

The Usefulness of Health Risk Assessment with Older Adult Populations

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Introduction

Over the past twenty years or so, the field of health risk appraisal (HRA) has developed rapidly and has yielded many impressive accomplishments. Not only are there both commercial and public domain versions of these instruments now widely available, but many have been developed for special purpose uses by corporate wellness programs and human services agencies serving specific clientele. Few community-based or worksite health promotion/disease prevention programs are without such instruments. Many health care practitioners and delivery organizations, such as managed care companies, have either developed or purchased HRA instruments for use by their clientele and have promoted their use by clinicians as a way of focusing attention on preventive issues in the context of providing comprehensive health care services to these enrolled populations. These instruments have become one of the most widely used educational interventions having the purpose of motivating health behavioral change among persons at risk for the so-called "lifestyle diseases" of our modern era.¹

Despite the rapid growth and diffusion of these methods for personal health educational intervention, few such instruments and associated programs for risk factor modification have been explicitly developed for older adult populations. Breslow, et al,² attribute the lack of interest in developing such instruments to the relative lack of epidemiologic data for persons in this

age group and to the perception that older people are resistant to behavioral change, therefore not likely to have much interest in participating in an intervention program organized around an HRA process. To offset these possible reasons for lack of interest in older adults among HRA developers, Breslow and his colleagues at the University of California, Los Angeles (UCLA) undertook the task of developing a new Health Risk Appraisal for the Elderly (HRA-E).

It is important to locate HRA for older populations within a larger context of health assessment activities generally carried out by clinicians serving persons in older age groups. Here again, the work of Breslow, et al,² is helpful. These authors make a useful distinction between "health status assessment," which is a term used to describe the conventional practice of geriatric clinicians who estimate the need for specialized institutional or domiciliary care for their older patients at the time they are evaluated in their clinics or in a hospital, and "health risk appraisal." The latter term they conceptualize as the broader of the two inasmuch as it tends to include both an assessment of current health status and measures of current behavioral risk factors that portend significant health implications (or outcomes) for the person responding to such instruments. As Breslow and colleagues point out, "...while health status assessment focuses on the present condition of a person, health risk appraisal focuses on predicting future health status."

It is the identification of these risk factors and the targeting of health messages to the at-risk individual, plus the offering of risk factor modification

interventions, that sets health risk appraisal apart from the more narrow, clinical assessment of health status in conventional geriatric assessment. The emphasis on “treatment planning” associated with current health problems and limitations relegates the *prevention* issues of concern to geriatric medicine to those of tertiary significance. The promise of HRA, as defined by Breslow, et al, offers the prospect of integrating a clearly *primary* focus to prevention efforts in health care programs for older adults.

This chapter offers a discussion of the developments in American health care services for older adults that suggest new opportunities for the expansion of health risk assessment among persons in this age.

Changes in the American Health Care Marketplace of Significance for Older Adults

The most significant change in the American health care landscape, affecting all age groups, is related to the growth of managed care. Although only a small proportion of the elderly population is enrolled in managed care organizations (MCOs), managed Medicare is an increasing proportion of HMO and MCO market share in most urban, and increasingly in rural, areas. Managed care organizations with an interest in expanded market share in specific geographic areas have focused increased attention on larger populations of older adults with the potential for economies of scale.³ Among the most important facets of managed care for older adults is the role of primary care services in these systems, with the expectation of increased emphasis on continuity of care, comprehensive service integration, and the use of sophisticated health care information systems for managing the needs of such populations.

The strategic position of primary care within MCOs seeking to care for larger populations of older adults relates, in large measure, to the role of primary care in assuring the smooth (and seamless) referral to a variety of specialty medical and allied health services when the need arises. The heterogeneity of older adult populations makes comprehensive planning for their health and medical care a substantial challenge for these organizations. As Wholly, et al,³ have pointed out in the following passage, the cumulative nature of changes taking place among older adults as they age,

including their special needs associated with transitions in functional status (both mental and physical), makes the responsibility for their care far more complex than for any other age group.

Virtually every organ system in the body changes with age. These changes are generally continuous rather than associated with a specific age. For example, bone loss is gradual, beginning at approximately age 30; muscle mass decreases over the same time period; and there is a concomitant increase in the amount of body fat. Kidney function decreases approximately one percent per year after age 30, resulting in a loss of half of its capacity by age 85. Similarly, the maximum ventilation achievable by the lungs and the maximum cardiac output measurable by the heart diminish steadily with age. These physiologic changes almost always result in a decrease in the amount of “reserve” that older persons have to fight threats to their well-being and can limit their ability to complete routine activities.

Associated with the greater use of health care services and decreasing reserve is the greater prevalence of chronic conditions. Many older adults, particularly those over the age of 85, have multiple chronic conditions that often interact to create limitations in functional status—that is, disability. On average, older people have 3.5 medical conditions. The presence of multiple conditions suggests that the elderly will have substantial lateral needs across providers.... The most common conditions that plague older adults represent multiple organ systems and frequently require multiple disciplines and specialties for optimal treatment, supporting the notion that the elderly have considerable lateral needs.

The nature of the normal trajectory of health status among older adults leads most MCOs to focus their energies on minimizing the unnecessary utilization of services among those with defined chronic conditions, while at the same time operationalizing programs to prevent the onset of these conditions among healthy older adults. Emphasis in both efforts is on self-care (or self-management in the case of persistent or chronic conditions) and increasing the interest of older adults in steps to maintain maximum attainable levels of physical, mental, and emotional function.

Opportunities for the Application of HRA Among Older Adults in Managed Care

Given the range and nature of health conditions likely to be present among an older adult population, it is not surprising that most managed care plans, even most geriatric care providers, give emphasis to health status assessment procedures and tools that seek to measure the need for geriatric care of specific types (viz., physical, cognitive, emotional, social support). The emphasis in overall program enhancement efforts is on improvements in diagnostic and treatment interventions, as well as in those procedures through which triage and referral decisions are made with respect to specific service needs. The benefits of these efforts are usually measured in terms of improvements (or the maintenance) of functional status in any of these domains, or in patient (and/or family) satisfaction with care.

As remarkable as these efforts have been, they tend to be limited to efforts to minimize the deleterious impact of current health limitations, and do not attempt to identify prospective changes in health status likely to be associated with one or more risk factors. An approach to the task of assessment in these settings that gives emphasis to the HRA holds the potential of being able to channel the attention of both providers and patients (and their families) to those behavioral risk factors about which something can be done, and for which there are well-documented outcomes that might be prevented through positive, near-term health action.

If managed care organizations, or other groups or associations within which older adults participate, could enlarge the scope of their interests beyond conventional health status assessment (which tends to be limited to secondary and tertiary prevention) to include what is now known as health risk appraisal (HRA), the benefits to be gained by both patients and providers are potentially great.

Since the early 1970s, results from the well-known Alameda County studies⁴ in California have clearly shown the benefits (in terms of reduced levels of disability and mortality) of modifying, even at later adult ages, specific health risk behaviors. Among the behavioral risk factors most strongly associated with levels of disease and mortality among older adults are

tobacco smoking and sedentary lifestyle. Both of these factors are considered modifiable⁵ and effective programs are available to assist older adults in reaching the behavior change goals of smoking cessation and increasing physical activity.⁶

Physical activity is the single most important contributor to functional independence in late life. Perhaps as much as 50 percent of the decline frequently attributed to physiologic aging is actually “disuse atrophy” resulting from inactivity.⁷ While only about 10 percent of older adults exercise regularly,⁸ aging is not a *cause* of physical inactivity.

Physical activity is any bodily movement produced by skeletal muscles resulting in an increase beyond resting energy expenditure. The Surgeon General's Report on Physical Activity and Health⁹ reflects outcomes of recent studies that have shown that moderate physical activity, including household chores, walking, stair walking, and recreation benefit those who can follow them on a regular basis. While these activities need not be strenuous to yield benefits, greater health benefits can be achieved by increasing the amount and regularity of physical activity.

Exercise is a systematic, planned, structured, repetitive type of physical activity with goals such as improving fitness, physical performance, or health. Exercise benefits can be observed in relation to a disease (physiologic effects), or the person (symptom relief, functional improvement). Exercise can reverse disease, reduce symptoms, or improve function with no change in disease. Loss of muscle mass, stamina, and flexibility that tend to occur with aging can be delayed or reduced with regular exercise.

The Surgeon General's Report⁹ concludes that people of all ages (over two years) can improve their health and quality of life through a modest increase in daily activity by engaging in moderate physical activities for 15 to 45 minutes a day on all or most days, with more vigorous activity requiring less time.

Increasing the frequency, duration, and extent of activity for elderly persons is difficult because many who are old today grew up believing that exercise is harmful or never learned to exercise, and many are so deconditioned or frail that they have neither the muscle strength nor the functional aerobic capacity to exercise. Yet, many studies have shown that older adults can learn to exercise effectively. Indeed, Fiatarone, et al,¹⁰ have shown that even very frail 90-year-old nursing

home residents can exercise effectively enough to increase their muscle mass, and their ability to walk.

As MCOs have faced the increasing pressures of larger patient populations, and the pressure to rely on continuous care monitoring (gatekeeping) by primary care providers in these settings, performance standards in managed care have put a premium on numbers of patients seen, not on the qualitative nature of patient encounters. Health risk appraisal offers the advantage, for patients, of helping to structure the interaction with providers around a number of key health conditions and health-relevant lifestyle factors that can economize valuable time with health care providers, and offer the prospect of constructive discussion of health matters in these encounters. Focused discussion of the health implications of current behaviors can then be at the initiative of the patient, not solely the provider, and greater assurance can be given that these matters will be discussed on the occasion of any clinic visit. Completing an HRA, in conjunction with a regular clinical encounter, will enhance the likelihood that services and programs, such as exercise and recreational classes, available and relevant to an individual's health circumstances (often at little or no charge), will be made known to the patient. Having the results of an HRA in one's continuing medical record will enable health care providers to offer more continuous monitoring of these conditions and lifestyle practices as one ages.

Health care providers who are increasingly under pressure to see more patients in shorter periods of time will find HRA feedback summaries and profiles a highly efficient way of summarizing the essential information about a given patient, and calling attention in an effective format to key problems or issues that need to be discussed with the patient at the time of a routine clinical encounter. Although these instruments may be completed at the time of an acute medical visit, the presentation of information in this format can assist in providing a continuous updating of an overall picture of the health and health practices of the patient. The HRA can make more effective the efforts of health care providers to recommend and monitor the adherence of patients to risk factor modification advice. Follow-up and reinforcement can be made more efficient and effective with regular HRA results in-hand at the time of an encounter. High-risk provider organizations could use the collective results of HRA

instruments completed by their older adult clientele to track the effectiveness of risk factor modification efforts contracted or provided by these organizations to their patients, and for the purpose of profiling the health risk status of its older adult market share.

Organizations and agencies that offer risk factor modification interventions can use the periodic results of HRA completion to monitor behavioral changes their programs are designed to influence. Being able to document trends in risk factor prevalence across a number of client populations can help establish the track record of these intervention management companies and play an important role in marketing these services to managed care and other corporate clients.

Beyond Health Risk Appraisal—So What? What Next?

The most important question surrounding the use of HRA instruments in conjunction with contemporary health care plans concerns the potential for follow-up and continuity of focus on identified risk factors which are amenable to intervention and change. Feedback from an HRA can serve as an effective means of motivating patients to achieve desired lifestyle changes that can improve their long-term prospects for health and functional independence. However, the synthesis of assessment data afforded by any HRA, if not presented effectively and interpreted in a manner that enables the HRA respondent to visualize a potentially effective and feasible course of personal health action, will probably be no more salient than a form letter from one's health care provider summarizing the results of routine laboratory tests.

In order for HRA-based information to be an effective adjunctive element of a comprehensive approach to patient care, it must be integrated with the mainstream of clinical practice, and care providers who both recommend HRA participation and receive this information about their patients must be prepared to assist HRA respondents in formulating realistic plans of action stimulated by such feedback. Managed care plans with a serious commitment to the use of HRA-assisted patient education and preventive services counseling should take explicit steps to operationalize their own intervention programs targeted to specific behavioral health risk factors, or make arrangements with existing interventional programs in their surrounding communities. Having a list of such

programs, and hopefully arrangements (e.g., special pricing options for program enrollment) through which patients with specific risk factors can be assisted in responding to their HRA results, are visible and positive signs that such health plans have made prevention a key element of overall patient care. In this way the HRA can become both a useful tool of clinical preventive practice and a means of bringing older adult populations into a different relationship with the service provider organization.

Moreover, HRA-based information on an older adult population can be combined with other simple measurements taken in the course of routine primary care to yield important patient- and population-specific indicators of progress in important dimensions of prospective health status and physical capacity. For example, with respect to *physical activity*, the health outcomes of principal interest are aerobic capacity and muscle endurance as measured through statistically significant levels of improvement in an activity, such as the six-minute walk. Baseline performance and improvement over time can be measured by distance (in feet) a person can walk within the prescribed six-minute time limit. Distances can be measured along any indoor area using a measured distance walking pathway (such as along a clinic or office hallway); measurement does not require a track or treadmill. This measure has been shown to be a reliable and practical measure of aerobic capacity and muscle strength/endurance.¹¹

With regard to *nutrition and dietary interventions*, the health outcomes of principal interest have to do with weight reduction. Guidelines for weight reduction were introduced in June of 1998 by the National Heart, Lung and Blood Institute (NIH) in which a body mass index (BMI) of 25 or above is considered “overweight” and a BMI of 30 and above is considered “obese.” The BMI is determined by dividing weight in kilograms by height in meters squared. Thus, a person 5-foot-4 inches (1.63 meters) with a weight of 146 lbs. (66.4 Kg) will have a BMI of 25. The goal of the weight reduction (nutrition) interventions typically identify as goals the reduction of BMI for persons classified as “obese” to a category of “overweight,” and those considered “overweight” to a level considered appropriate for their current weight and height. In most cases, goals of this sort cannot be achieved through dietary behavioral change alone; physical

activity/exercise changes will also have to occur. Hence, it is likely that multiple risk factor interventions (e.g., weight reduction *and* physical activity) will be required in order to achieve desired results in either respect.

The health outcome of principal interest with regard to *smoking* is cessation, and duration of cessation. These outcomes can be measured by cessation intervention programs within six weeks of completion of the intervention, as well in subsequent administrations of the HRA instrument, which will yield self-reported indicators of smoking activity.

With appropriate follow-up and the use of these sorts of indicators, HRA techniques can become useful means of tracking the progress of individual patients in relation to important health improvement goals, as well as a useful epidemiological tool for the monitoring of the impact of organized health programs serving older adults.

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