

# *Self-Management of Chronic Disease by Older Adults*

*A Review and Questions for Research*

NOREEN M. CLARK, PhD

MARSHALL H. BECKER, PhD, MPH

NANCY K. JANZ, PhD

*University of Michigan School of Public Health*

KATE LORIG, DrPH

*Stanford University School of Medicine*

WILLIAM RAKOWSKI, PhD

*Brown University*

LYNDA ANDERSON, PhD

*University of Michigan School of Public Health*

---

---

This article summarizes the literature describing the at-home management of and psychosocial coping with five chronic diseases (heart disease, asthma, chronic obstructive pulmonary disease, arthritis, and diabetes) by the general population of adults. It also reviews the literature describing self-management of these chronic diseases by older adults. Conclusions drawn subsequent to the review are (a) that there are strong commonalities in the essential nature of tasks that exist across disease entities, (b) that the context for self-management of disease by the ill elderly is likely to differ somewhat from the context for other age groups. Questions for future research are posed.

---

---

*A substantial literature has developed on the subject of self-management of chronic disease, and there is accumulating evidence that effective*

---

AUTHORS' NOTE: This work was supported by a grant from the Henry J. Kaiser Family Foundation, Menlo Park, California and by grant #5-R01-HL38083-02 from the National Heart, Lung, and Blood Institute. Reprint requests should be addressed to Noreen M. Clark, PhD, University of Michigan School of Public Health, 1420 Washington Heights, Ann Arbor, MI 48109-2029.

JOURNAL OF AGING AND HEALTH, Vol. 3 No. 1, February 1991 3-27  
© 1991 Sage Publications, Inc.

self-management has a major positive impact on physical and psychological health status. Two distinct approaches characterize existing research. One line of study has attempted to identify at-home management tasks relevant to specific chronic diseases. The terms "at-home" or "self-management" are meant to include all the tasks entailed in handling clinical aspects of the disease away from the hospital or physician's office. At-home, therefore, involves tasks undertaken in any setting encountered in daily life (work, community, and so forth). Numerous studies have focused on tasks in controlling asthma (Clark et al., 1986a, 1986b; Creer & Leung, 1981; McNabb, Wilson-Pessano, Hughes, & Scamagas, 1985), arthritis (DeVellis, Blalock, Hahn, DeVellis, & Hochbaun, 1988; Doyle, 1982; Laborde, 1983; Lorig, Cox, Cuevas, Kraines, & Britton, 1984a; Lorig, Laurin, & Holman, 1984b; Lorig, Lubeck, Kraines, Selenzick, & Holman, 1985; Rippey, 1987), chronic obstructive pulmonary disease (Brought, Schmidt, Rasmussen, & Boyer, 1982; Howland et al., 1986), diabetes (Hiss, 1986), and heart disease (Brown & Rawlinson, 1975; Mickus, 1986; Monteiro, 1973; Mullen, 1978; Schulte, Pluym, & Van Schendel, 1986; Sivarajan et al., 1983). Another group of studies has examined psychosocial coping among persons with chronic illness (see for example, Peyrot & McMurray, 1985; Sinyor et al., 1986; Telch & Telch, 1986; Viney & Westbrook, 1982). Parallel to the research on at-home management tasks, psychosocial coping has been concerned with identifying effective coping strategies and with differentiating between coping patterns in response to chronic illnesses (see Rakowski, 1984, for a review).

### *Conceptualizing Self-Management*

#### *A THEORETICAL BASIS FOR SELF-MANAGEMENT*

A useful theoretical perspective for understanding the tasks of disease self-management derives from social cognitive theory (Bandura, 1986). The principles of self-regulation as they have been applied to learning about health problems are especially pertinent (Clark & Zimmerman, 1990). Bandura (1986) has discussed human behavior as reciprocally determined by the interaction of three influ-

ences: personal, behavioral, and environmental factors. Personal influences include cognitive and affective factors; behavioral influences refer to actions and reactions of an individual; and environmental influences involve both social and physical factors. Self-regulation is the process by which an individual attempts to control these three factors to reach a goal. It entails self-observation, self-judgment, and self-reaction. Self-regulation is initiated through the use of strategies such as the disease management tasks to be discussed here and is sustained or modified on the basis of the feedback an individual receives from the environment or his own assessment. Once acquired, self-regulatory processes will not be continued unless they produce perceived benefits such as improved health or control over the aversive events of illness. Identification of the strategies involved in effective disease management, then, can significantly increase the potential for individuals to become more self-regulating regarding their health problem, and theoretically, can help individuals to gain more control over the manageable aspects of chronic disease.

#### *SELF-MANAGEMENT TASKS*

A number of investigators (e.g., Clark et al., 1980; Lewis, Rachelefsky, & de la Sota, 1984; Lorig et al., 1984b; Mullen, 1978; Wilson & Pratt, 1987) have discussed the tasks of self-management of disease. Some (particularly those interested in diabetes) have employed the term "self-care" when referring to tasks the chronically ill must perform at home (DeFreise & Woomert, 1983; Glasgow et al., 1987; Grieco & Kopel, 1983; Jenny, 1984; Nelson et al., 1984; Wilson et al., 1986). However, most authors distinguish "self-care" from "self-management," often interpreting the former as tasks performed at home by healthy individuals to prevent the onset of illness.

Self-management has, in the main, been discussed as the day-to-day tasks an individual must undertake to control or reduce the impact of disease on physical health status. At-home management tasks and strategies are undertaken with the collaboration and guidance of the individual's physician and other health care providers.

Self-management, however, also requires the ability to cope with psychosocial problems generated or exacerbated by chronic disease

(Ben-Sira, 1984; Kames, Naliboff, Heinrich, & Coscarelli, 1984; Markides & Martin, 1979). As Strauss et al. (1984) noted, chronically ill individuals must continue to manage their daily existences under specific sets of financial and social conditions. Chronic illness and their associated regimens only serve to complicate (and are secondary to) problems of daily living.

Successful self-management of chronic illness (where there is no associated mental impairment) requires that individuals master three separate but related categories of activities. First, they must be sufficiently knowledgeable about their condition and its treatment to make informed decisions about their care (for example, someone with arthritis often needs to be aware of responding to the "tempo" of the disease when modifying his or her exercise program). Second, they must perform activities aimed at management of the condition (for example, make the kind of changes in the exercise program that will ensure adequate physical activity). Finally, they must apply skills necessary for maintaining adequate psychosocial functioning (for example, manage the feelings associated with a worsening arthritic condition). All of these behaviors are aimed at reducing the impact of disease on daily life.

Unfortunately, available research provides only limited explanations regarding self-management tasks of the elderly. Clarfield and Friedman (1985) recently analyzed clinical research articles in four general medical journals and concluded that, of the 1,943 surveyed, only 38% were clinically relevant to the elderly in that they addressed an issue of medical importance to them (e.g., hypertension, coronary artery disease, adult carcinomas). Of these articles, only 50% contained sufficient numbers of older adults in the study groups to permit valid inferences about their clinical situation. Commenting on the variety of problems the ill elderly face, Rakowski (1984) expressed concern that so little conceptual refinement has occurred for important behaviors such as symptom recognition and compliance, as they concern the aged. No similar review has been undertaken of research on psychosocial coping with chronic disease, but the majority of these studies also appear to have insufficient numbers of older adults to allow relevant generalizations about them.

If at each stage of life individuals face somewhat distinct challenges, then self-management of chronic disease by older individuals is likely to emerge somewhat differently from that undertaken by individuals at younger ages, including the need to rearrange or reprioritize aspects of coping.

To date, the two bodies of literature discussing at-home management and psychosocial coping have been characterized by the following contradiction. On the one hand, studies and discussions of disease self-management have focused on specific conditions (heart disease, diabetes, asthma, and so forth). The dimensions common to effective management, those that cut across chronic diseases, have received little attention. On the contrary, studies of psychosocial coping have tended not to be condition specific but have looked for coping strategies that pertain to chronic disease in general.

We were interested in discovering if a set of common management tasks, related to both self-management of the clinical dimensions of various diseases *and* psychosocial coping, characterized living with chronic illness. We also wondered if management tasks of older adults differed significantly from those of other populations. These interests led us to review the literature on at-home management and psychosocial coping in the general population diagnosed with five chronic diseases to determine if a set of like tasks or common themes emerged. To see if findings conformed to data from younger populations, we also reviewed the limited number of studies on self-management and coping with chronic disease conducted with older adults.

We selected five chronic diseases (heart disease, asthma, arthritis, chronic obstructive pulmonary disease [COPD], and diabetes) that are significant in terms of their impact on daily life and the adjustments they demand, that are not terminal, and for which empirical studies of patient management tasks or needs are available.

### *Common Self-Management Tasks and Themes*

Table 1 presents 12 categories identified in our review where tasks were common across the selected diseases. Although some tasks may be unique to a condition, we have focused on those required by most

Table 1  
*Common Self-Management Tasks for Five Chronic Diseases*

Tasks	Heart disease	Asthma	Arthritis	COPD <sup>a</sup>	Diabetes
Recognizing and responding to symptoms, monitoring physical indicators, controlling triggers to symptoms	X <sup>b</sup>	X		X	X
Using medicine	X	X	X	X	X
Managing acute episodes and emergencies	X	X	X		X
Maintaining nutrition and diet	X		X	X	X
Maintaining adequate exercise/activity	X	X	X	X	X
Giving up smoking	X	X	X	X	X
Using relaxation and stress reducing techniques	X	X	X		
Interacting with health care providers	X	X			X
Seeking information and using community services		X	X		X
Adapting to work	X	X	X		
Managing relations with significant others	X	X	X	X	
Managing emotions and psychological responses to illness	X	X	X		X

a. COPD = chronic obstructive pulmonary disease.

b. X = reported in a study of self-management.

illnesses. Tasks seen as part of the self-management of a chronic disease generally derive from two sources. One source is organized research wherein patients or health professionals or both are surveyed to identify salient tasks. Sometimes interventions based on these tasks are developed and tested. Another source is clinical impression whereby health professionals make inferences from individual cases and share among themselves professional judgments about the utility of certain practices. Only if we found examples of formal studies of self-management where the task was identified did we mark the appropriate cell.

Our initial review was of self-management studies in the general population. Few of these investigations have included older adults, and when included, the number has been small. Table 2 presents the common management tasks we identified and the investigators who have discussed each as it concerns one of the five diseases. A few

*text continues on page 16*

**Table 2**  
**Studies Identifying Self-Management Tasks in the General Population Across Five Chronic Diseases and Pertinent Findings From Other Related Studies**

Task	Disease	Investigators	Related studies
Recognizing and responding to symptoms and controlling triggers to symptoms	Heart disease	Owens et al. (1978)	
	Asthma	Clark et al. (1986a) Wilson-Pessano et al. (1987) Kruzsch et al. (1987) Evans et al. (1987) Robbins and Finklestein (1973) Fireman et al. (1981) Creer (1987) Bailey et al. (1987) Howland (1986) O'Connell et al. (1984)	Symptoms are source of fear and anxiety (Clark, 1980).
Monitoring physical indicators by objective means	Heart disease	Moynihan (1984)	
	Asthma	Janson-Bjerklie and Schnell (1988) Creer and Leung (1981)	
	Diabetes	American Diabetes Association (1986) Glasgow et al. (1989)	There is often disparity between patients' estimates of blood sugar levels and objective measures (Diamond et al., 1989).  Fear of objective tests and lack of confidence to perform them lead to refusal to monitor (Krosnick, 1980).

(continued)

Table 2 continued

Task	Disease	Investigators	Related studies
Using prescription medicines	Heart disease	King et al. (1986)	
	Asthma	Clark et al. (1980)	
	Arthritis	Oermann et al. (1986)	
	COPD	Kaplan et al. (1984)	
		Howland et al. (1986)	
		Brough et al. (1982)	
	Diabetes	American Diabetes Association (1986)	
		Watkins et al. (1967a)	
		Hulka et al. (1976)	
		Lawrence and Cheely (1980)	
Miller et al. (1978)			
Ary et al. (1986)			
	Wilson et al. (1986)		
	Glasgow et al. (1987)		
	Mazzuca et al. (1986)		
Patient beliefs regarding susceptibility, severity of condition, and cost versus costs of taking medicine significantly influence compliance across diseases (Becker, 1985).			
Managing attacks and emergencies	Heart disease	Schulte et al. (1986)	
	Asthma	Clark et al. (1986a)	
		Creer and Leung (1981)	
	Arthritis	Wilson-Pessano et al. (1987)	
Krutzsch et al. (1987)			
	Oermann et al. (1986)		



Diabetes	American Diabetes Association (1986)	
Heart disease	Owens et al. (1978)	
Arthritis	Sivarajan et al. (1983)	
COPD	Oermann et al. (1986)	
Diabetes	Howland et al. (1986)	
	American Diabetes Association (1986)	Physicians feel lack of patient motivation is reason for noncompliance; patients indicate somatic and situational factors as reasons (House et al., 1986).
	Watkins et al. (1967b)	
	Miller et al. (1978)	
	Glasgow et al. (1987)	
	Pendleton et al. (1987)	
	Daschner (1986)	
	Lockwood et al. (1986)	
Heart disease	Owens et al. (1978)	
Asthma	Sivarajan et al. (1983)	
	Clark et al. (1986a)	Exercise viewed as a way to promote general health not as prescription to improve lung function (Clark et al., 1986a).
	Wilson-Pessano et al. (1987)	
	Bailey et al. (1987)	
Arthritis	Wade et al. (1982)	
	Oermann et al. (1986)	
	Berg et al. (1985)	
COPD	Howland et al. (1986)	
	Brough et al. (1982)	
Diabetes	Ary et al. (1986)	

(continued)

Table 2 continued

Task	Disease	Investigators	Related studies
Giving up smoking	Heart disease	Croog and Richards (1977)	
	Asthma	Clark et al. (1980)	
	COPD	Kaplan (1984)	
	Diabetes	American Diabetes Association (1986)	
<p>Quitting can be daunting even when one with chronic illness is aware of the deleterious effects to the condition (Streicher et al., 1985).</p>			
Using strategies to relax and reduce stress	Heart disease	Sivaraian et al. (1983)	
		Schulte et al. (1986)	
	Asthma	Clark et al. (1986a)	
		Krutzsch et al. (1987)	
		Creer and Leung (1981)	
		Indianmeco et al. (1987)	
	Clark (1980)		
	Arthritis	Oermann et al. (1986)	
		Berg et al. (1985)	
		Wade et al. (1982)	
Interacting with health care professionals	Heart disease	Boyd and Feldman (1984)	
	Asthma	Clark et al. (1980)	
		Krutzsch et al. (1987)	
		Wilson-Pessano et al. (1987)	
		Bailey et al. (1987)	

Diabetes	American Diabetes Association (1986) Graber et al. (1986)	Patient-provider relationship in chronic disease is fundamental to patient self-management (Kane & Kane, 1986).
Seeking information and using community resources	Asthma Clark et al. (1980) Wilson-Pessano et al. (1987) Bailey (1987) Lewis et al. (1984) Oermann et al. (1986) Howland (1986) Mazze et al. (1986)	
Adapting to work (including housework and chores)	Heart disease Sivarajan et al. (1983)  Asthma Wilson-Pessano et al. (1987) Bailey et al. (1987)  Arthritis Oermann et al. (1986)	
Managing relations with significant others	Heart disease Moynihan (1984) Sivarajan et al. (1983)	Heart patients' perceptions of their families' expectations related more to patients' behavior than did patients' own intentions (Miller et al., 1982). No relation between spouse support and patient compliance (Hilbert, 1985).

(continued)

Table 2 continued

Task	Disease	Investigators	Related studies
	Asthma	Clark et al. (1980) Wasilewski et al. (1988) Bailey et al. (1987) Wilson-Pessano and McNabb (1985)	
	Arthritis	Berg et al. (1985)	
	COPD	Howland et al. (1986) Brough et al. (1982)	
Managing emotions and psychological responses to illness	Heart disease	Sivarajan et al. (1983)	Five variables predict rejecting of sick role by surgery patients (Brown & Rawlinson, 1975): (a) less depression, (b) preoperative rejection of sick role, (c) duration of illness, (d) younger age, (e) being male.
	Asthma	Clark et al. (1986a) Creer (1987) Lewis et al. (1984)	
	Arthritis	Berg et al. (1985)	

Diabetes

Type of coping strategy is related to level of metabolic control (Linn et al., 1985).

Diabetic patients felt more anxiety than their spouses (Jensen, 1985).

Diabetic control related to psychosocial adjustment (Peyrot & McMurray, 1985).

Patients use differing strategies to cope with the psychological impact of illness (Felton et al., 1984).

a. COPD = chronic obstructive pulmonary disease.

related studies have explored influences on aspects of self-management and findings from these have also been included in the table as pertinent.

Essentially, each category of task elicited in our review describes types of processes or strategies the patient must employ to achieve a degree of control over the impact of disease. These range from identification of impending problems through symptom recognition, to obtaining optimum health care through effective interaction with providers, to consciously reducing the psychological burden of illness by managing emotions. Each category is viewed in the current literature as essential to effective management in each of our target diseases (heart disease, asthma, arthritis, COPD, and diabetes).

### *Self-Management and Psychosocial Coping by Older Adults*

We could locate only 12 studies of older individuals related to their management of or psychosocial coping with one of the five diseases under discussion. Few of the 12 categories of task presented above have been explicitly identified in these studies of older patients. However, tasks have sometimes been implicit in the formulation of the research question. For example, Wilson and Pratt (1987) investigated the effects of social support on weight loss by older diabetic patients. Although managing relationships with others is not identified as an important task in the research, such behavior is inherent to maintaining adequate social support. Only one study compares older and younger populations and therefore generalizations about differences cannot be made, but the available research does shed light on self-management by seniors.

Clark et al. (1988) conducted a needs assessment prior to planning self-management education for older adults with heart disease. These authors discussed six problem areas identified by 90 elderly patients: (a) accepting limitations on one's activities, (b) following physician recommendations, (c) reading body signals and knowing when to slow down or when to increase activity levels, (d) handling fear and anxiety, (e) maintaining optimism and taking pride in what can be done given the constraints of the disease, and (f) assisting family members in being calm and helpful instead of worrying.

As mentioned, Wilson and Pratt (1987) investigated the effects of education alone versus education and social support on the ability of 79 older diabetic patients to lose weight and to maintain appropriate blood sugar levels. The combination of education and social support was more effective in achieving the clinical goals. Ary, Toobert, Wilson, and Glasgow (1986) found better adherence to urine-testing procedures by older diabetic patients, and paradoxically, Miller, Goldstein, and Nicolaisen (1978) found that the percentage of patients knowledgeable about diabetes management declined with age.

In one of the only intervention studies specifically targeted at the elderly cardiac population, King, Martin, Morrell, Arena, and Boland (1986) identified the learning and management needs of 148 older veterans by means of a multiple risk factor assessment instrument. Study findings suggested that, in addition to the information and skills training necessary in the areas of smoking behavior, medication regimen compliance, and tension reduction, patients frequently requested posthospitalization advice regarding sexual activity, heartbeat irregularities, financial and work-related issues, and family counseling. Moynihan (1984) found pulse taking to be a management concern of elderly heart patients in her study.

Lorig and her colleagues found that pain, disability, fear, and depression were major concerns of 100 older arthritis patients they studied and suggested that management tasks be directed at these problems (Lorig et al., 1984a).

Weinberger, Hiner, and Tierney (1987) assessed stress among 150 older osteoarthritis patients to test the hypothesis that social support was a buffer to stressors likely to evoke negative health consequences. No evidence was uncovered to substantiate this theory. (The investigators also found that being Black, married, better-educated, and having a higher income were positively associated with social support.)

Several investigators have demonstrated the effectiveness of arthritis education for older patients age 50 and older. Doyle and Granada (1982) studied 19 osteoarthritis patients age 50 and older. Group and individual interventions were compared. All subjects experienced greater knee mobility and decreases in arthritic pain. There were no differences between intervention groups. Rippey et al. (1987), using computer-based education with 72 people with osteoarthritis, demonstrated

increases in knowledge, exercise, rest, and use of heat. Lorig et al. (1984b) demonstrated that both the young elderly (those 55-74) and the old elderly (75-94) could benefit from education. The younger group demonstrated improved knowledge, level of disability, and extent of pain, all of which were maintained for 20 months. The older group both improved their knowledge about the disease and had decreased levels of pain. However, deterioration in these gains was noted over 20 months.

Jenny (1984) studied 245 diabetic patients in four age groups; examining adaptation to the regimen, she found no differences in compliance and control across age groups (although the oldest patients were the least concerned with death as a potential outcome of the disease, and the perceived value of medication and exercise decreased with age).

Given the limited amount of available comparative data regarding self-management of disease by the elderly, one cannot demonstrate that the basic elements of at-home clinical management and psychosocial coping with chronic disease differs between the general and older adult populations. However, differences in the context for management are likely to exist, if for no other reason than that comorbidity increases with age: Whereas younger adults usually experience a single disease, older adults have, on average, multiple chronic conditions (Amaral, 1986). If comorbidity is not considered, management advice can become contradictory and confusing. For example, the postcoronary patient on a walking program may have problems with arthritic hips and knees; without an integrated management program, one condition may become aggravated or active management of both avoided. Other distinctions may result from (a) the fact that households of older adults are more likely to contain two frail partners, whereas younger households are more likely to include infants and growing children; (b) differences in normative social circumstances (e.g., returning to work outside the home is often an objective when illness occurs at younger ages, but may not be a significant factor for persons over age 65); (c) differences in security of accumulated resources and the ability to replace any resources expended on recovery from illness (not only do most older persons have a relatively fixed level of income, but reduced earning power makes it difficult to recoup



lost resources); and (d) changing physical health status and, as mentioned, coexisting illnesses (older adults are more likely to have multiple health conditions that introduce competing needs for coping and that can deplete the physical and mental energy available to deal with them). Little is currently known regarding the relationships between health care providers and older patients in chronic disease management. Frequent and substantial use of health care services by subgroups of older adults requires attending to providers' roles and older adults' perceptions of providers' roles. Patient-provider relationships may have important consequences for effective self-management and well-being of older adults. Further, there is considerable concern regarding the effects of large complex health care systems on the care of the elderly and on their ability to effectively obtain and carry out care (Kane & Kane, 1986).

### *Conceptualizing Self-Management for Older Adults*

As mentioned initially, the literature available for this review fell naturally into two types: (a) those articles discussing the clinical aspects of disease management and (b) those discussing the psychological coping dimensions of management. This dichotomy is more likely the result of the disciplinary interests of the researchers than it is a reflection of the patient's situation. In day-to-day living, the two are inextricable, and failure to address them as such in research may be an obstacle to a fuller understanding of the range of tasks required for effective management of a chronic condition.

What the studies reviewed suggest is that several categories of task are common to the five chronic diseases under consideration here. The content of the task may differ according to the condition. For example, with asthma one monitors oneself to note changes in respiration values, and with diabetes one monitors blood glucose levels. However, the essential nature of the task is the same. In the case of both diabetes and asthma, one must be aware of the link between physiologic conditions and a dangerous health consequence. One must be aware of his or her own physiologic responses to triggers, must be able to use measures to determine their severity, must be devoted to noting changes on a systematic basis, must know actions to take given a set

of parameters, and must be able to mobilize the resources needed to act. An even clearer example is smoking cessation. Although the context of the problem may differ somewhat with the condition (for example, the immediate effects of smoking may be more apparent in asthma or COPD than in arthritis), the psychological and behavioral elements of the quitting process are essentially the same for patients with any of these diseases.

Self-management, which we define to include psychosocial coping, related to these five conditions (and perhaps to other chronic conditions as well), appears to entail both intra- and interpersonal processes. The commonalities we have identified suggest that becoming a better self-manager is linked less to learning facts about a particular condition and more to learning how to set goals, organize resources (including psychic resources), and implement problem-solving strategies. Although facts about disease are important to know, the context for treatment of most chronic diseases is highly variable and physician's recommendations can rarely be absolute ones. Patients, and their family members, must exercise a high degree of independence and judgment in managing illness (Clark, 1983). They must consciously employ strategies to reduce the impact of disease on daily life (Clark & Zimmerman, 1990). Further, abstract knowledge about an illness has been shown not to be related to a patient's specific actions related to managing it (Becker & Maiman, 1980).

The view of self-management as a dynamic process, calling on a set of basic human skills, regardless of the specific disease, has appeal because it fits well with learning principles drawn from social cognitive theory, especially self-regulation (Bandura, 1977, 1986). These principles provide a strong theoretical base for the development of educational and/or behavioral interventions. The principles underlying self-regulation posit that self-observation, self-evaluation, and self-reaction are mechanisms by which individuals learn to deal with complex environments and develop strategies for solving problems they confront.

Viewing self-management as a set of basic tasks or strategies that cut across chronic conditions has practical appeal as well. Although there are as yet too few studies comparing self-management among individuals with different diseases, our review suggests that research-

ers and clinicians working with these various populations have much to learn from each other. If common tasks can be identified and elaborated, the potential for providing effective education and support programs is greatly increased. Many health-care institutions and organizations currently provide a variety of less-than-effective disease management programs. Frequently there are insufficient resources available, given the depth of coverage required and the range of chronic conditions being treated in the institution. This can lead to low-level attendance by individuals who find that the education falls short of their needs. If our proposition that a core of common tasks exists is accurate, institutions might devote their resources to a single comprehensive program. Implementing one process-oriented program may be a more efficient use of resources, and this may be the case in part because it would draw participation from a larger pool of individuals.

Little empirical data exist to detail problems in managing chronic disease at older ages. As noted earlier, too few self-management and psychosocial coping studies have focused on older populations and virtually none have compared self-management among different age groups. Our proposition that self-management is a core of basic skills suggests that management tasks for older adults would not be essentially different than those for younger individuals.

This does not mean there would not be a need for age-specific self-management interventions. It is certainly the case that older patients are much more likely to experience comorbidities, and the difficulties of dealing with more than one disease at the same time may create a unique management situation. In addition, the context for undertaking the basic tasks might differ as life contexts differ among age groups. If the life contexts of older people are at significant variance with situations of young or middle-aged people, then special programs for older individuals with chronic disease would be warranted. At least two self-management programs for older adults (Clark et al., 1988; Lorig et al., 1984b) have developed activities designed to increase social support among participants in the belief that social support has a strong effect on self-management success (Tobin, Reynolds, Holyroyd, & Creer, 1985). Social support has been discussed as particularly effective when received from individuals with

shared understanding or experiences in common with the patient (Lorig et al., 1984b). This factor alone may be sufficient rationale for developing age-specific self-management programs. However, all of these observations require empirical testing.

### *Questions for Research*

This review has engendered some interesting questions that deserve study by researchers and clinicians working with older adults. The first concerns the notion that aspects of clinical management of disease and dimensions of psychosocial coping should be integrated in studies of self-management. Is the current tendency to separate them an artificial distinction? Second, do different types of disease require different self-management tasks, or is it possible to identify and elaborate a set of tasks that patients, regardless of disease and comorbidities, need to undertake to successfully self-manage? The review presented here suggests that this is the case. However, rigorous prospective study is needed of commonalities that appear to exist. Third, do tasks confronting older people differ significantly from those confronting the general population of adults with chronic disease, or is it that the self-management priorities of older adults change or the contexts for self-management differ? If so, in what ways is self-management unique for the elderly? Fourth, is it possible to design effective behavioral or educational interventions to enhance the ability of older people with various chronic diseases to carry out common self-management tasks? Finally, does adequate mastery of these common tasks affect perceptions of quality of life? Does such mastery influence physical and psychological health status regardless of which diseases people are managing?

Answers to these questions should enable us to assist older adults to live more successfully with the chronic illnesses so prevalent among them, and thus they constitute an important agenda for future research.

## REFERENCES

- Amaral, P. L. (1986). The special case of compliance in the elderly. In K. E. Gerber & A. M. Nehemkis (Eds.), *Compliance: The dilemma of the chronically ill* (pp. 128-157). New York: Springer.

- American Diabetes Association Task Group on Goals for Diabetes Education. (1986). *Goals for diabetes education*. Alexandria, VA: American Diabetes Association.
- Ary, D. V., Toobert, D., Wilson, W., & Glasgow, R. E. (1986). Patient perspective on factors contributing to nonadherence to diabetes regimen. *Diabetes Care*, 9(2), 168-172.
- Bailey, W. C., Richard, J. M., Manzella, B. A., Windsor, R. A., Brooks, C. M., & Soong, S.-J. (1987). Promoting self-management in adults with asthma: An overview of the UAB program. *Health Education Quarterly*, 14, 345-355.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Becker, M. H. (1985). Patient adherence to prescribed therapies. *Medical Care*, 23, 539-555.
- Becker, M. H., & Maiman, L. A. (1980). Strategies for enhancing patient compliance. *Journal of Community Health*, 6(2), 113-135.
- Ben-Sira, Z. (1984). Chronic illness, stress and coping. *Social Science and Medicine*, 18, 725-736.
- Berg, C. E., Alt, K. J., Himmel, J. K., & Judd, B. J. (1985). The effects of patient education on patient cognition and disease-related anxiety. *Patient Education and Counseling*, 7, 389-394.
- Boyd, M. D., & Feldman, R.H.L. (1984). Health information seeking and reading and comprehension abilities of cardiac rehabilitation patients. *Journal of Cardiac Rehabilitation*, 4, 343-347.
- Brough, F. K., Schmidt, C. D., Rasmussen, T., & Boyer, M. (1982). Comparison of two teaching methods for self-care training for patients with chronic obstructive pulmonary disease. *Patient Counseling and Health Education*, 4(2), 111-116.
- Brown, J. S., & Rawlinson, M. (1975). Relinquishing the sick role following open-heart surgery. *Journal of Health and Social Behavior*, 16, 12-27.
- Clarfield, A. M., & Friedman, R. (1985). Survey of the age structure of "age-relevant" articles in four general medical journals. *Journal of the American Geriatrics Society*, 33, 773-778.
- Clark, N. M. (1983). Response: The application of theory in childhood asthma self-help programs. *Journal of Allergy and Clinical Immunology*, 72, 578-580.
- Clark, N. M., Feldman, C., Evans, D., Duzey, O., Levison, M. J., Wasilewski, Y., & Mellins, R. B. (1986a). Managing better: Children, parents, and asthma. *Patient Education and Counseling*, 8(1), 27-38.
- Clark, N. M., Feldman, C., Freudenberg, N., Millman, E. J., Wasilewski, Y., & Valle, I. (1980). Developing education for children with asthma through study of self-management behavior. *Health Education Quarterly*, 7, 278-296.
- Clark, N., Feldman, C., Mellins, R., Evans, D., Wasilewski, Y., & Levison, M. (1986b). The impact of education on frequency and cost of health care utilization of low income children with asthma. *Journal of Allergy and Clinical Immunology*, 78, 108-115.
- Clark, N. M., Rakowski, W., Ostrander, L., Wheeler, J. R., Oden, S., & Keteyian, S. (1988). Development of self-management education for elderly heart patients. *Gerontologist*, 28, 491-494.
- Clark, N. M., & Zimmerman, B. J. (1990). A social cognitive view of self-regulated learning about health. *Health Education and Research*, 5, 371-379.
- Creer, T. L. (1987). Living with asthma: Replications and extensions. *Health Education Quarterly*, 14, 319-331.
- Creer, T. L. (1985). *Living with asthma* (NIH Publication No. 84-2364). Bethesda, MD: National Heart, Lung & Blood Institute.
- Creer, T. L., & Leung, P. (1981). The development and evaluation of a self-management program for children with asthma. In National Institute of Allergy and Infectious Diseases (Ed.),

- Self-management educational programs for childhood asthma* (Vol. 2, pp. 107-128). Bethesda, MD: National Institute of Allergy and Infectious Diseases.
- Croog, S. H., & Richards, N. P. (1977). Health beliefs and smoking patterns in heart patients and their wives: A longitudinal study. *American Journal of Public Health*, *67*, 921-930.
- Daschner, B. K. (1986). Problems perceived by adults in adhering to a prescribed diet. *Diabetes Educator*, *12*(2), 113-115.
- DeFreise, G. H., & Woomert, A. (1983). Self-care among U.S. elderly: Recent developments. *Research on Aging*, *5*, 3-24.
- DeVellis, B. M., Blalock, S. J., Hahn, P. M., DeVellis, R. F., & Hochbaum, G. M. (1988). Evaluation of a problem-solving intervention for patients with arthritis. *Patient Education and Counseling*, *11*, 29-42.
- Diamond, E. L., Massey, K. L., & Covey, D. (1989). Symptom awareness and blood glucose estimation in diabetic adults. *Health Psychology*, *8*, 15-26.
- Doyle, T. H., & Granada, J. L. (1982). Influence of two management approaches on the health status of women with osteoarthritis. *Arthritis and Rheumatism*, *25*, S56.
- Evans, D., Clark, N. M., Feldman, C. H., Rips, J., Kaplan, D., Levison, M. J., Wasilewski, Y., Levin, B., & Mellins, R. B. (1987). A school health education program for children with asthma aged 8-11 years. *Health Education Quarterly*, *14*(3), 267-279.
- Felton, B. J., Revenson, T. A., & Hinrichsen, G. A. (1984). Stress and coping in the explanation of psychological adjustment among chronically ill adults. *Social Science and Medicine*, *18*, 889-898.
- Fireman, P., Friday, G., Gira, C., Vierthaler, W., & Michaels, L. (1981). Teaching self-management skills to asthmatic children and their parents in an ambulatory setting. *Pediatrics*, *68*, 341-348.
- Glasgow, R. E., McCaul, K. D., & Schafer, L. C. (1987). Self-care behaviors and glycemic control in type I diabetes. *Journal of Chronic Disease*, *40*, 399-412.
- Glasgow, R. E., Toobert, D. J., Riddle, M., Donnelly, J., Mitchell, D. L., & Calder, D. (1989). Diabetes-specific social learning variables and self-care behaviors among persons with type II diabetes. *Health Psychology*, *8*, 285-303.
- Graber, A. L., Wooldridge, K., & Brown, A. (1986). Effects of intensified practitioner-patient communication on control of diabetes mellitus. *Southern Medical Journal*, *89*, 1205-1209.
- Grieco, A. L., & Kopel, K. F. (1983). Self-help and self-care in chronic illness. *Southern Medical Journal*, *76*, 1128-1130.
- Hilbert, G. A. (1985). Spouse support and myocardial infarction patient compliance. *Nursing Research*, *34*, 217-220.
- Hiss, R. G. (Ed.). (1986). *Diabetes in communities*. Ann Arbor: University of Michigan Press.
- House, W. C., Pendleton, L., & Parker, L. (1986). Patients' versus physicians' attributions of reasons for diabetic patients' noncompliance with diet. *Diabetes Care*, *9*, 434.
- Howland, J., Nelson, E. C., Barlow, P. B., McHugo, G., Meier, F. A., Brent, P., Laser-Wolston, N., & Parker, H. W. (1986). Chronic obstructive airway disease. *Chest*, *90*, 233-238.
- Hulka, B. S., Cassel, J. C., Kupper, L. L., & Burdette, J. A. (1976). Communication, compliance and concordance between physicians and patients with prescribed medications. *American Journal of Public Health*, *66*, 847-853.
- Indinnimeo, L., Midulla, F., Hindi-Alexander, M., Bonci, E., Tancrediti, G. C., Cutrera, R., Zicari, A. M., Evans, D., & Ronchetti, R. (1987). Controlled studies of childhood asthma self-management in Italy using the "Open Airways" and "Living with Asthma" programs: A preliminary report. *Health Education Quarterly*, *24*, 291-308.
- Janson-Bjerklie, S., & Shnell, S. (1988). Effect of peak flow information on patterns of self-care in adult asthma. *Heart & Lung: The Journal of Critical Care*, *17*, 543-549.

- Jenny, J. L. (1984). A comparison of four age groups' adaptation to diabetes. *Canadian Journal of Public Health, 75*, 237-244.
- Jensen, S. B. (1985). Emotional aspects in diabetes mellitus: A study of somatopsychological reactions in 51 couples in which one partner has insulin-treated diabetes. *Journal of Psychosomatic Research, 29*, 353-359.
- Kames, L. D., Naliboff, B. D., Heinrich, R. L., & Schag, C. C. (1984). The chronic illness problem inventory: Problem-oriented psychosocial assessment of patients with chronic illness. *International Journal of Psychiatry in Medicine, 4*(1), 65-75.
- Kane, R. A., & Kane, R. L. (1986). Self-care and health care: Inseparable but equal for the well-being of the old. In K. Dean, T. Hickey, & B. E. Holstein (Eds.), *Self-care and health in old age* (pp. 251-283). London: Croom Helm.
- Kaplan, R. M., Atkins, C. J., & Reinsch, S. (1984). Specific efficacy expectations mediate exercise compliance in patients with COPD. *Health Psychology, 3*, 223-242.
- King, A. C., Martin, J. E., Morrell, E. M., Arena, J. G., & Boland, M. J. (1986). Highlighting specific patient education needs in an aging cardiac population. *Health Education Quarterly, 13*, 29-38.
- Krosnick, A. (1980). Self-management, patient compliance, and the physician. *Diabetes Care, 3*, 124-126.
- Krutzsch, C. B., Bellicha, T. C., & Parker, S. R. (1987). Making childhood asthma management education happen in the community: Translating health behavioral research into local programs. *Health Education Quarterly, 14*, 357-373.
- Laborde, J. M., & Powers, M. J. (1983). Evaluation of educational interventions for osteoarthritis. *Multiple Linear Regression Viewpoints, 12*, 12-37.
- Lawrence, P. A., & Cheely, J. (1980). Deterioration of diabetic patients' knowledge and management skills as determined during outpatient visits. *Diabetes Care, 3*, 214-218.
- Lewis, M. A., Rachelefsky, G., & de la Sota, A. (1984). A randomized trial of A.C.T. (asthma care training) for kids. *Pediatrics, 74*, 478-486.
- Linn, M. W., Skyler, J. S., Linn, B. S., Edelstein, J., & Sandifer, R. (1985). A possible role for self-management techniques in control of diabetes. *Diabetes Educator, 13*-16.
- Lockwood, D., Frey, M. L., Gladish, N. A., & Hiss, R. G. (1986). The biggest problem in diabetes. *Diabetes Educator, 12*, 30-33.
- Lorig, K., Cox, T., Cuevas, Y., Kraines, R. G., & Britton, M. C. (1984a). Converging and diverging beliefs about arthritis: Caucasian patients, Spanish-speaking patients and physicians. *Journal of Rheumatology, 11*(1), 76-79.
- Lorig, K., Laurin, J., & Holman, H. R. (1984b). Arthritis self-management: A study of the effectiveness of patient education for the elderly. *Gerontologist, 24*, 455-457.
- Lorig, K., Lubeck, D., Kraines, R. G., Seleznick, M., & Holman, H. R. (1985). Outcomes of self-help education for patients with arthritis. *Arthritis and Rheumatism, 28*, 680-685.
- Markides, K. S., & Martin, H. W. (1979). A causal model of life satisfaction among the elderly. *Journal of Gerontology, 34*(1), 86-93.
- Mazze, R., Deeb, L., & Palumbo, P. J. (1986). Altering physicians' practice patterns—A nationwide educational experiment: Evaluation of the clinical education program of the American Diabetes Association. *Diabetes Care, 9*, 420-425.
- Mazza, S. A., Moorman, N. H., Wheeler, M. L., Norton, J. A., Fineberg, N. S., Vinicor, F., Cohen, S. J., & Clark, C. M. (1986). The diabetes education study: A controlled trial of the effects of diabetes patient education. *Diabetes Care, 9*, 1-10.
- McNabb, W. L., Wilson-Pessano, S. R., Hughes, G. W., & Scamagas, P. (1985). Self-management education of children with asthma: Air wise. *American Journal of Public Health, 75*, 1219-1220.

- Mickus, D. (1986). Activities of daily living in women after myocardial infarction. *Heart and Lung, 15*, 376-381.
- Miller, L. V., Goldstein, J., & Nicolaisen, G. (1978). Evaluation of diabetes patients' knowledge of diabetes self-care. *Diabetes Care, 1*, 275-280.
- Miller, P., Johnson, N. L., Garrett, M. J., Wickoff, R., & McMahon, M. (1982). Health beliefs of and adherence to the medical regimen by patients with ischemic heart disease. *Heart and Lung, 11*, 332-339.
- Monteiro, L. A. (1973). After heart attack: Behavioral expectations for the cardiac. *Social Science and Medicine, 7*, 555-565.
- Moynihan, M. (1984). Assessing the educational needs of post-myocardial infarction patients. *Nursing Clinics of North America, 19*, 441-447.
- Mullen, P. D. (1978). Cutting back after a heart attack: An overview. *Health Education Monographs, 6*, 295-310.
- Nelson, E. C., McHugo, G., Schnurr, P., DeVito, C., Roberts, E., Simmons, J., & Zubkoff, W. (1984). Medical self-care education for elders: A controlled trial to evaluate impact. *American Journal of Public Health, 74*, 1352-1362.
- O'Connell, K. A., Hamera, E. K., Knapp, T. M., Cassmeyer, V. L., Eaks, G. A., & Fox, M. A. (1984, April). Symptom use and self-regulation in type II diabetes. *Advances in Nursing Science*, pp. 19-28.
- Oermann, M. H., Doyle, T. H., Clark, L. R., Rivers, C. L., & Rose, V. Y. (1986). Effectiveness of self-instruction for arthritis patient education. *Patient Education and Counseling, 8*, 245-254.
- Owens, J. F., McCann, C. S., & Hutelmyer, C. M. (1978). Cardiac rehabilitation: A patient education program. *Nursing Research, 27*, 148-150.
- Pendleton, L., House, W. C., & Parker, L. (1987). Physicians' and patients' views of problems of compliance with diabetes regimens. *Public Health Reports, 102*, 21-26.
- Peyrot, M., & McMurray, J. F. (1985). Psychosocial factors in diabetes control: Adjustment of insulin-treated adults. *Psychosomatic Medicine, 47*, 542-557.
- Rakowski, W. (1984). Health psychology and late life: The differentiation of health and illness for the study of health-related behaviors. *Research on Aging, 6*, 593-620.
- Rippey, R. M., Bill, D., Abeles, M., Day, J., Downing, D. S., Pfeiffer, C. A., Thal, S. E., & Wetstone, S. L. (1987). Computer-based patient education for older persons with osteoarthritis. *Arthritis and Rheumatism, 30*, 932-935.
- Robbins, S. M., & Finklestein, J. (1973). Reducing the emotional and economic costs of hospitalization of ill asthmatics. *Clinical Pediatrics, 12*, 550-554.
- Schulte, M. B., Pluym, B., & Van Schendel, G. (1986). Reintegration with duos: A self-care program following myocardial infarction. *Patient Education and Counseling, 8*, 233-244.
- Sinyor, D., Amato, P., Kaloupek, D. G., Becker, R., Goldenberg, M., & Coopersmith, H. (1986). Post-stroke depression: Relationships to functional impairment, coping strategies and rehabilitation outcome. *Stroke, 17*, 1102-1107.
- Sivarajan, E. S., Newton, K. M., Almes, M. J., Kempf, T. M., Mansfield, L. W., & Bruce, R. A. (1983). Limited effects of outpatient teaching and counseling after myocardial infarction: A controlled study. *Heart and Lung, 12*, 65-73.
- Strauss, A. L., Corbin, J., Fagerhaugh, S., Glaser, B. G., Maimes, D., Suczek, B., & Wiener, C. L. (1984). *Chronic illness and the quality of life*. St. Louis: C.V. Mosby.
- Strecher, V. J., Becker, M. H., Kirscht, J. P., Eraker, S. A., & Graham-Tomasi, R. P. (1985). Evaluation of a minimal-contact smoking cessation program in a health care setting. *Patient Education and Counseling, 7*, 395-407.



- Telch, C. F., & Telch, M. J. (1986). Group coping skills instruction and supportive group therapy for cancer patients: A comparison of strategies. *Journal of Consulting Clinical Psychology, 54*, 802-808.
- Tobin, D. L., Reynolds, R.V.C., Holyroyd, K. A., & Creer, T. L. (1985). Self-management and social learning theory. In K. A. Holyroyd & T. L. Creer (Eds.), *Self-management of chronic disease: Handbook of clinical intervention and research* (pp. 29-55). Orlando, FL: Academic Press.
- Viney, L. L., & Westbrook, M. T. (1982). Coping with chronic illness: The mediating role of biographic and illness-related factors. *Journal of Psychosomatic Research, 26*, 595-605.
- Wade, K. J., Brown, S., & Wasner, C. K. (1982). Rheumatoid arthritis patient education: A consensus on main topics. *Arthritis and Rheumatism, 25*, S86.
- Wasilewski, Y., Clark, N. M., Evans, D., Feldman, C., Kaplan, D., Rips, J., & Mellins, R. B. (1988). Effect of paternal social support on maternal disruption caused by childhood asthma. *Journal of Community Health, 13*(1), 33-42.
- Watkins, J. D., Roberts, D. E., Williams, T. F., Martin, D. A., & Coyle, V. (1967a). Observation of medication errors made by diabetic patients in the home. *Diabetes, 16*, 882-885.
- Watkins, J. D., Williams, T. F., Martin, D. A., Hogan, M. D., & Anderson, E. (1967b). A study of diabetic patients at home. *American Journal of Public Health, 57*, 452-458.
- Weinberger, M., Hiner, S. L., & Tierney, W. M. (1987). Assessing social support in elderly adults. *Social Science Medicine, 25*, 1049-1055.
- Wilson, W., Ary, D. V., Biglan, A., Glasgow, R. E., Toobert, D. J., & Campbell, D. R. (1986). Psychosocial predictors of self-care behaviors (compliance) and glycemic control in noninsulin-dependent diabetes mellitus. *Diabetes Care, 9*, 614-622.
- Wilson, W., & Pratt, C. (1987). Impact of diabetes education and peer support upon weight and glycemic control of elderly persons with noninsulin dependent diabetes mellitus (NIDDM). *American Journal of Public Health, 77*, 634-635.
- Wilson-Pessano, S., & McNabb, W. (1985). The role of patient education in the management of childhood asthma. *Preventive Medicine, 14*, 670-687.
- Wilson-Pessano, S. R., Scamagas, P., Araham, G. M., Chardon, L., Coss, S., German, D. F., & Hughes, G. W. (1987). An evaluation of approaches to asthma self-management education for adults: The AIR/Kaiser-Permanente study. *Health Education Quarterly, 14*, 333-343.