Chapter 16
Physical Activity And Fitness

Introduction

Dramatic progress occurred in adding years to the life of Americans in the Twentieth Century. During the next century, the goal is to be equally successful in adding even more years of functional life.

Today, more than ever, physical activity offers great potential for improving a wide range of factors that contribute toward better health and additional years of functional living. Few initiatives combine the preventive potential and relative low cost of increased physical activity. This becomes more and more evident every year.

Statistics now show that approximately 250,000 deaths per year have been attributed to physical inactivity. In 1994, sports specialists Powell and Blair of the American College of Sports Medicine reported that approximately one-third of deaths from coronary heart disease, colon cancer, and diabetes were due to physical inactivity.

The release of the surgeon general’s report, Physical Activity and Health, as well as significant additional research, continues to point out the broad range of positive effects from regular physical activity.

The programs included in this chapter have the potential for reducing cardiovascular disease, preventing various cancers, preventing and decreasing injuries, improving mental health, and slowing disease development in Iowa’s aging population.

Physical activity provides a rare opportunity. The more that recreation is available and the more that Iowa communities encourage walking, the more attractive Iowa becomes for tourists. Improvement in these areas can also help improve neighborhood safety, reduce crime, and even drug use. The cost is low while the potential health benefits can be measured in the billions, and the related social advantages are nearly endless.

According to experts, there is no drug as useful for sustained health as a lifetime program of physical exercise. This fact is as important to planning in the next century as it was in the Twentieth Century.

Coronary heart disease (CHD) is approximately twice as high among sedentary men than among those who regularly engage in vigorous physical activity. The risk of inactivity is only slightly less than the risk of smoking or high blood pressure or high blood cholesterol. The benefit to chronic heart disease alone provides justification for an increased investment in the promotion of physical activity to all Iowans.

Combined with good nutrition, physical activity can help stem the growing number of overweight and obese Iowans. Reducing obesity alone will impact a wide variety of conditions, including arthritis, cancer, and stroke. Obesity combined with its demographics makes this a very crucial issue for Iowa.

The major demographic aspect of Iowa is its rapidly aging population. One Iowa county already has the highest national percentage of people over 65 (20%) and the entire state will reach that level by 2020. More active seniors are apt to need less care, require less medical resources and be more productive.

Physical activity will not only be a major factor in maintaining the vitality of Iowa’s elderly, it may also foster the vitality of the state, which would be reflected both in the state’s physical and fiscal condition. The benefits of physical activity can be realized at age 8 or 80 and the activity level of our 80-year-olds will impact the quality of life of our 8-year-olds.

Some ethnic minority and low-income populations are less physically active than the general population (U.S. Department of Health and Human Services, 1996). The physical activity initiative covered in this chapter will strive to promote regular activity among such diverse groups as the elderly, low-income Iowans, women, the overweight, persons with disabilities, all of Iowa’s ethnic populations, and both rural and urban residents.

This chapter includes details of a multi-faceted approach to all populations. On the community level, efforts will be made to impact the environment and encourage policies to promote “walkable” communities that encourage pedestrian traffic and the development of accessible recreational resources.

Broad-based efforts to promote physical activity via the physical education of children and youth, wellness programs, community initiatives to promote physical activity, and media campaigns will reinforce the message that life-long activity is crucial for all Iowans. On another level, support for user-based strategies will be developed and applied at the neighborhood level.
In developing these efforts, a “spectrum-of-prevention” approach -- a term developed by the California Department of Health Services -- will be followed. This spectrum includes use of individual knowledge and skills; education of community members and health-care providers, such as doctors, nurses, and pharmacists; development of groups interested in effecting beneficial, political action, and organizational change.

Such efforts will include messages to businesses to develop healthy work environments and worker-wellness programs; techniques as detailed in the 5+5 Program, a national program encouraging people to eat five servings daily of fruits and vegetables; and to be active for 30 minutes at least five days per week. These program materials are designed to motivate healthy eating habits and increased physical activity.

Based on formulas developed by the Centers for Disease Control and Prevention (CDC) and statistics from the U.S. Census, a profile of Iowa emerges showing that employers could save over $700 million a year by developing physical activity programs.

The following observations, from Promoting Physical Activity among Adults, a CDC handbook published by the U.S. Department of Health and Human Services, are noteworthy:

• The physical work capacity of an individual can be improved as a result of regular physical activity.
• Work performance is improved with enhanced strength, flexibility, and endurance.
• Regular exercise results in improved mood, a better self-concept, an increased feeling of well being, and diminished anxiety.
• Employers can benefit economically from improving the physical fitness of employees.
• Evidence is accumulating that regular and habitual physical activity extends life.
• Those who are sedentary are about twice as likely to develop coronary heart disease (CHD) as those who are active; people who are sedentary have a 40% higher chance of dying of CHD than those who are active.
• In general, the higher the level of habitual physical activity, the lower the risk for CHD, but physical activity must be regular, frequent, and long-term.
• Adults with a sedentary lifestyle have approximately a 50% higher risk of developing hypertension compared to physically active people.

• Increased activity can help prevent hypertension, can be useful in treating hypertension, and may prevent the development of CHD and other hypertension-related diseases.
• Preliminary evidence suggests that being sedentary may increase the risk of developing some types of cancer such as those of the colon and female reproductive system.
• Osteoporosis is favorably influenced by physical activity, which may decrease the likelihood of developing bone fractures and losing bone density.
• Physical activity can, in many people, improve the course of several health problems: CHD, diabetes mellitus, hypertension, obesity, peripheral vascular disease, and mental depression.

For all the above reasons, the overriding goal of this chapter is to get people to “accumulate 30 minutes of physical activity five or more days per week.” This goal will be achieved by gains in the quality and quantity of physical education, better work-site wellness programs, greater collaboration between community programs and resources, more local efforts targeted to specific populations, more environmental and policy initiatives, and more comprehensive statewide campaigns. These efforts also will deal with the presence and condition of sidewalks, the terms of a model insurance contract, and state media messages.

The rational and achievable goal of encouraging all Iowans to become aware of these physical-activity goals will involve converting one percent of Iowa’s sedentary population to a more active status during each year of the decade.

This translates roughly to 20,000 people each year. It is achievable, but before that goal can be reached, support -- primarily financial -- must be allocated.

Iowans Reporting a Sedentary* Lifestyle 1989-1996 (Selected Years)

Note: Base Adjusted To Highlight Value Range
Source: Iowa Department of Public Health
The physical activity chapter team believes that establishing proper funding is crucial to reach this goal. Budgeting 33 cents per Iowan per year would create a $1 million dollar campaign for use in stamping out the medical consequences of physical inactivity. The chapter goals proposed here need be only slightly successful to recover the dollar investment many times over.

**Goal Statements and Action Steps**

16-1 **Goal Statement**

Establish financial funding by 2002 targeted at sedentary Iowa lifestyles; the plan will include funding for developing an Iowa foundation to be named the Active Iowa Movement (AIM) Foundation, which will result in over $1 million in annual distributions by 2005.

**Rationale**

The Centers for Disease Control and Prevention have developed a formula that calculates the annual savings per adult in a physical-activity program as $643. Therefore in Iowa, the annual cost for a sedentary lifestyle is over $700 billion. According to research, obesity alone costs the United States more than $100 billion annually. The need for a goal to reduce these totals is crucial and becoming more so. Funds received will be used to foster partnerships; recognize outstanding efforts; convene an annual, multidisciplinary, physical activity conference; develop a unified yet diverse media campaign; as well as other initiatives.

Although the message for all Iowans is that regular physical activity is recommended, it needs to be pointed out that the rate of diabetes has tripled in the African American population in the past 30 years. So, that target audience has a greater need to hear about the advantages of physical activity in preventing and controlling diabetes.

Physical fitness programs are not located in the province of one organization. For example, in Illinois the Supplemental Program for Women, Infants and Children (WIC) clinics are promoting physical activity. Additionally, more and more nutrition materials are treating physical activity as a daily requirement. And substance abuse programs have used healthy sports programs for years to promote a substance-free and active lifestyle.

One million dollars a year translates to 33 cents per Iowan or $50 per targeted person. Given the impact on public health, a million dollars would be an appropriate and symbolic sum to apply to the risk of sedentary lifestyles. It is the belief of the chapter team that the foundation for all the goals detailed in this chapter is a significant and systematic change in attitude, approach, and support to get funding for physical activity. This step is symbolic of what Iowans are being asked to do: take the risks of a sedentary lifestyle seriously.

When compared to current costs of all factors resulting from a sedentary lifestyle, a prevention budget $1 million is about equal to what Iowa currently loses in 12 hours in medical costs and lost business. Today, the majority of Iowa deaths are from lifestyle-related illnesses.

Chronic diseases have replaced communicable diseases as the most significant public health problem. The death rate from coronary heart disease in Iowa is 112.7 per 100,000, and for stroke is 24.2 per 100,000. These, as well as other chronic diseases, can be significantly reduced by regular physical activity. The prevention of just 10 heart attacks could save more than $1 million. These 10 people represent .0005% of Iowa’s yearly target population.

More and more states, from North Carolina to Michigan to California, are equipping themselves to promote physical activity and increase the public’s health by creating physical activity foundations, funding those organizations, and supporting the resulting campaigns. The American Heart Association, American Lung Association, and American Cancer Society have all had victories in their efforts to change behavior, and the risks of leading a sedentary lifestyle warrant a similar campaign.

A fitness foundation could attack a root cause of chronic disease. Eventually, such a foundation could complement the efforts of volunteers who are already encouraging physical fitness. A proper financial package could unite similar efforts in schools, churches, work sites, and communities. With an investment of $2 million per year, the Active Iowa Movement Foundation and the Iowa
The Department of Public Health could save Iowa billions of dollars by 2010.

16-1.1 Action Step

Create by 2001 a cooperative agreement with the Iowa Association for Health, Physical Education, Recreation and Dance (IAHPERD), Governor's Council on Physical Fitness and Sports (GCPFS), Iowa Parks and Recreation Association (IPRA), and Central Iowa Wellness Council (CIWC) to:

a. Explore the options of a public and/or private foundation similar to First in the Nation in Education (FINE) to compare the advantages of a charitable organization versus a foundation;

b. arrange for the fitness leaders mentioned earlier, along with any other interested parties, to meet with the Iowa governor and Iowa legislative leaders to discuss funding options and the possible structure of an Iowa fitness foundation;

c. establish an organizational structure to operate the foundation and the campaign for funds; and

d. develop a fund drive asking for small donations to promote participation in a single campaign, such as a walkathon.

(An Iowa Department of Public Health; Iowa Department of Education; Iowa Association for Health, Physical Education, Recreation and Dance; Central Iowa Wellness Council; the Governor’s Council on Physical Fitness and Sports; and Iowa Parks and Recreation Association action step.)

16-1.2 Action Step

Meet with key department personnel by the end of 2000 to discuss a 10-year budget for supporting in existing programs the goal of reducing sedentary lifestyles and decide how to incorporate new initiatives. (An Iowa Department of Public Health action step.)

16-1.3 Action Step

Create by 2005 a mini-grant program for development of diverse grass-roots initiatives dealing with a wide range of population groups to create efforts to reach targeted groups with a campaign funded by the AIM Foundation. (An Active Iowa Movement Foundation action step.)

16-1.4 Action Step

Develop or locate by 2002 a variety of materials that are culturally sensitive and reflect the importance of an active lifestyle and distribute them to various organizations to insure the message is echoed in a variety of “voices” to all Iowans. These messages will be monitored and evaluated to determine their effectiveness. (An Iowa Department of Public Health action step.)

16-2 Goal Statement

Certify 500 Physician-based Assessment and Counseling for Exercise (PACE) clinicians, 50 of whom are doctors, by the year 2005.

Rationale

Any successful campaign to encourage more physical activity will be greatly enhanced by the support of primary care physicians and other clinical staff involved in counseling patients and/or clients.

PACE is a professionally developed and evaluated effort to facilitate behavior change. The traditional trust in primary care physicians and counselors, combined with specific information and recommendations, should result in significant returns from the cost of training current and future physicians, their staff, and other counselors.

This two-pronged approach covers current and future practitioners. By offering this training to those currently practicing in Iowa, this effort will insure that the PACE principals will have a direct impact. By institutionalizing PACE in the training programs of future doctors and counselors, it reaches more people and gains stature as an expected procedure (protocol).

16-2.1 Action Step

Develop by 2001 a PACE training program for current practitioners. It will include professional education credit via continuing medical education units (CMEUs) to be offered at convenient times and be financially appealing. (A Des Moines University action step.)

16-2.2 Action Step

Work with Iowa education facilities to make PACE part of the curriculum for clinical staff, including nurses, dieticians, physician assistants, etc., by the year 2006. (An Iowa Department of Public Health and University of Iowa Health Sciences action step.)

16-3 Goal Statement

Establish by 2003 a comprehensive strategy that shares the main physical activity message with as many Iowans in as many environments as possible, including a wide spectrum of resources from such areas as the Internet, neighborhood and religious groups; these efforts will include an attempt to develop partnerships and promotions.
geared to Iowans of all ages and backgrounds with special attention to seniors, minorities, and other special populations.

**Rationale**

The main physical activity message will be based on the recommendations of the surgeon general’s *Report on Physical Activity and Health* and other current research. Iowans who hear a consistent message in the media, from the Iowa Department of Public Health, from their doctors, at school, in their work environment, at senior citizen centers, from churches and other sources will be more likely to embrace that message.

Creating versions of that message for churches and other neighborhood sites will allow a message to be tailored to each specific population. The physical activity message must be heard loud and clear by all of Iowa’s diverse populations. Such a strategy must reach all populations with an appropriately targeted message.

The process of developing a community profile has been well documented in the 5+5 Program guide, developed by the Iowa Department of Public Health. This process has already proven effective in promoting partnerships and encouraging more physical activity. But much more work is needed to deliver this basic message to all Iowans.

In the *Journal of the American Medical Association* of April 21, 1999: (Vol. 281, No. 15 p. 1373), Behavioral Risk Factor Surveillance System (BRFSS) data were reviewed. The purpose was to determine if or how much the prevalence of physical activity was associated with the perceived safety of a person’s neighborhood. This association proved to be true for women and the elderly.

Conversely, perceived neighborhood safety can be increased by more outdoor activity. “Eyes on the street” can impact a wide range of behavior from watching for traffic speeders to more serious offences. By creating and promoting walking communities, people can create neighborhoods that are victorious and vibrant. More walkers can equal less crime; and in turn, less crime should promote more physical activity.

**16-3.1 Action Step**

Establish a series of meetings with Iowa clergy and other community and special interest groups, such as ethnic organizations, groups of varying ages, neighborhood organizations, and people with disabilities; the meetings should:

a. determine what they are doing in the area of physical fitness and seek their input by 2001;

b. share proposed literature and programs, from 2000 to 2001;

c. evaluate the effectiveness of current efforts and determine if other support or meetings are needed, from 2001 and on;

d. and provide mini-grants to further physical fitness efforts, from 2001.

(An Iowa Department of Public Health and Active Iowa Movement Foundation action step.)

**16-3.2 Action Step**

Create after receipt of funding a mini-grant program to provide $1,000 to $2,000 to various, diverse organizations to create physical activity efforts combined with neighborhood efforts for Iowans by the year 2004; these mini-grants will be offered to churches, neighborhood organizations, and others and will be designed to create awareness that echoes the need for regular physical activity for all Iowans. (An Iowa Department of Public Health and Active Iowa Movement Foundation action step.)

**16-3.3 Action Step**

Create by 2004 materials that include articles, brochures, and program items that deal with the relationship between safety and physical activity; these items will be designed to encourage organizations interested in promoting neighborhood environments to address the relationship between physical activity and safety. (An Iowa Department of Public Health action step.)

**16-4 Goal Statement**

Create by 2003 strategies that share the physical activity message with special populations, especially people with disabilities, and with organizations that provide recreational opportunities with mainstream organizations.

**Rationale**

The traditional image of a fitness center is one filled with trim young bodies, those least in need of the offered activities. Such an image and reality need to change to take into account all Iowans, including the elderly and disabled. The possibility of increased memberships should make these clubs interested in promoting physical fitness among these special groups.

The link between premature death and lack of physical fitness (as verified in a study by Kenneth Cooper’s Aerobic Center in Dallas) applies to all Iowans and is the primary...
health rationale for increased physical fitness. In an article for the Research Digest of the President’s Council on Physical Fitness and Sports (March 1999), Dr. Janet A. Seaman writes, “People with disabilities can enhance the functioning and health of their heart, lungs, muscles and bones in most cases through regular physical activity. Flexibility, mobility, and coordination can be improved, lessening the negative impact of some conditions or slowing the progression of others.” Such positive social, mental, and economic benefits exist for all Iowans and thus need to be encouraged and facilitated for all Iowans.

16-4.1 Action Step
Initiate by 2003 a series of discussions on a regular basis with fitness providers that examines programs and their accessibility to persons with disabilities. (An Iowa Department of Public Health action step.)

16-4.2 Action Step
Create targeted physical activity promotion efforts by 2005 for low-income populations and high-risk groups that have limited access to recreational opportunities, highlighting resources that are available. (An Iowa Department of Public Health action step.)

16-5 Goal Statement
Initiate the comprehensive model for communities known as “well city” in three selected Iowa communities by 2003.

Rationale
The Wellness Coalition of America (WELCOA) has developed a community comprehensive model that includes environmental conditions, policy, and other aspects to create well communities. Its ambitious standards can be used to encourage other Iowa communities. Supporting the Central Iowa Wellness Council and its efforts can impact the three communities, and indirectly, all Iowa communities.

16-5.1 Action Step
The Central Iowa Wellness Council will identify by 2003 the three selected cities and a local chair for each for the “well city” project. (A Central Iowa Wellness Council action step.)

16-5.2 Action Step
Advertise by 2004 the availability of funds from the AIM Foundation and the Iowa Department of Public Health for cities interested in working toward the well city model. (An Active Iowa Movement Foundation and Iowa Department of Public Health action step.)

16-6 Goal Statement
Create and disseminate by 2004 a detailed list of best or expected practices that provide Iowa students an educational environment that teaches and fosters a healthy active lifestyle.

Rationale
In the report of the National Centers for Chronic Disease Prevention and Health Promotion (CDCP) entitled, Unrealized Prevention Opportunities: Reducing the Health and Economic Burden of Chronic Diseases, the following sentence was perhaps the most significant. “Because ingrained behaviors are difficult to change, the greatest return on investment lies in reaching people early, before unhealthy behaviors are adopted.”

In national norms, Iowa boys and girls are slightly heavier and possess more body fat than reported in other states. Furthermore, only 56% of Iowa boys and 61% of Iowa girls attained the recommended health standards for cardio-respiratory fitness.

For immediate and future returns, it is imperative that physical activity be a regular component in Iowa schools. Healthy, active children not only perform better as students but also develop habits that will affect the quality and quantity of their lives. Physical inactivity is a major health hazard that for many begins during the school years.

The immediate benefit of physical activity is an increased supply of oxygen to the brain. Such activity also facilitates the development of blood vessels that, in addition to oxygen, carry other essentials -- such as water and nutrients -- needed for learning.

Physical activity also facilitates nerve development, as well as the maximum development of healthy hearts and lungs. According to the Iowa Department of Education, 13 studies on exercise and brainpower indicate that physical activity is beneficial for developing brains and preventing deterioration of older brains.

According to the National Health and Nutrition Examination Survey III, 21% of adolescents, aged 12-19, are overweight. As sedentary options increase, efforts to encourage physical activity need to keep up as well.

16-6.1 Action Step
Develop and distribute a database related to physical activity and Iowa youth by 2005; this will include a new Iowa survey of physical education programs and any unique or
successful programs. (An Iowa Department of Public Health and Iowa Association for Health, Physical Education, Recreation and Dance action step.)

16-6.2 Action Step
Provide educators with strategies and opportunities to facilitate a shift toward wellness within their own schools and communities by 2005. (A Regents Institutions; Iowa Association for Physical Education, Recreation and Dance; and Iowa Department of Education action step.)

16-6.3 Action Step
Provide ongoing support from 2000 to 2010 for the Iowa Department of Education and the Association for Health, Physical Education, Recreation and Dance to recognize and reward outstanding physical education programs with participation on a physical education task force in the Active Iowa Movement Foundation and by other means. (An Iowa Department of Education Task Force and Iowa Association for Health, Physical Education, Recreation and Dance, and the Active Iowa Movement Foundation action step.)

16-6.4 Action Step
Locate communities that are forging partnerships among businesses, schools, hospitals, parks and recreation offices, and facilitate that trend in other communities. (An Iowa Department of Education action step.)

16-6.5 Action Step
Create by 2005 five new physical activity consultant positions at area education agencies to advocate and use the Healthy Iowa Lifestyle curriculum, and facilitate the development of School-Wide Activity Team (SWAT) resources to provide technical assistance based on assessment outcomes to peers for the general development of a comprehensive, quality physical education program. (An Iowa Department of Education action step.)

16-6.6 Action Step
Develop by 2005 strategies that urge school districts to implement coordinated school-health programs and that help to overcome existing barriers, such as inadequate funding. (An Iowa Department of Education, Iowa Department of Public Health, Iowa Institutes of Higher Education, and Iowa Coalition for Comprehensive School Health action step.)

16-7 Goal Statement
Create an electronic media plan that takes full advantage of the Internet, the Iowa Communications Network, and other technologies which will include the development of a comprehensive web site that provides an array of physical activity options for most days of the year, and which allows for the continued growth and refinement of e-mail FITNET and physical activity support chat rooms.

Rationale
In 1997, the Iowa Department of Public Health created FITNET, a daily e-mail service promoting regular physical activity and the national 5-A-Day program. It was initially delivered to a list of 18 entities but now goes to over 50,000. The only expense is for writing the messages and costs only pennies per day.

16-7.1 Action Step
Refine FITNET by the end of 2000 to include an “Iowa only” list to be used to target and refine messages, and share other Iowa sites willing to redistribute the information. (An Iowa Department of Public Health action step.)

16-7.2 Action Step
Pull together by 2002 a group of public and private resources to design an Active Iowa Movement Foundation web site. (An action step of the Iowa Department of Public Health; Iowa Department of Education; Iowa Association for Health, Physical Education, Recreation and Dance; Central Iowa Wellness Council; Governor’s Council on Physical Fitness and Sports; Register’s Annual Great Bike Ride Across Iowa (RAGBRAI); and IOWA GAMES.)

16-8 Goal Statement
Work with the Iowa Department of Transportation and all appropriate entities to promote environments that are physically appealing and conducive for regular physical activity by the year 2005.

Rationale
On June 9, 1998, President Clinton signed into law the Transportation Equity Act for the 21st Century (TEA-21), authorizing highway, highway-safety, transit and other surface-transportation programs for the next six years. TEA-21 builds on the initiatives established in the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, the last major authorizing legislation for surface transportation.

This legislation provides significant funding for the development of alternative transportation projects that can focus on pedestrians instead of cars. The money provides Iowa with a significant opportunity. The challenge will be to make sure Iowa utilizes those funds in a way that encourages walking, cycling, and recreation in general.
Freeways and other transportation projects have discouraged pedestrian traffic. An increasing number of people are seeing the negative impact of such planning and are encouraging more comprehensive planning. In this effort, Iowa can look to Cedar Falls as a model of what can be done with highways and recreational trails.

16-8.1 Action Step
Seek to create regular communication through an advisory-committee position with the Statewide Transportation Enhancement Program Advisory Committee by the year 2000. (An Iowa Department of Public Health action step.)

16-9 Goal Statement
Create consistent items to deal with the surgeon general’s *Report on Physical Activity and Health* recommendations through measurements of the Iowa Behavioral Risk Factor Surveillance System (BRFSS), with the intention of formalizing the measurements, increasing the efforts that are measured, and publicizing it broadly.

Rationale
In the June 1999 issue of the *American Journal of Public Health*, it was pointed out that “sedentarism” is an independent risk factor currently lacking a consensual definition. The writers of this chapter also agree that a uniform definition is needed at the state, national, and international level.

The Iowa BRFSS measures the levels of activity on a scale developed prior to the release of the surgeon general’s *Report on Physical Activity and Health*. Although it is valuable in providing trend data, it would be more valuable if questions were crafted to reflect the 30-minutes-per-day physical activity benchmark. In addition to the BRFSS measurements, increased funding will allow for target measurements to better define who is inactive and the degree of success that various initiatives have produced.

16-9.1 Action Step
Work with the Iowa Department of Public Health’s statistics bureau and the Iowa Behavioral Risk Factor Surveillance System and the Youth Behavior Risk Factor Survey personnel to identify and eliminate hurdles to consistent measurement by the year 2003. (An Iowa Department of Public Health action step.)