

Increasing Physical Activity Among Older Adults

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Summary

As the major cause of death in modern nations moved from disaster to disease to decay, individual behaviors, attitudes and emotions in daily life play an increasingly bigger role in determining both longevity and quality of life. These changes make the role of physical activity more important, even as Americans get considerably less exercise (i.e., physical activity) and eat considerably more. This has resulted in deteriorating health, even as Americans live longer. Our rapidly aging population engages in considerably less physical activity than previous cohorts, is much more likely to be overweight and to suffer from a number of diseases related to these conditions.

In the 21st Century, exercise of the human body may be divided by cultural function as follows: 1. physical activity necessary to fulfill obligations of paid work, household work, personal care and child care; 2. physical activity undertaken as a specific means to improve health or to escape negative health consequences; and 3. physical activity that is inherently part of pleasurable leisure experience. **It would appear that, in the next few decades, the greatest potential to increase human movement in daily life will be by increasing participation in physical activity which is inherently part of pleasurable leisure experience and has meaning aside from exercise. In other words, leisure, play, recreation, sport, contact with nature, etc.**

Among the more important factors that minimize the ability in the short-term to increase exercise necessary to fulfilling work, housework, personal care and childcare are the following: extensive urban sprawl and single use zoning which makes the automobile necessary for almost all phases of daily life, increases in population and population density which are often associated with fewer opportunities to exercise and, transportation policies which devote almost all spending on highways for automobiles

Exercise undertaken as a specific means to the end of improving health or from aversive conditioning to escape negative health consequences, also has severe limitations in terms of its ability to be increased. The evidence seems to be that people will not engage for a long period of time in activity in which their only motive is to escape negative consequences. If it doesn't have meaning or provide enjoyment, it is often forgotten when the immediate health threat temporarily is minimized.

Among the more important factors that minimize the ability to adhere to physical activity is that most such exercise forms have short-term consequences because they do not become part of one's style of life, it is not enjoyable for most people and participants can't make such activities more complex or undertake a "career" in the activity, as they can with many leisure activities.

The environmental attributes that influence physical activity include: accessibility of facilities, opportunities for activity, weather, safety, and aesthetic attributes. Interventions for promoting physical activity into those concerning the natural environment, the constructed environment, policies related to incentives for activity/inactivity and policies related to resources and infrastructure for activity/inactivity. Numerous successful interventions concern recreation and leisure activity.

It may be generalized that exercise necessary to fulfilling life's obligated activities has diminished more than exercise during leisure. Getting people to return to previous ways of performing activities that are part of paid work, housework or childcare may be difficult. While re-design of communities is a critical variable in encouraging more participation in physical activity, such re-design will take many decades and may sometimes be counter to public will.

The majority of adult Americans already use some free time in ways that involve exercise (about six out of ten). Thus, the issue is to find ways to increase frequency of already existing behaviors among this majority segment. To facilitate more physically active forms of recreation and leisure among older adults, a number of environmental and policy interventions may be made, almost all of which have legislative implications. In terms of community recreation and park departments, increasing funding to develop facilities used for purposes that provide physical activity would seem appropriate. A sizable portion of communities lack such facilities or what they have are in a state of disrepair. Local government recreation and park services should be a part of intervention strategies, forming coalitions with physicians, nurses, health maintenance organizations and public health officials.

Municipal recreation and park departments are a common local government service in North America. Employees of these agencies often belong to the National Recreation and Park Association, a non-profit organization. NRPA represents over 108,000 outdoor public park and recreation facilities and 65,000 indoor facilities. NRPA has begun forming a strategic partnership with the US Department of Health and Human Services, CDCP, and the NIH to promote community-based health education and activity programs aimed at increasing physical

activity and reducing overweight and obesity. These efforts represent only a fraction of what can be done.

In terms of local government recreation and park areas and facilities, rehabilitating or otherwise improving existing areas and facilities should often be a higher priority than creating new ones. The legacy of the Land and Water Conservation Fund Act and related legislation, which has provided large sums of money to state and local government to plan, acquire and develop outdoor recreation areas within communities has been, inadvertently, to increase the size of the recreation infrastructure within many communities without any means to maintain such increased infrastructure. This has resulted, not surprisingly, in parks and natural areas within urban areas that are often in a deteriorated condition. This is important since being in the outdoors may be the most important correlate of physical activity for older adults. Studies of local park use by older adults, for example, have found that walking is a common denominator activity of all park visitation.

While there may be the perception that parks are for younger people, recent nationwide studies show that the majority of those over the age of fifty use local parks and recreation services. The research evidence increasingly shows that such use involves considerable physical activity on a routinized basis. Local recreation and park services can also play a major role in facilitating exercise necessary in the rehabilitation process. The progression in recovery from a major health trauma may reflect the following sequence: 1. Medical Treatment, e.g. breast removal, 2. Rehabilitation, e.g. physical therapy, prescription exercise, 3. Recreational Rehabilitation, e.g. exercise and social program sponsored by public recreation and park departments, 4. Recreation and Park Participation e.g., participation in services of recreation and park departments. In this process, there will be progress through a continuum of involvement on the part of the individual from what is painful, work-like and necessary as a means to an end to activity which is chosen, pleasurable, and part of ones style of life.

For local government recreation and park services to take a larger role in providing opportunities for exercise and contributing to the health of the public, there must be a “paradigm shift” or re-positioning of such organizations. While most of the services they provide already have considerable health benefits, primarily physical exercise, stress reduction and socialization, and need not be changed, the benefits of these services must be understood as health and

wellness benefits. This will involve a change in the awareness of numerous health organizations, the general public and recreation and park professionals.

Increasing physical activity among older adults at the community level will involve interdisciplinary effort aimed at changing both the environment in which older adults experience everyday life and seeking to modify their behavior in the existing environment. This may include diverse efforts. Such efforts will ultimately need to be customized to the community level. The strategies most likely to succeed will be those that provide both pleasing environments and incentives for physical activity. They must be guided by the following

1. Increasing physical activity will require attention to eating habits.
2. Increasing physical activity will involve different short-term and long-term strategies.
3. Increasing physical activity during leisure will often involve promoting activities that are not done solely for the sake of exercise but rather because they are pleasurable and meaningful.
4. Existing recreation facilities that can provide physical activity must be joined to recreation programming.
5. Special attention needs to be paid to the needs and preferences of women.
6. Consideration of cultural factors that shape participation in physical activity is necessary.
7. Encouragement or verbal persuasion to increase physical activity is a potentially promising strategy about which more needs to be known.
8. Local government organizations such as municipal recreation and park departments are a critical variable in increasing physical activity among older adults.

Introduction

As the major cause of death in modern nations moved from disaster to disease to decay, individual behaviors, attitudes and emotions in daily life play an increasingly bigger role in determining both longevity and quality of life. The leading causes of death are now mainly those that individual behavior, habits and attitudes exert some influence over. While Pneumonia, Tuberculosis and Diarrhea or enteritis were the leading causes of death in 1900, a century later the leading causes are heart disease, cancer and stroke (Ness & Williams, 1996). These changes make the role of physical activity more important, even as Americans get considerably less exercise (i.e., physical activity) and eat considerably more. This has resulted in deteriorating health, even as Americans live longer. This is particularly problematic, given the changing demographic profile of the public and changing statuses with regard to health care. Consider the following:

- About 15% of all money spent in the US is for “health” purposes and, in a rapidly aging population, the ratio of spending on older people is seven to ten times as much as for younger people. (Ness & Williams, 1996).
- More than half of Americans are considered overweight or obese. Obesity has increased by 60% between 1991 and 2000 (Behavioral Risk Factor Surveillance System, 2000; National Health and Nutrition Examination Survey, 1999).
- Amount of “activity limitation” and number of “restricted activity days” Among the US population has increased dramatically, not only because of aging and technologically keeping people alive who would formerly have died, but also due to overeating, a junk food diet, lack of physical activity, higher stress levels, and increased chemical exposure which may be degrading the immune system, giving rise to

increased infections and auto immune disorders such as asthma, rheumatoid arthritis and diabetes (Montague, 1996).

- The percentage of elderly people in the population will increase from 12% to almost 20% in the first half of this century.
- Seventy percent of all deaths in America are caused by chronic disease. The prevalence of chronic disease increases dramatically with age. Over 80% of people over 65 have at least one chronic disease (National Center for Chronic Disease Prevention and Health Promotion, 2000).
- Adult-onset diabetes increased 49% from 1990 to 2000 (National Center for Chronic Disease Prevention and Health Promotion, 2002).
- Secretary of Health, Human Services, and Labor Tommy Thompson estimates that moderate exercise could prevent 5.8 million new cases of type 2 diabetes. (Researchers Against Physical Inactivity, 2002,).
- Moderate physical activity reduces colon cancer (U.S. Department of Health and Human Services, 1996).
- The increase in type 2 diabetes at age 65 yrs is largely due the decrease in physical activity with aging. (Researchers Against Physical Inactivity, 2002).

All of the previous statements indicate that increasing the level of physical activity of the American public, particularly older adults, is of critical importance to both restoring and maintaining the public's level of health. It is also critical to cope with the financial catastrophe that awaits government in the health care arena.

Understanding and Influencing Physical Exercise

Prior to trying to influence the physical exercise behavior of adults, it is important to understand the definitions of both physical activity and exercise. Specifically, “physical activity is the bodily movement produced by the skeletal muscles that result in energy expenditure” (Casperson, Powell, & Christianson, 1985). Physical activity can include leisure time physical activity, recreational activity, sports activity, occupational activity, household chores, and exercise. As defined by Casperson et al. (1985), “exercise is planned, structured, and repetitive bodily movement done to improve one or more components of fitness.” To better understand the ways and extent to which older adults exercise their bodies in time and space and ways in which such physical activity might be increased, it is necessary to understand 1) The cultural context in which such physical activity takes place, 2) The factors in the environment that may affect each of these cultural contexts for exercise and 3) ways in which intervention may increase physical activity.

Table One below categorizes each of these three variables.

The Socio-Cultural Context of Exercise In the 21st Century, exercise of the human body may be divided by cultural function as follows:

- Physical activity necessary to fulfill obligations of paid work, household work, personal care and child care;
- Physical activity undertaken as a specific means to improve health or to escape negative health consequences;
- Physical activity that is inherently part of pleasurable experience or undertaken as pleasurable experience.

There is considerable uncertainty about which of these cultural contexts in which exercise takes place has the most potential to be increased. Daily life in the US is shaped by diverse forces which all conspire to minimize movement of the human body within all cultural contexts. Examples include drive through banking, fast food restaurant ordering, easy drop-offs for video returns, and remote controls for various pieces of audiovisual equipment. These forces are diverse and not easily overcome.

Some researchers have examined issues such as the extent to which exercise at work may be increased by, for example, encouraging people to climb stairs rather than use elevators. There is also much interest in the extent to which physical activity undertaken solely to improve health, such as prescription exercise or health club activity, can be encouraged. **Nevertheless, it would appear that, in the next few decades, the greatest potential to increase human movement in daily life will be by increasing participation in physical activity which is inherently part of pleasurable leisure experience and has meaning. In other words, leisure, play, recreation, sport, contact with nature, etc.**

While, in the long run, re-design of communities to allow for and encourage more walking and other exercise may greatly enhance the exercise value of activities undertaken as a necessary part of paid work, shopping, child care and other necessary daily activity, during the next ten to fifteen years the ability to re-design and re-build such communities may be limited. Among the more important factors that minimize the ability in the short-term to increase exercise necessary to fulfilling work, housework, personal care and childcare are the following:

Galactic Cities. What is sometimes referred to as “urban sprawl” will continue and increase in the US and Canada. Nucleated cities emerged in the nineteenth century; particularly in the Northeast. They had a well-defined commercial area, known as “downtown.” Industry was lined up along the railroad tracks and residential areas were arrayed around the edges and segregated along lines of income, ethnicity and

race. At the edge of the city, the countryside began and the boundaries were sharp. Where there were suburbs, they also had sharp boundaries. “There was little debate about where the city was or where the country was.” (Lewis, 1995, p. 40). These cities were replaced by emerging “galactic” cities as the automobile became the primary means of transport. Rather than think of this as urban sprawl, Lewis (1995) contends this is a new kind of city. Since rural land was cheap, buildings are spread out horizontally. The Interstate Highway Act of 1956, which financed limited access highways with a mandated gasoline tax, increased the galactic city’s viability. This was a new kind of city. “What Americans were doing, far beyond the old urban fringe, was building nothing less than an altogether new form of city – doing all the things that cities had traditionally done, but arranging them in a new geometric form.” (Lewis, 1995, p. 46). New cities are inevitably galactic. New and older cities such as Boston, Philadelphia, and even New York City are in the process of becoming galactic cities. Characteristics of the galactic city:

- It has an internal transportation system made up of interstate and limited access highways.
- There is a considerable degree of internal commercial clustering, usually at the intersections of main arterial highways. “In contemporary America, the main crossroads occur where interstate and primary highways intersect.” (Lewis, 1995, p. 53).
- An industrial clustering that is no longer based on manufacturing but more on high tech and services or clean industry housed in industrial parks.
- Residential areas that are highly consumptive of space. Single houses with lawns and garages.

Traditional forms of rural life have disappeared in most of the Northeast. Farming is less important than residential areas. This is not urban sprawl – it is a new kind of city.

“The new non-urban landscape, in the U.S. at least, is being shaped largely by people to whom the rural landscape is nothing more or nothing less than an alternative residential location. Whether they be commuters, retirees, or desktop publishers earning a living in their den, to them, the rural landscape is not a productive system or a way of life, but a locational amenity.” (Lewis, 1995, p. 59)

Such people are genuinely urban in social outlook, personal relations and the way they make their living. Only in political outlook do they differ with traditional city residents. They resist urban authority and urban government, consolidation, and land use controls.

The dominance of the galactic city assures that the automobile will be the primary means of travel. Currently, four out of five miles traveled within the US, (including walking) are traveled in automobiles (Robinson & Godbey, 1997).

Single Use Zoning. The biggest factor that prevents people from walking and necessitates automobiles for almost all travel is single use zoning. The prevalence of such zoning prevents life from occurring much as it does in some English villages, even though when Americans describe an ideal place to live they almost always describe an English village (Kunstler, 1993). Single use zoning prevents housing from being intermixed with stores, office buildings, hospitals, etc. Such zoning makes bicycles and walking largely useless in everyday travel where big box stores, wide roads for cars, housing developments at some distance from one’s place of work dominate. To the extent that there is movement away from single use zoning, automobile use may be greatly affected, reducing traffic volumes substantially.

Increase in Population and Population Density. Increases in population and population density are of critical importance in many ways. Indeed, one researcher has argued that “Density is destiny” (Larsen, 1993, p. 38). Higher population densities are

associated with increased incidence of a variety of diseases, greater participation in welfare, higher rates of suicide, and numerous environmental impacts, from air pollution to airborne toxic chemical releases, are also related to increased industry and transportation infrastructures. Higher population densities are often associated with fewer opportunities to exercise in both the natural and manmade environment. Also, exercising outdoors becomes counterproductive if one inhales more pollutants by doing so.

The Dominance of Automobiles and the Decline of Walking. The automobile will continue to prevail as the dominant transportation form for many reasons. It allows the greatest customization of travel schedules, it is the most heavily subsidized form of travel by government, it provides privacy, it is more comfortable than mass transit, and it is the only means for negotiating the centerless galactic cities which have emerged as the dominant form of urbanism in the U.S. It is estimated that the amount of walking has declined 42 percent in the last two decades (Surface Transportation Policy Project, 2000). As this had happened, the percentage of overweight Americans has increased by 40 percent. Part of the reason for the decline of walking may be that walking is more dangerous in growing suburban and metropolitan communities (Fatality Analysis Reporting System, 2000). Most states are using very little of their federal transportation funds to make walking safer and more convenient. While states have been spending an average of \$72 per person on highways, they spend only 55 cents per person on pedestrian projects. Researchers have found that people reported being more likely to walk when there were footpaths nearby, traffic control measures were in place and there were shops nearby. "In addition, aesthetic features, such as the presence of trees and greenery, were said to be important. Wright and colleagues (Wright et al, 1996) found that factors that appeared to encourage walking were: being close to facilities and services (including parks, shops, recreation areas and schools); having shaded footpaths; low traffic flow in the locality; and having an attractive area with street trees, wide grassy verges and parks. (Pikora et al, 2002).

Dysfunctional Distribution of Free Time. Americans average between thirty and forty hours of free time per week, with only about one-fifth of the adult population averaging less than twenty hours of free time per week (Robinson & Godbey, 1997). While the common perception of the American public is one of a "time famine," numerous time diary studies using national samples find otherwise (Table 2). The distribution of such time, however, may limit the potential for exercise. Over half of all free time comes on weekdays in small chunks of an hour here and there. For physical

activity to increase among older adults and those who are in the labor force, such opportunities must therefore be close to home and accessible without long delays. Also, the increase in two (or three) workers in households and the more highly scheduled nature of teenage life means that finding common time periods for social interaction among household members or friends is more difficult.

The Decline of Physically Active Paid Work and Housework. Many of the technological advances of daily life have greatly removed physical activity from activities necessary to fulfill obligations of paid work, household work, personal care and child care. Lawnmowers are more likely to be ridden on than pushed. Driving a car increasingly does not involve shifting gears or exerting pressure to turn the steering wheel. Cruise control and power windows lessen physical exertion further. Many household chores that were physically activity in nature have disappeared, from hanging clothing on a clothesline to sweeping with a broom. The same may be said of paid work, where most workers produce a service rather than work in manufacturing. “The most prevalent occupations have shifted from heavy manual labor such as farming, masonry, carpentry, and heavy manual factory work, to service sector and high-technology occupations that require little energy expenditure” (Humpel, Owen & Leslie, 2002, p. 320.) In the emerging knowledge economy, in which the percentage of workers who work at home is increasing 20% each year, lack of physical activity associated with paid work may become more severe. Further, time devoted to housework has declined significantly over the last two decades. (Robinson & Godbey, 1997) In some cases, technological advances have also limited movement during free time. Most golfers in North America do not even walk the course, let alone carry their bags. Rather, electric golf carts are the common method of touring the course.

Environmental Attributes of Exercise

The previous discussion demonstrated that many changes in the environment, such as the advent of galactic cities, minimized exercise, a related concern is what environmental

attributes promote exercise. A recent review of nineteen studies that examined the relation between environmental attributes and physical activity divided environmental attributes into five categories: accessibility of facilities, opportunities for activity, weather, safety, and aesthetic attributes. Sallis, Bauman and Pratt (1998) divide such interventions for promoting physical activity into those concerning the natural environment, the constructed environment, policies related to incentives for activity/inactivity and policies related to resources and infrastructure for activity/inactivity (See Table 1). As this table shows, numerous interventions concern recreation and leisure activity. In terms of the natural environment, not only are older adults who wish to exercise disproportionately affected by both hot and cold weather extremes, but global warming intensifies the need to provide shaded areas for walking and other exercise forms, lighted trails and other recreation facilities for use during cooler evening hours, and increased ability to deal with heat related problems among older exercising adults. In cold weather, ways must be found for older adults to continue their exercise forms, which may mean winterizing some recreation facilities, and providing incentives for shopping malls and other commercial establishments owning suitable areas for walking to make such areas accessible to older adults. In terms of local government recreation and park areas and facilities, rehabilitating or otherwise improving existing areas and facilities should often be a higher priority than creating new ones.

The legacy of the Land and Water Conservation Fund Act and related legislation, which has provided large sums of money to state and local government to plan, acquire and develop outdoor recreation areas within communities has been, inadvertently, to increase the size of the recreation infrastructure within many communities without any means to main such increased infrastructure. This has resulted, not surprisingly, in parks and natural areas within urban areas that are often in a deteriorated condition. This is important since being in the outdoors may be the most important correlate of physical activity for older adults. Studies have found this true for children. (Brownson et al, 2001) A common denominator of being outdoors is walking. Studies of local park use by older adults, for example, have found that walking is a common denominator activity of all park visitation (Godbey, Roy, Payne & Orsega-Smith, 1998).

Finally, it should be mentioned that, in terms of the constructed environment, the presence of good sidewalks appears to be a key variable in encouraging walking for pleasure. (Brownson et al, 2001). While the previously discussed changes have had great impact on physical exercise in all cultural contexts, it may be generalized that exercise necessary to fulfilling life's obligated activities has diminished more than exercise during leisure. Getting people to return to previous ways of performing activities that are part of paid work, housework or child care, such as pushing a lawnmower, hanging clothes out to dry (where there are no ordinances against it) or walking to work may be difficult. While re-design of communities is a critical variable in encouraging more participation in physical activity, such re-design will take many decades and may sometimes be counter to public will.

The second cultural context in which physical activity is undertaken, exercise undertaken as a specific means to the end of improving health or from aversive conditioning to escape negative health consequences, also has severe limitations in terms of its ability to be increased. The evidence seems to be that people will not engage for a long period of time in activity in which their only motive is to escape negative consequences (Dishman & Sallis, 1994). If it doesn't have meaning or provide enjoyment, it will be forgotten when the immediate health threat temporarily is minimized.

Among the more important factors that minimize the ability to adhere to physical activity is that most such exercise forms have short-term consequences because they do not become part of one's style of life. Exercise equipment, health clubs and related activity designed solely to improve fitness or health is, for most people, unenjoyable. Participants also often cannot make such activities more complex or undertake a "career" in the activity, as they can with many leisure activities (Stebbins, 1992). One study, for example, found no association between the availability of exercise equipment in the home and overall physical activity levels (Jakcic, Wing & Butler, 1997). Often, both exercise equipment and health club memberships are used for a short period of time.

Encouraging people to adopt physical activity that is inherently enjoyable is one important and often overlooked factor of increasing physical activity adherence.

Americans average 35 to 40 hours per week of free time (Robinson & Godbey, 1997).

Table 2 shows that free time has increased by seven and one-half hours for adult men and women between 1965 and 1995. Almost all of that additional free time, as may be seen, has been used for additional TV viewing. TV may be among the most important hindrances to exercise during free time. A majority of Americans say their leisure is as important or more important to them than their work (Robinson & Godbey, 1997).

Nationally, a high portion of North Americans have a park or other area that could be used for recreational exercise within walking distance of their home (Godbey, Graefe & James, 1993; Harper, Neider & Godbey, 1997).

Table Two. Summary of Trends in Free Time Use per Week by Gender: 1965-1995

	1965-85	1985-95	1965-95
MEN			
WORK (Employed only)	Down 7 hrs.	Up 1.5 hr.	Down 5 hrs.
WORK (All men)	Down 9.5 hrs	Same	Down 9.5 hrs
Housework	Up 4.5 hrs.	Same	Up 4.5 hrs.
Child care	Same	Same	Same
Shopping	Same	Same	Same
FAMILY CARE	Up 4.5 hrs	Same	Up 4.5 hrs
Sleep	Up 1 hr	Down 1 hr	Same
Eat	Down 1 hr	Down 1 hr	Down 2 hrs
Groom	Up 1.5 hr	Down 2 hrs	Down .5 hr
PERSONAL CARE	Up 1.5 hrs	Down 4 hrs	Down 2.5 hrs
TV	Up 4 hrs	Up 2 hrs	Up 6 hrs
Read/Listen	Down .5 hr	Down .5 hr	Down 1 hr
Social capital	Down 1.5 hrs	Same	Down 1.5 hr
Recreation	Up 2 hr	Up 2 hrs	Up 4 hrs
TOTAL FREE TIME	Up 4 hrs	Up 3.5 hrs	Up 7.5 hrs

	1965-85	1985-95	1965-95
WOMEN			
WORK (Emp. only)	Down 6 hrs	Up 5.5 hrs	Down .5 hrs
WORK (All women)	Up 3 hrs	Up 3 hrs	Up 6 hrs
Housework	Down 9 hrs	Down 2 hrs	Down 11 hrs
Child care	Down 1.5 hrs	Same	Down 1.5 hrs
Shopping	Same	Same	Same
TOTAL FAMILY	Down 12.5 hrs	Down 2 hrs	Down 12.5 hr
Sleep	Up 1 hr	Up 1 hr	Up 2 hrs
Eat	Same	Down 1 hr	Down 1 hr
Groom	Same	Down 2 hrs	Down 2 hrs
TOTAL PERSONAL	Up 1 hr	Down 2 hrs	Down 1 hr
TV	Up 5 hrs	Up 1.5 hrs	Up 6.5 hrs
Read/Listen	Same	Down .5 hr	Down .5 hr
Social capital	Down 1.5 hr	Same	Down 1.5 hr
Recreation	Up 1.5 hrs	Up 1.5 hrs	Up 3 hrs
TOTAL FREE TIME	Up 5 hrs	Up 2.5 hr	Up 7.5 hrs

Source: Robinson, J. and G. Godbey. *Time for Life—The Surprising Ways Americans Use Their Time*, Revised Edition, 1997. p. 221.

In spite of the dominance of TV as a use of free time, the majority of adult Americans use some free time in ways that involve exercise. In terms of “leisure-Time Physical Activity,” a recent report from the National Center for Health Statistics (2002) found that many Americans are already involved in exercise-related activity during their free time:

“About six in ten adults (61.7%) engaged in at least some leisure-time physical activity, about three in ten adults (30.6%) regularly engaged in such activities and about two in ten adults (22.9%) engaged in strengthening activities. Prevalence of leisure-time physical activity was higher for men than for women, declined with age, increased with education and income and was lower for widowed adults than for adults in other marital status groups. White non-Hispanic adults (65.5%) and Asian/Pacific Islander non-Hispanic adults (61.8%) were more likely than black non-Hispanic adults (49.8%) to engage in at least some leisure-time physical activity. Adults living in the West and adults living in an MSA (Metropolitan Statistical Area) but not in a center city were more likely than their counterparts in other geographical locations to engage in at least some leisure-time physical activity” (p. 1-2).

Thus, a large segment of adults already use leisure-time to exercise and the issue for 60% of all adults is to find ways to increase frequency of already existing behaviors.

Environmental and Policy Interventions to Facilitate More Active Recreation and Leisure

To facilitate more physically active forms of recreation and leisure among older adults, a number of environmental and policy interventions may be made, almost all of which have legislative implications. In terms of community recreation and park departments, increasing funding to develop facilities used for exercise purposes would seem appropriate. While 51% of adults agree that greater availability of exercise facilities would help them be more active, only 46% of municipal and county recreation and park departments provide fitness trails, 29% provided hiking trails and 21%

provided bicycle trails. Only 56% of such agencies provided a community swimming pool in 1988 and the percentage may not have increased (US Department of Health & Human Services, 1988).

There has been recent emphasis on the determinants of physical activity participation including the personal (e.g., demographics, self-esteem, self-efficacy), environmental (e.g., physical and social surroundings), and programmatic factors (Dishman & Sallis, 1995). However, recent intervention studies have not had an effect on the general population as they have been conducted in clinical setting or have targeted small groups of people (Dunn et al., 1998; National Blueprint for Increasing Physical Activity Among Adults 50 and Over, 2001). Local government recreation and park services should be a part of intervention strategies as they can focus on both physical, social environmental and programmatic factors. Those in local parks and recreation can form coalitions with physicians, nurses, health maintenance organizations and public health officials so that intervention strategies can be highly specific about exercise opportunities, programs and benefits. This means those in the health arena must be more highly informed about what opportunities exist for exercise at the community level.

Environmental and policy interventions must recognize that different constraints exist among varying ethnic groups to physically active forms of leisure. A study of recreational activity participation in urban and community parks and forests, which examined adults from numerous ethnic groups, found that constraints to using such areas varied considerably by ethnic group (Godbey, Willits, Sasidharan, & Elmendorf, 2002). For example, lack of time was cited most by Anglos/Whites and Chinese, lack of money by Hispanics/Latinos and African Americans, and lack of transportation by Hispanics/Latinos, Koreans, and African Americans. Absence of others from their own racial/ethnic group was mentioned most by African Americans, Koreans, Hispanics/Latinos, and Chinese.

Areas of Intervention to Increase Physical Activity: the Case for Local Government Recreation and Park Services

Intervening to increase physical activity may take place in the “natural environment” or in the constructed environment. It may involve developing policies that provide incentives for exercising more or “disincentives” for exercising less. It may also involve policies for resources and infrastructure that allow for or facilitate physical activity. In all these contexts, it would appear that leisure is the arena in which exercise has the greatest potential to be increased and local government is the organizational entity that can play the greatest role in doing so. Government is devolving, and will continue to devolve away from the federal level and toward the state and local level (or toward supranational organizations) in terms of power, available funds and responsibility and authority for both making and carrying out policy in areas such as health, welfare, education, environment, justice and others. We are no longer a mass culture. We are a mosaic culture in which values, economic conditions, social problems and willingness to address them vary tremendously. Economically, we are a post-industrial society; not an industrial one. As Peter Drucker (1993) observed:

“. . . Postindustrial society has to be *decentralized*. Its organizations must be able to make fast decisions based on closeness to performance, closeness to the market, closeness to technology, closeness to the changes in society, environment and demographics, all of which must be seen and utilized as opportunities for innovation” (p. 60).

As Peter Drucker argued, local government will be increasingly responsible for two aspects of social needs: charity – helping the poor, the disabled, the helpless, the victims and second, services aimed at changing the community and at changing people. Today, a number of factors have combined to create a new role for local government recreation and park services – the rehabilitation and maintenance of health among older adults. Consider first the changing situation in the US with regard to aging. These situations require the re-thinking of health care and the maintenance of health. The issue, increasingly, is a combination of the prevention of negative health and

affordable rehabilitation when health traumas strike. Recreation and parks at the local level are going to play a key role in both these issues. Here's why:

Municipal recreation and park departments are a common local government service in North America. Employees of these agencies often belong to the National Recreation and Park Association, a non-profit organization. NRPA represents over 108,000 outdoor public park and recreation facilities and 65,000 indoor facilities. NRPA has begun forming a strategic partnership with the US Department of Health and Human Services, CDCP, and the NIH to promote community-based health education and activity programs aimed at increasing physical activity and reducing overweight and obesity. These efforts represent only a fraction of what can be done.

While there may be the perception that parks are for younger people, recent nationwide studies show that the majority of those over the age of fifty use local parks. However, results indicate that park use is not engaged in frequently enough to become integrated into one's lifestyle. Among the American public ages 56-75, over six out of ten people use local parks now and then and, even among the over 75 group, over four out of ten people use local parks (Godbey et al., 1998). Thus, the majority of people age 35 and over uses local parks, and there is potential to increase this usage to a higher level. For example, more than 50% of Anglos/Whites, Chinese and Hispanics/Latinos visited urban parks and forests at least three or more times a month (Godbey et al., 2002).

While park use is extensive among older adults, such use is only recently being recognized as related to health and health policy. Although visits to parks are thought of as "recreation," there is increasing evidence that such behavior has significant health consequences. When older park visitors are asked what benefits they receive from park visitation, their answers most frequently include the chance for exercise and stress reduction (Godbey & Blazey, Harper, Godbey & Foreman, 1998, Godbey, Roy, Payne & Orsega-Smith, 1998). Consider these facts:

- The vast majority of older people have access to local parks and recreation services in their community.

- Older adults who use local parks have been found to make fewer visits to a physician for reasons other than check up than those who don't, even when controlling for the effects of age, health conditions, income, education level and other possibly influencing factors.
- About half of older adults state their mood or state of mind changed positively after visiting a local park.
- Significant percentages of older adults are involved in numerous forms of both moderate and vigorous exercise while in parks.

A recent study (Godbey, et al., 1998) found the following:

- Older park visitors were diverse in terms of their socio-economic status, age and ethnicity.
- Park use was extensive among older residents of Cleveland. In terms of frequency of use, 15 percent visited the parks from 52 to over 100 times per year, 10 per cent visited from 26 to 51 times and 18 per cent visited from 12-26 times with the rest of the sample visiting less.
- Average length of stay in the parks was about two hours, parks provide an appreciable amount of time per year in which older citizens are like to be physically active.
- The majority of older visitors were physically active while they visited. Over two-thirds used the parks in ways in which they obtained moderate or high levels of physical activity.
- An average visit lasted a couple of hours and visitors spent about half their time walking.
- Older visitors who made active use of the park were healthier than sedentary users and non-users on a number of measures. For those 65 and over, level of physical activity in the park was the most important positive predictor of body mass index.

- Those who used local parks also drank alcoholic beverages less frequently than did non-users.
- The benefits that older users ascribe to their visits to the park are clearly health-related.
- In terms of an individual's perceived general health, an individual's frequency of visits to the parks was positively associated with better health, as was frequency of vigorous exercise in the last two weeks, a higher level of general activity, higher levels of formal education and higher levels of social support.
- Active park use was negatively related to visits to a physician (for reasons other than a check-up) even after controlling for age, income and health status, park users were less likely to have a recent physician visit. Those who engaged in more park visits, more strenuous activities and who felt better as a result of visiting the park were less likely to have visited a physician.

Local recreation and park services can also play a major role in facilitating exercise necessary in the rehabilitation process. The transition from supervised outpatient rehabilitation to using community health promotion programs and services is critically important to the completion of outpatient rehabilitation (e.g., physical activity prescriptions) and long-term health maintenance. The nature of community agencies makes them an ideal setting for this step in the health care continuum. Besides being affordable, accessible, and attracting people with similarities (e.g., neighbor, life situation, age, skill level), local park and recreation agencies offer a wider variety of programs and facilities than traditional fitness facilities, such as walking trails, social activities, hobbies, trips, and other activities which involve some physical activity and socializing. Such activities may not only provide physical exercise but also may lead to improved health through improving mood, increasing the desire to take on other challenges and helping increase or maintain intelligence. The evidence is increasing

that people will stay with recreation facilities that are intrinsically enjoyable but will not stay with prescription exercise for very long.

As local government recreation and park services become more centrally involved in health care and in prevention, a major issue will be rehabilitation. The progression in recovery from a major health trauma may reflect the following sequence:

1. A traumatic health event, e.g. stroke, cancer operation, etc.
2. Medical Treatment, e.g. breast removal
3. Rehabilitation, e.g. physical therapy, prescription exercise
4. Recreational Rehabilitation, e.g. exercise and social program sponsored by public recreation and park department
5. Recreation and Park Participation e.g. participation in services of recreation and park department.

In this process, there will be progress through a continuum of involvement on the part of the individual from what is painful, work-like and necessary as a means to an end to activity which is chosen, pleasurable, and part of ones style of life.

The Rehabilitation Continuum

Involuntary-----Voluntary
 Means to End-----End in Itself
 Pain-----Pleasure
 Work-----Leisure
 Prescribed-----Chosen
 Aversive-----Non-Aversive
 Short-term-----Permanent
 Medical treatment-----Prevention

Local government recreation and park services are already being considered in the continuum of care within the medical community, and the National Recreation and Park Association is playing an increasingly large role in ensuring that it is, .

For local government recreation and park services to take a larger role in providing opportunities for exercise and contributing to the health of the public, there must be a “paradigm shift” or re-positioning of such organizations. While most of the services they provide already have considerable health benefits, primarily physical exercise and stress reduction, and socialization, and need not be changed, the benefits of these services must be understood as health and wellness benefits. This will involve a change in the awareness of numerous health organizations, the general public and recreation and park professionals. One recent study, for instance, found that “A shift in how municipal recreation departments view their role as partners in community health promotion is required if programs are to promote health and be accessible to underserved populations” (Frisby & Hoerber, 2002). Closer ties between health care providers, public health organizations, and recreation and park professionals may encourage such a shift. Such paradigm shifts require consciousness expanding on the part of all concerned, a process which is already beginning by not only research identifying health and exercise benefits of recreation and park services, but also by the inclusion of recreation and park organizations in policy initiatives related to exercise, health, obesity, sedentary life styles and related issues.

Solutions to Physical Inactivity Among Older Adults

- 1. Increasing physical activity among older adults at the community level will involve interdisciplinary effort aimed at changing both the environment in which older adults experience everyday life and seeking to modify their behavior in the existing environment.** This may include diverse efforts. Such efforts will ultimately need to be customized to the community level. The strategies most likely to succeed will be those that provide both pleasing environments and incentives for physical activity.
- 2. Increasing physical activity will require attention to eating habits.**

Obese people are less likely to be physically active. Strategies such as removing soft drink machines in public buildings and substituting water coolers, providing information about healthy eating, and countering the aggressive tactics of the fast food and soft drink companies will be critical.

3. **Increasing physical activity will involve different short-term and long-term strategies.** Long-term strategies may involve no less than seeking to redesign the physical environment in which people live. This will entail higher density housing, use of multiple use zoning, more regulation of automobiles and auto free zones. Long-term strategies must also involve re-thinking many “labor-saving” devices and other products that limit human movement. In the short-term, however, encouraging older adults to become physically active, recognizing the valuable role of encouragement and socialization in such decisions, developing facilities and renovating, improving and making user friendly existing recreation facilities that involve exercise are critical.
4. **Increasing physical activity during leisure will often involve promoting activities that are not done for the sake of exercise but rather because they are pleasurable and meaningful.** Bird watchers do not set out to get exercise – rather they want to identify birds, which usually involves walking. Square dancers don’t square dance solely for exercise but for reasons of socialization. Tennis players may love the competition or being outside with friends.
5. **Existing recreation facilities that can provide physical activity must be joined to recreation programming.** This is akin to computer hardware and software – hardware (recreation facilities) doesn’t work without the software (recreation programming). Such programming must include partnering with organizations concerned with public health, aging, health maintenance and other issues, continuing publicity, planning for organized use as well as special events, opportunities for feedback on health changes, opportunities for socializing and having fun, feedback and evaluation from users and

non-users. We must learn from mistakes. A survey of local government recreation and park professionals whose community installed fitness trails found that they generally received little use. Such a lack of use occurred primarily because:

- They weren't fun.
- They were designed for too young and/or too physically fit a user group.
- They assumed people would use the trail informally without any promotion, special events, contests, games, awards, and formal recreation programming done in conjunction with such trails.

6. Special attention needs to be paid to the needs and preferences of

women. This group generally exercises less in later life than men, but also because they constitute the increasing plurality of older adults and have unique. Issues of safety, level of maintenance, attractiveness, aesthetics and other issues.

7. Consideration of Cultural Factors that Shape Physical Activity Participation. Norms and values shape the behaviors of people who are members a certain ethnic and racial groups. It is important to consider how the value system within ethnic and racially diverse communities can potentially influence the leisure (i.e., physical activity) behavior of members of these communities or groups. Careful consideration of these factors must be accounted for in the design and delivery of programs.

8. Encouragement or verbal persuasion to increase physical activity is a potentially promising strategy about which more needs to be known.

Such encouragement may cover a broad range of communication means, from posted signs by elevators and e-mail messages to personal communication from friends, spouses, doctors, HMOs, local government recreation and park agencies and other sources. How to generate more constructive encouragement is of particular importance.

9. **Local government organizations such as municipal recreation and park departments are a critical variable in increasing physical activity among older adults.** The majority of older adults use parks and/or recreation services, there are low no charges involved, the activities undertaken involve mild to moderate physical activity and such activity often has the potential to become an increasingly important part of daily life.

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