patient's health will be a major source of input to the patient. If perceived present health is not a direct cause, the physician or nurse will still have been alerted to sources of the patient's concern which might have gone unspoken or only mentioned in passing. At the same time, the future expectations of persons reporting above-average health should not be ignored. Although probably not a large group of subjects, attention to nonverbal indicators (e.g., eye contact, posture, physical condition) may aid in identifying persons from this seemingly optimistic group who possess uncertain or negative outlooks.

When determining whether a response indicates "average" or "above-average" health, it is advisable to consider as "average," responses which are slightly above the "average" line. From other analyses not reported here, it has been apparent that perceptions of present health status need to depart only slightly from extremely positive before being associated with uncertainty in other areas. Consequently, a perspective purposely favoring the patient would suggest that the border between above-average and average does not adhere to the rigid boundary set by the "average" line. The present study allowed a margin of one-quarter of the distance on either side of the line as the range of average health.

There was some suggestion in the data that certain concerns of the patient may not be easily predicted, especially the onset of treatment benefits and treatment duration. In both samples, uncertainty was prevalent in these areas. Definite time estimates were rarely given, even in broad terms (e.g., "six months to one year"). Reliance was placed on the findings of the doctor and nurse to determine the time frame of treatment. As a result, categories formed to establish subgroups of patients for the two variables were probably not very different. These two areas may need to be addressed directly rather than rely on indications from other questions, such as the life-graph.

Several topics remain open to investigation. Al-

though the present patient samples were largely Caucasian and of at least middle-income background, the authors have no reason to expect that the associations reported here would necessarily be absent in members of ethnic or racial groups. However, to the degree that certain groups are more educationally disadvantaged, the life-graph technique may be more difficult than for a middle-class, Caucasian sample. In addition, pending further research, results from a follow-up with a subgroup of the clinic patients suggest that responses are most appropriately used close to the time they are obtained, and should not be taken as long-term indicators of a patient's perceptions. The potential for change in patients' perceptions appears to be high (14), suggesting caution not to overextend any one piece of information. A third area relates to further investigation of the meaning of "average" health ratings, especially trying to distinguish the presence of a "middle of the road" response bias from a perception which is based upon professional assessment of physical status. The life-graph technique and other questions were used here in a general format, not in reference to any specific condition. Since the geriatric clinic and the private practice were not established for a specific type of disease, this general focus seemed most appropriate for both physician and patient. As such, the index of present health from the life-graph may have been useful by reflecting a patient's broader perceptions of "general (un)-wellness." Application of the life-graph technique and other questions to a specific problem is an area still open for research. On the level of general perceptions, the brief life-graph procedure used here holds promise for providing the physician with useful insights about a patient's future concerns.

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