

**GOING THE DISTANCE: SENIOR ATHLETES AND  
THE BENEFITS OF EXERCISE**

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**HEARING**  
BEFORE THE  
**SPECIAL COMMITTEE ON AGING**  
**UNITED STATES SENATE**  
ONE HUNDRED SIXTH CONGRESS

FIRST SESSION

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WASHINGTON, DC

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# GOING THE DISTANCE: SENIOR ATHLETES AND THE BENEFITS OF EXERCISE

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TUESDAY, SEPTEMBER 14, 1999

U.S. SENATE,  
SPECIAL COMMITTEE ON AGING,  
*Washington, DC.*

The committee met, pursuant to notice, at 2:07 p.m., in room SH-216, Hart Senate Office Building, Hon. Charles Grassley, (chairman of the committee) presiding.

Present: Senators Grassley and Breaux.

## OPENING STATEMENT OF SENATOR CHARLES GRASSLEY, CHAIRMAN

The CHAIRMAN. I welcome everybody to this hearing. I think we are going to have an inspiring hearing today. We will learn how to live longer and healthier; how to do it without spending a dime.

Our witnesses have the answer and that answer is, exercise. They will give us a wealth of good news. First, they will explain that even moderate exercise in our daily routines can have lasting effects on our health and quality of life. It can delay disability for years. It can even extend our life by a decade or more.

Second, our witnesses will show that it is never too late to start. Our experts on healthy aging will explain that people at the most advanced stages of disability can benefit by taking up exercise. Even long-time athletes, like two of our witnesses, continue to take up new sports. One of these individuals took up cycling. Another witness took on new sports, including sculling and pole vaulting in her 70's.

Finally, the testimony we will hear today has a public policy dimension and, hence, this committee's interest. Our population is aging at an unprecedented rate. Medical advances enable people to live into their 80's, 90's and beyond.

We are all looking for ways to improve the quality of life of older Americans. Public policy and private enterprise should help promote programs and education to meet these needs.

A good example of one of these programs is well represented today: The National Senior Games Association, which sponsors the Senior Olympics. It has promoted fitness and provided sports opportunities for more than 10 years. During this short time, the association has established hundreds of local game programs throughout the country, State Senior Games in 49 states and a national competition this October in which 12,000 seniors will participate in Orlando, FL. That is more participants than entered the 1996 Atlanta Summer Olympics.

Two of these athletes are on our panel. These individuals will share their philosophies on exercise and healthy aging. My hope is that their stories will encourage others to begin a physical fitness program that is right for them. I want to emphasize that you do not have to be an Olympian to reap the rewards of exercise.

The National Institute on Aging, which is represented today by Dr. Wetle, publishes a wonderful exercise guide for people who want to start a fitness program. The tips in this book are designed to help anyone who wants to begin exercising. You don't even have to join a gym to do it. You can exercise in your own home if that works best for you.

So, I hope seniors will take advantage of the resources that are available to them to make fitness a part of their daily routine.

Today's hearing should inspire all of us to stay physically fit as long as we can. Age is not a convenient excuse to become a couch potato.

I now call on our distinguished ranking member, Senator Breaux.

#### STATEMENT OF SENATOR JOHN BREAUX

Senator BREAUX. Well, thank you very much, Mr. Chairman, and I would like to join you in welcoming our very distinguished panel of witnesses. Thank you very much for helping us to try and spread the message about the aging process and the fact that the work that we do in the Congress and the work that all of you do is not just about getting people to live longer, but it is really about getting them to also live better lives. It is not just the length of our lives that is important, it is also the quality of our lives.

I think that there is a real dramatic misconception, unfortunately too prevalent in society today, that you reach a certain point when you should stop an active, physically active individual when it comes to exercise. It was all right to do that when I was 20, I could do it when I was 30, but I should start stopping that type of a program when I am 40 and above, when really the opposite is true. And I think that all of you can testify to that as we face this incredible problem that this country is going to face and that is the fact that we have 77 million baby boomers—Americans born between 1946 and 1964—that are going to be entering into the retirement that makes them eligible for things like Medicare and Social Security.

That is clear that we cannot stop them becoming eligible but hopefully we can help them enter those programs in better physical and mental health so that the cost of those programs will be dramatically lessened. So, that the program can continue and will still be a viable program and will not go broke.

It is not so much the importance to the financial savings, it is also about the quality of life for these individuals. I mean the chairman mentioned couch potatoes. I mean couch potatoes is a term that we use for teenagers, but it is also something to do with seniors, because they, too, become couch potatoes.

There is far too many seniors in our country that are comfortable just sitting in front of the television. I know seniors that have told their children that when they reach my generation's age, that you should not be doing that any more. You should not be walking; you

are going to hurt yourself. Do not think about jogging; you are going to hurt your back, you are going to hurt your knees.

That is certainly what we are trying to clear up, that misconception and the distinguished panel that we have today is certainly able to do it.

I am an active tennis player. It is one of the few sports where people actually like to get older because we get to play in the next bracket. And my goal ultimately is to win the National 100-And-Over Singles Title. Maybe I will be the only person in the tournament and that would be the only way that I could win.

But I mean we should not have a fixation on age and the lack of being able to perform reasonable exercise. Everybody cannot be an Olympian. But everybody can do the things that will help them have a better quality of life.

Mr. Chairman, I am delighted to have a person who is really outstanding in this area who has won literally a roomful of medals with her activities. Who, we will not say her age now, but she is at an age when a lot of people are couch potatoes, and that is Mary Elizabeth Norckauer, who is from Baton Rouge, and has a very, very distinguished career as a physical education professor at Louisiana State University, an ice skater and choreographer with Holiday On Ice, who has travelled all over the world, start all kind of sports and dance and programs at LSU, and I understand has even taught shooting courses as well and just has been involved in everything.

Everybody cannot be a Mary Elizabeth, but everybody can learn from what you have done and say, maybe I cannot run around the track for a mile but I can walk around the block. And that is what we are trying to convey to seniors and, thank you for helping us.

The CHAIRMAN. Thank you, Senator Breaux.

Now, I would like to introduce the panelists, except for Mary Elizabeth, who has just been introduced, appropriately so, by her Senator.

I would start by, first of all, thanking each of you for coming from such a long distance, most of you, to be with us and to participate not only in setting an example, but helping to spread the message that Senator Breaux has referred to.

So, after I introduce you then we will do all the testimony from each of you and then we will have time for questions and remarks from members who are present today.

I am going to begin with Margaret Richard. Ms. Richard is the host of public television's most popular exercise show, "Body Electric". She serves as a role model to encourage people of all ages to stay physically active and fit.

Ms. Richard designed her workout around the artistic elements of dance because of her strong background in ballet, modern dance and jazz. She has studied ballet at Carnegie Hall and performed as a child in the Broadway musical, "South Pacific." Ms. Richard's testimony will discuss her outreach efforts to seniors in America.

Additionally she will focus on different techniques that she uses to reach and educate her audience about the benefits of exercise and to discuss the importance of a comprehensive public education campaign to improve the health of our aging population.

Mr. McVicker will testify next. He currently resides in my State of Iowa. Mr. McVicker is a life-long athlete and has spent his career educating and promoting athletics. He has taught high school physical education and science, as well as coaching track, football and cross country.

Mr. McVicker has received numerous awards for his involvement in the community, including the 1998 Iowa Association for Health, Physical Education, Recreation, and Dance Honor Award.

But what brings Mr. McVicker here today is his involvement with the Senior Games. He has participated in numerous events at the Iowa Senior Games and will compete in this year's National Senior Games to be held in Orlando, FL, this October. He has entered four different cycling events and hopes to bring home a Gold Medal.

Mr. McVicker's testimony will describe his personal experience as an athlete and what inspired him to continue an exercise program.

At this time we have come to Senator Breaux' constituent, who was introduced earlier, and I think Senator Breaux has stated better than I can anything about his constituent, so, I will move on.

Dr. Wetle is our next speaker. She is Deputy Director for the National Institute of Aging, at the National Institutes of Health. Dr. Wetle has taught health care in medicine and directed several aging departments at many distinguished universities such as Harvard Medical School, University of Connecticut's School of Medicine and Yale University.

Dr. Wetle also has a distinguished career in research with over 100 scientific publications to her name. Her research interests include social gerontology, the organization and finance of health care, and ethical issues in geriatric care.

Dr. Wetle will discuss important research findings on the health benefits of exercise to the aging process and to the quality of life. She will also highlight successful model programs that have encouraged people to begin exercising and her agency's efforts to develop an educational program focused on improving the health of our seniors.

Then we conclude our expert testimony today in the area of research by Dr. James Fries, who is a professor of medicine at Stanford University School of Medicine and a prominent leader in developing strategies of promoting healthy aging. His work can be found in many articles and books that he has published.

He will provide results from two different longitudinal studies he has been conducting. He will discuss his relevant research findings on the impact of both vigorous and moderate exercise on delaying disability and improving the quality of life.

He will conclude with how these findings can be translated into public policy that promotes prevention of disability and diseases.

Senator BREAUX. Mr. Chairman, if I could interrupt just for a moment to announce that you and I are both joining in a letter to President Clinton asking that he proclaim the years 2000 to 2010 the Decade of Health in Aging, recognizing that 34 percent of the American population right now, today, is 65 years of age or older, to try and use that proclamation to emphasize the importance of health and exercise for our aging Americans. We would hope that

he would follow through with our request and that will be done today or tomorrow.

Thank you.

The CHAIRMAN. Thank you, Senator Breaux.

Ms. Richard.

**STATEMENT OF MARGARET RICHARD, HOST OF "BODY ELECTRIC", PUBLIC TELEVISION EXERCISE SHOW, ORCHARD PARK, NY**

Ms. RICHARD. Thank you.

Good afternoon Chairman Grassley, Senator Breaux and members of the committee. I am Margaret Richard, host of "Body Electric" which has been on public television for 14 years. And, might I add that this is a very proud moment.

Born in 1946, I belong to the first wave of baby boomers, and I have had a front-row seat to the fitness movement that we created. However, it took many years to really understand the implications of how important exercise was.

At the time that my television show began, in the early 80's we really were exercising more for appearance sake, and to feel energetic. The buzz words were shaped and toned, and we didn't dare say "muscular" because that turned women away. We were trying to, define what our aesthetic idea of a woman should be. Being alarmed by very muscular people to settling in at a mid-point.

Most people, amazingly, have not integrated the use of light weights into their lifestyle. Because I am so involved with it, it continually shocks me. If I speak to a group of mature people that are in their 60's, and I ask them exercise about, most of them will say "yes, I walk."

I find that the biggest problem is that they are not distinguishing between aerobic exercise and muscle-toning exercises, which are two separate and distinct projects for our body. Aerobic exercise works our heart, which is a muscle, and it also helps us to burn calories. Muscle toning, which uses resistance, makes our muscles and bones stronger. Anything that puts stress on our muscles also stresses our bones and, therefore, makes them stronger and more dense.

Why do we want strong bones? Obviously, the osteoporosis issue is a big factor and so many people die as the result of a hip fracture. I am referring to mainly women although osteoporosis affects men as well. Once older people have a hip fracture many of them go downhill and die.

There is no reason to not have a strong defense against osteoporosis. Besides diet, using weights is essential.

There is a mystique about using weights. People think that they have to hire a trainer, and have a special formula. It is so complicated just to have a set of weights in your home. What I do, personally, is use weights for three-and-a-half minutes to work a muscle. When the timer rings, I go to the next set of muscles.

I want to mention some research that has been done at Tufts University because it is so dramatic and it really underlines the point that we are trying to make here. The research was done by Miriam E. Nelson who is a Ph.D. researcher.



“Strong Women Stay Young” which I highly recommend. I am going to read this because it is so dramatic.

It was a controlled study. It was reported in the Journal of the American Medical Association, so, it met their criteria. Dr. Nelson proved that women who lifted weights just twice a week had bodies that were 15 to 20 years more youthful after a year. Their bone density increased, as did their strength, energy, balance, metabolism, confidence and happiness. Without dieting they traded fat for muscle and appeared more trim and fit.

This study is so exciting to me because there is never a time in our lives that our muscles will not respond to resistance. Even if we neglect them for a while, they are always going to respond if we work them.

With that in mind, I have given very serious thought to how we can get this message out. The American Heart Association has done a very good job of spreading the word about walking and working the heart. However, we don't have any Federal guidelines with regard to working the muscles and the bones.

I understand that there are Federal agencies that are presently developing strength and training guidelines for mature people, but they don't exist at this moment. I would like to see a guideline formula developed for having stronger muscles and bones, better balance, energy, and metabolism.

If this was available to health providers, and they passed it on, the message would be as clear as the food pyramid or the seven warning signs for cancer. There would be 10 exercises—for our major muscles that we would do every third day. Take 3½ minutes to do each exercise.

The second way that I think we can affect more people, get the message out, is to offer public service announcements, modeled after—The Partnership For a Drug Free America. We know that media time is very expensive, and that sponsors generally are looking to appeal to the 25-to-55-year old market. Hopefully, body electric has turned thousands of people on to exercising with weights, in particular. And, that is a drop in the bucket.

It is all about education, and we want to start when our children are in school. We also have to reach people that are not in school any more.

The third suggestion that I have, which I feel very strongly about, is to create a measure of vitality as an adjunct to chronological age. The National Institute of Aging is currently researching tools to categorize people in terms of mobility and strength.

We should create a meter, a gauge, that tells us what our vitality level is. It might be numbers 1 through 6 and it would not be age-related. It would be related to vital signs, vitality, muscle tone, bone density, things that could be easily measured at the doctor's office. Giving people more responsibility for their own welfare would have huge implications with regard to employment, insurance, driving a car, getting a job. We are not helpless in doing this for ourselves.

I would like to see us not just look at the chronological age, but to go on to biological age.

In conclusion, there is a critical need to provide education, to spread the word. I would do it by adopting Federal guidelines, es-

establishing a media campaign to promote awareness of exercise and, to create a vitality scale used in addition to chronological age.

This is an exciting time to redefine age and stretch its limits. We grow up and then we grow old. With regular, moderate exercise we have the power to redefine aging as a continuum of growing stronger.

Exercise is more than child's play; it is about who lives, who dies and the quality of their lives. Education is the key.

Thank you.

[The prepared statement of Ms. Richard follows:]

Statement by  
Margaret Richard  
Producer and Host  
Body Electric, PBS-TV  
September 14, 1999

### **Introduction**

As the host of PBS-TV's Body Electric show for the last 14 years, I have introduced thousands of viewers to exercise with resistance (using hand-held weights). Born in 1946, I belong to the first wave of 78 million Baby Boomers and have had a front row seat to the fitness movement created by my generation. In the past, we exercised for a toned appearance. We now recognize that the effects of exercising with weights have far greater implications.

Most people have not integrated the use of lightweights into their healthy lifestyle. Exercises designed to strengthen the muscles and bones, and aerobic exercise, perform separate, but equally important functions. It is essential to the well being of the entire population to become familiar with the benefits of resistance-type workouts. Hopefully, the Baby Boomer generation will successfully battle preventable diseases with regular exercise.

Research done at Tuft's University by Miriam E. Nelson, Ph.D., (documented in her book, *Strong Women Stay Young*) proved that women who lifted weights just twice a week had bodies that were 15 to 20 years more youthful after one year! Their bone density increased, as did their strength, energy, balance, metabolism, confidence, and happiness. Without dieting, they traded fat for muscle and appeared more trim and fit.

### **Develop Federal Guidelines**

Official guidelines for our well being are provided by agencies such as The USDA, The American Cancer Society, and the American Heart Association. I am aware that several Federal agencies are presently developing strength training materials and guidelines for the older population, however, they do not currently exist. Nowhere can we find the "ultimate" guidelines for strong muscles and bones, better balance, energy and metabolism. Federal exercise guidelines made available to every health provider would greatly increase public awareness.

### **Offer Public Service Announcements**

The largest obstacle that stands between physical frailty and strength is information. Media time is costly and program sponsors traditionally appeal to the 25-55 year old audience. Reaching the entire population requires a focused media plan. Public Service Announcements influence large segments of the population. An aggressive media

campaign would be the most effect tool to disseminate information crucial to maintaining healthy muscles and bones.

The Partnership for a Drug Free America is an example of a private, non-profit, non-partisan coalition of professionals from the communications industry, whose mission is to reduce illegal drug use in America through media communication. They spend more than \$0.90 of every dollar on drug prevention messages and programs. To date, more than \$2.8 billion in media exposure and some 500 ads have been donated to the Partner's national campaign, making it the single, largest public service ad campaign in history. Result: today there are 10 million fewer drug users than there were in 1985.

### **Create a Measure of Vitality as an Adjunct to Chronological Age**

A campaign to empower Americans to assume increased responsibility for their well being should have inherent rewards. The National Institute on Aging is currently researching tools to categorize people in terms of mobility and strength. I recommend that a table of standards be established to identify individuals' biological age. This would provide important information not supplied by chronological age. With overall vitality being the baseline, a formula would be developed to reflect variations from the norm. A physical fitness rating system would have dynamic implications in all areas of society.

### **Conclusion**

There is a critical need to provide widespread education about exercise. This information must reach people of all ages, fitness levels. The following agenda would greatly increase public awareness:

- adopt Federal guidelines for healthful exercise (ex: ten basic strengthening exercises which work all of the major muscle groups and can be done at home using inexpensive, hand-held weights);
- establish a media campaign utilizing Public Service Announcements (modeled after the Partnership for a Drug-Free America) to promote public awareness of healthful exercise and its benefits; and
- create a "vitality scale" to be used in addition to chronology to define age.

This is an exciting time to redefine age and stretch its limits. We grow up, and then we grow old. With regular, moderate exercise we have the power to redefine aging as a continuum of growing stronger. Exercise is more than child's play. This is about who lives, who dies, and the quality of their life experience. Education is the key.

The CHAIRMAN. Thank you, Ms. Richard.

Mr. McVicker, because of Senator Breaux' schedule, I would like to skip over you temporarily so he can hear Mary Elizabeth at this point.

Would you go ahead, Mary Elizabeth, please.

**STATEMENT OF MARY ELIZABETH NORCKAUER, AGE 75,  
TRACK AND FIELD RACE WALKING COMPETITOR IN UPCOMING  
NATIONAL SENIOR GAMES, BATON ROUGE, LA**

Ms. NORCKAUER. Well, first, I would like to thank the chair and the members of the Senate Special Committee on Aging for allowing me to testify today before you. I truly believe that all seniors in this country should be thankful to you for investigating and promoting this concept of healthy aging.

Why am I involved now in sports and competition at the age of 74? Well, it probably started with activities and the merit badge system way back in the Girl Scouts, plus, the games that we played on the vacant lot next door.

But even in that play time my parents always taught us whatever you do, give it your best effort. There always has been a competitive streak in me, whether it was in academics or dancing or sports, sewing, housework, gardening. I often envy people who can do things on a recreational basis because competition takes a lot of dedication, desire and the secret: lots of hard work.

Sports and competition have been my life. I approach this subject from many viewpoints. First, from my 35 years as a professor of health, physical education, recreation and dance, at Louisiana State University; as a certified official for basketball, volleyball, and softball, as a coach and author; as an ice skater traveling all over the world for my 10 years with "Holiday On Ice"; as a dancer on the stage in operas and musical comedy; as a firearm instructor; for my 30 years and, finally, as an athlete still competing and winning in numerous sports on the national and international level, including archery, rifle, pistol—I have to read them to remember all of them—swimming, cycling, track and field, weight-throwing pentathlon, summer biathlon, basketball, long distance road races, race walking, duothlons, and triathlons.

At age 62, while teaching at Louisiana State University, I finally found out about the Louisiana Senior Olympic Games, when the director asked me to manage the archery and shooting events. When people started arriving, I started asking questions and found out I was eligible to compete. So I entered four events and won two gold and two silver, on the spot, with no extra practice. The next year, I was ready adding events in track and field, entered nine events and won nine gold medals. [Laughter.]

The idea of competing by age groups was a real equalizer. Up to that point, I had to compete in the open division against all ages and sometimes against men. Tennis and the Masters' swimming programs had age categories but the idea was just appearing in other sports.

The next year, that was 1987, I entered the first National Senior Games held in St. Louis and won 6 medals in an expanding list of sports. That was fun, not only to compete but to watch the other older folks who were there competing and winning.

Through the years, my medal count for the Louisiana Senior Games is about 250; for the National Senior Games about 20 medals; some 250 for National Masters' Track and Field; plus 7 National Titles in the Summer Biathlon. Which involves cross-country running and shooting at—you stop twice and shoot—at targets.

In addition, I have numerous medals in other multi-sport events, such as the duathlon, which is run-bike-run, and the triathlon, which is swim-bike-run. At my first National Indoor Masters and Track Field Championship, I set four American records and since then have set numerous other American records and world records in the triple jump and the hammer throw. What a thrill that was. And the thought came at that time, though, why did I wait so long to start in these other sports? Well, the answer was the opportunities were not there for older people. Along came the National Senior Games Association creating events especially for older competitors.

In keeping with my philosophy, never stop learning, I usually take one or two classes each semester at the university and I particularly like foreign languages and if I am going on a trip, like to Russia, I studied Russian so I would know a little bit more and could be interested in the people. It is mentally stimulating and being around the students really keeps you in tune with modern life.

I keep adding sports, too. Two years ago, I went to a camp hosted by the Olympic Coach for sculling and sweep rowing. It was a challenge. After 2 months practice on the Concept II which is the indoor version of rowing to get you in shape, I entered the World Indoor Rowing Championships and placed second. I really wanted to go just to see how I stood and if this sport was going to be too difficult for me. What a surprise to win! Other world level medals include a 10K cross-country run, pistol, and the Weight Throwing Pentathlon, which includes a javelin, discus, shot put, hammer throw, and the weight throw. I weigh only 110 pounds. So, I have to depend on technique rather than mass weight.

My new sports, besides the sculling, are golf, badminton, and pole vaulting. It is difficult to find time for all this practice and competition because I have a business which has continued even after I retired from teaching at the university. But being involved keeps you alert, certainly makes you think, gives you energy, offers a chance for travel and meeting new people and promotes better health.

By competing in a variety of activities, which many people ask me about, you use different muscles and this cross-training helps to prevent over-use injuries, which is so common in athletics. The only time I have been in a hospital since having my tonsils out at about 10 years of age, was when a car ran over me when I was out training on my bicycle and crushed my left hand. In 38 years of teaching, I only missed 4 days of teaching and that was because of a bad case of flu. So, there must be something good about being active.

Along with physical activity, mental skills are developed, such as concentration, patience, self-discipline, goal setting, becoming non-judgmental about outcomes and mental management. These traits carry over and help you in every day life. Some sports now are con-

sidered 75 percent mental once the physical and the basic skills are learned.

And what about "never give up?" Arthritis and asthma are always with me and challenge me I have to alter some training procedures but that doesn't stop me. As they say, "it is a bend in the road and not the end of the road." You should use every such obstacle as a stepping stone, as a learning process, not as a stumbling block.

After the bicycle collision, I took up basketball using the free throw technique to stretch the hand that had been smashed. And now, I am using golf technique to strengthen that same left hand.

Another challenge came when my right hand was in a cast. I learned to use the left hand to compete in javelin, discus and shot put and I qualified for the National Games, placing within about 2 feet of what I had been throwing with my right hand.

With the right hand still in the cast I won the National Summer biathlon, running and shooting 9 out of 10 bulleye's. You set your own limitations.

Physical fitness is a way of living, that is what we should be trying to get over. It is not going to the health club once a week. Every minute, every day, physical fitness should be a part of your lifestyle regardless of your age, but especially for seniors.

As the aging process goes on it reduces your muscular strength and endurance to some extent. For some maintaining fitness is strictly for good health. For others, it may be physical fitness with emphasis on developing and toning the body. For others, it is competitive fitness for a particular sport for testing their skills against others.

Whatever the choice, exercise and physical activity should be combined with good nutrition and adequate sleep and relaxation. Each individual needs to find an activity that they enjoy and do it regularly and frequently. Participating with a group often helps to keep you notified.

One simple but effective guideline formula for good nutrition is to let your medicine be your food and your food be your medicine. Eat a variety of foods, lots of fruits and vegetables, do not over eat and drink lots of fluids.

Likewise, let your daily routine, your housework, your work routines, supplement your training. Sweeping, repairing a fence, planting a garden, painting, washing by hand, walking up and down the steps instead of using the elevator, walk to go see a friend, park your car a block away, and walk to work, church or to the store.

All of this strengthens your body and keeps you flexible. Choose a hobby and go for that mentally and physically.

The National Senior Games Association and its affiliated State Senior Games Programs offers a nucleus of planned activities for those people ages 50 and older. Your local Council on Aging should be your first contact for information about recreational activities, outdoor events and educational classes for seniors. Participation and good health will lead to a better quality of life.

The opportunities are out there, it depends on us to communicate where they are and what they are to help others get involved.

The National Senior Games has been the leader, aggressively and successfully fulfilling its motto: "Promoting Healthy Lifestyles

for Seniors Through Education, Fitness and Sports." Thank you for your time.

[The prepared statement of Ms. Norckauer follows:]



**Testimony  
of  
Mary Elizabeth Norckauer  
Senior athlete, Baton Rouge, Louisiana  
Before The Senate Special Committee on Aging  
September 14, 1999**

Testimony of Mary Elizabeth Norckauer  
Senior athlete, Baton Rouge, Louisiana  
before the Senate Special Committee on Aging  
September 14, 1999

I want to thank the chair and members of the Senate Special Committee on Aging for allowing me to testify today before you. I truly believe that all seniors in this country should be thankful to you for investigating and promoting the concept of healthy aging.

WHY am I involved now in sports and competition at the age of 74? It probably started with activities and the merit badge system (competition and self-discipline) in the Girl Scouts and playing games on the vacant lot next door. My parents taught us, "Whatever you do, give it your best effort." There always has been a competitive streak in me whether it is academics, dancing, sports, sewing, housework, gardening, etc. I often envy people who can do things on a recreational basis. Competition takes dedication, desire and lots of hard work along with self-discipline.

Sports and competition are my life. I approach the subject from many viewpoints. From my 35 years as University Professor of Health, Physical Education, Recreation and Dance as well as an educator, coach, and author; from my 10 years as an ice skater traveling all over the world with Holiday on Ice; as a dancer in operas and musical comedy; from my 30 years as a firearm instructor; and from my role as an athlete still competing and winning in numerous sports (archery, rifle pistol, high power rifle, swimming, cycling, track and field, weight throwing pentathlon, summer biathlon – cross country run with two stops to shoot a rifle – basketball, long distance road races, race walking, decathlon and triathlons!

At age 62, while teaching at Louisiana State University, I found out about the Louisiana Senior Olympic Games when the director asked me to manage the archery and shooting events. When people started arriving, I started asking questions and found out I was eligible to compete, too. So I entered four events and won two gold and two silver – on the spot with no practice. The next year, I was ready – entered nine events and won nine golds!

The idea of competing by age groups was a real equalizer. Up to that point, I had to compete in the open division – against all ages and sometimes against men. Tennis and Masters' swimming had age categories, but the idea was just appearing in other sports.

In 1987, I entered the first National Senior Games held in St. Louis and won six medals in an expanding list of sports. That was fun to watch how happy these "older" folks were that they could compete – and sometimes WIN!

Through the years my medal count for the Louisiana Senior Games is about 225, for the National Senior Games about 20 medals, some 250 for National Masters Track & Field, plus seven National Titles in the Summer Biathlon. In addition, I have numerous medals in multi-sport events (decathlon, run-bike-run and triathlon). At my first National Indoor Master's Track & Field Championship, I set four American Records, and since then have set numerous other American Records and World Records in triple jump and hammer throw. What a thrill! And the thought came, "Why did I wait so long to start in these other sports?" The answer – The National Senior Games Association wanted the seniors and was planning events for us!

In keeping with my philosophy "Never stop learning," I usually take one or two classes each semester at the University (foreign languages are my favorite) – it's mentally stimulating and being around the students keeps you in tune with "modern" life. I keep adding sports, also. Two years ago I went to a camp hosted by an Olympic Coach for sculling and sweep rowing. After two months practice, I entered the World Indoor Rowing Championships and placed second! Other World level medals include 10K cross country run, pistol, and the Weight Throwing Pentathlon (javelin, discus, shot put, hammer throw and weight throw) – and I only weigh 110 pounds!

My new sports besides the sculling are golf, badminton and pole vaulting. Even with all this practice and competing, I still have to find time for my business even though I retired from teaching in 1988. Being involved keeps you alert, gives you energy, offers a chance for travel and promotes better health. By competing in a variety of activities, you use different muscles and this cross training prevents overuse injuries.

The only time I have been in a hospital since having my tonsils out at about age 10 was about three years ago when a car ran into me while I was training on my bicycle and crushed my left hand. In 38 years of teaching, I missed only four days of classes, and that was a bad case of flu.

Along with physical activities, mental skills are developed, such as concentration, patience, self-discipline, goal setting, becoming non-judgmental about outcomes, and mental management. These traits carry over and help you in everyday activities, too. Some sports are considered 75% mental once the basic skills are learned.

And what about "Never give up" – occasional mishaps like the collision with the automobile and asthma challenge me so I have to alter some training procedure, but that doesn't stop me. "It is a bend in the road – but not the end of the road. Use every such obstacle as a stepping stone –not a stumbling block."

Once with my right hand in a cast, I learned to use the left hand to perform and qualify for the National Senior Games. I also ran in a summer biathlon race and shot seven out of 10 bullseyes in the Nationals.

Physical fitness is a way of living – every minute, every day. Physical fitness should be part of everyone's lifestyle regardless of age – but especially for seniors. Part of the reason is that as the body ages, the effects are to reduce muscular strength and endurance.

For some, maintaining fitness is only for good health; for others it may be physical fitness with emphasis on developing and toning the body; for others it is competitive fitness for testing skills against others. Whatever the choice, exercise and physical activity should be combined with good nutrition and adequate sleep and relaxation. Each individual needs to find an activity that they enjoy and do it regularly and often.

One simple but effective formula for fitness is to let your medicine be your food, and your food be your medicine. Eat a variety of foods, lots of fruits and vegetables and do not over eat.

Likewise, let your daily house and work routines supplement your training – sweeping, repairing a fence, planting a garden, painting, washing by hand. All of this strengthens your body and keeps you flexible. Choose a hobby and go for it – mentally and physically!

The National Senior Games Association and its affiliated State Senior Games programs, offer the nucleus of planned activities for those ages 50 and older. Local councils on aging are involved in organizing recreational activities, outdoor events and educational classes to keep the seniors active. A better quality of life depends on good health and participation. The opportunities are there.

That is the motto of the National Senior Games Association – “promoting healthy lifestyles for seniors through education, fitness and sports.”

Mary Elizabeth Norckauer  
Louisiana senior athlete

The CHAIRMAN. Thank you.

You scare me. [Laughter.]

Ms. NORCKAUER. I make you tired just listening.

The CHAIRMAN. Mr. McVicker.

**STATEMENT OF GEORGE McVICKER, AGE 59, COMPETITIVE CYCLIST IN UPCOMING NATIONAL SENIOR GAMES, WEST DES MOINES, IA**

Mr. McVICKER. Well, I may preface this by saying I am definitely the rookie in this particular crowd after listening to that.

Senator, members of the committee, my name is George McVicker and I am a senior Iowa athlete from West Des Moines, Iowa. I would like to thank the Chairman, Senator Charles Grassley as well as Senator Breaux and all the members of the committee for inviting me here today to testify.

If it was an accepted practice to place a title on testimony delivered before you, mine would be, fitness and well-being bring true guidance that becomes the spark to release and direct power.

As a young high school student ready to graduate in 1957, I was debating between the choice of which two careers to embark on. One career was to pursue architecture and to build structures that would last a lifetime. The other career choice was to pursue teaching and coaching and build bodies and minds that would last for a lifetime. It became apparent, even at a young age, that the most important of the two was the latter. And my decision to become teacher of physical education and exercise science was the correct decision.

As a young teacher, the coaching just simply went along with the teaching. I wasn't totally aware of how important the competition that goes along with training to be strong, to be flexible, to be fit was. It wasn't until later that I recognized that competition whether as a team member or individually was a necessary element to the continued motivation factor important in staying healthy and fit.

Research tells us that exercise is important in maintaining a healthy, functional body throughout our lifetime. It tells us that we should take time each day to exercise. It tells us what we should do to get the most from our exercise program.

Research even goes so far as to tell us what we need to do to improve our compliance to exercising. But the one ingredient that is overlooked by many is that compliance to exercising must be built around enjoyment and having fun and it must include competition on some level to produce success or help one strive for goals.

We accomplish things because on the way to reaching our goals we are having fun. We enjoy the accolades given to us by other people as we pursue our goals and we enjoy the God-given gift competing in challenges that they provide, whether it is against another athlete or against ourselves.

As one who has exercised all my life, it would be easy to assume that exercising would come easy for me, mainly because of being around it all the time, and because of understanding its merits. To a certain extent this is true but like others, rote activity doesn't always create compliance.

The times that were the most difficult to maintain a routine of daily or weekly exercise were the times when competition or challenges were limited and the goals I strived to reach were simply not there. And even as one whose profession promoted exercise, it took a while before I realized that it wasn't until the times that I plugged into various forms of competition that I moved up the fitness ladder.

Reaching the middle 50's, many of the forms of competition that I enjoyed that motivated me to maintain a healthy, fit lifestyle were simply not available. Plugging into the Iowa Senior Games served as a catalyst for me to continue a high level of activity and exercise as I look forward to competing against athletes in my age group.

Yes, to win but also to have fun and to enjoy the competition. My goal for exercise and fitness at the present time is to become a national champion in cycling. I am not a former cyclist reliving my younger athleticism. I am a current cyclist because 5 years ago I found out how cycling would enhance my fitness level without the pressure and pain on my body that was being created by other forms of exercise.

I am a current cyclist, not so much because I understand the value of the exercise it provides, but because somebody told me about the cycling races at the Iowa Senior Games and competing in them stirred a latent desire for me, a thrill and excitement and the fun of competition that I had kind of forgotten over the years.

To reach my goal, I will have to exercise almost daily. I will have to push my body to become more flexible. I will have to maintain good muscle-to-fat ratio. I will have to train my muscles to extend their stamina levels and their ability to contract longer and more efficiently and I will have to push my cardiovascular system to reach and sustain levels close to maximum for the duration of the races. In short, I will need to do the things that will provide me with a healthier body.

But without the goals of succeeding in competition that is provided by the National Senior Games, this level of exercising and of reaching this level of fitness or any increased level of fitness for seniors would be almost impossible.

Even for a person like myself, who has spent a lifetime working with young people and adults in improving health, exercise and fitness I find that competition is vital.

As a former Clydesdale, who now believes he can compete with the thoroughbreds, I applaud the Senior Games organizations on the state level and especially the National Senior Games Association for providing outstanding athletic competition in a multitude of sporting events. And I thank them for providing a motivational outlet for thousands of seniors enabling us to reach a pinnacle of health and fitness.

Senator and members of the committee, I hope you all have a chance to attend and feel the enthusiasm and excitement that has been created all across this nation by the 1999 National Senior Games in Orlando.

Thank you.

[The prepared statement of Mr. McVicker follows:]

**Testimony  
of  
George McVicker  
Senior athlete, West Des Moines, Iowa  
Before The Senate Special Committee on Aging**

**September 14, 1999**



**Testimony of George McVicker  
Before The Senate Special Committee on Aging  
September 14, 1999**

My name is George McVicker; I am a senior Iowa Athlete from West Des Moines. And, I would like to thank the chairman and my Senator, Charles Grassley, as well as Senator Breaux and all the members of the Committee for inviting me to testify here today.

If it was an accepted practice to place a title on testimony delivered before you mine would be "FITNESS and well-being bring true GUIDANCE that becomes the spark to release and direct POWER."

As a young high school student, ready to graduate in 1957, I was debating between the choice of which of two careers to embark on. One career was to pursue architecture, and to build structures that would last a lifetime. The other career choice was to pursue teaching and coaching and build bodies and minds that would last for a lifetime.

It became apparent even at a young age that the most important of the two was the latter, and my decision to become a teacher of physical education and exercise science was the correct decision.

As a young teacher, the coaching just simply went along with the teaching. I wasn't totally aware of how important the competition, that goes along with training the body to be strong, flexible, and fit was. It wasn't until later that I recognized that competition, whether as a team member or individually, was a necessary element to the continued motivation factor important in staying healthy and fit.

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tells us what we should do to get the most from our exercise program. Research even goes so far as to tell us what we need to do to improve our compliance to exercising.

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We accomplish things, because on the way to reaching our goals, we are having fun. We enjoy the accolades given to us by other people as we pursue our goals, and we enjoy the God-given gift of competing and the challenges it provides, whether it is against another athletes or against ourselves.

As one who has exercised all my life, it would be easy to assume that exercising would come easy for me, mainly because of being around it all the time, and because of understanding its merits. To a certain extent this is true; but, like others, rote activity doesn't always create compliance. The times that were the most difficult to maintain a routine of daily or weekly exercise were the times when competition or challenges were limited and the goals I strived to reach were not there. And even as one whose profession promoted exercise, it took a while before I realized that it wasn't until the times that I plugged into various forms of competition that I moved up the fitness ladder.

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exercising. I am a current cyclist not so much because I understand the value of the exercise it provides, but because somebody told me about the cycling races at the Iowa Senior Games and competing in them stirred a latent desire in me for the thrill, excitement, and fun of competition.

To reach my goal of being a National Champion I will have to exercise almost daily. I will have to push my body to become more flexible. I will have to maintain good muscle-to-fat ratio. I will have to train my muscles to extend their stamina levels and their ability to contract longer and more efficiently, and I will have to push my cardiovascular system to reach and sustain levels close to maximum for the duration of the races. In short, I will need to do the things that will provide me with a healthier body.

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As a former Clydesdale, who now believes he can compete with the thoroughbreds, I applaud the Senior Games organizations on the state level and especially the National Senior Games Association for providing outstanding athletic competition in a multitude of sporting events. And I thank them for providing a motivational outlet for thousands of seniors, enabling us to reach a pinnacle of health and fitness.

I hope you all have a chance to attend and feel the enthusiasm and excitement that has been created (all across this nation) by the 1999 National Senior Games in Orlando.

George McVicker  
Iowa Athlete

1025 19th Street  
West Des Moines, Iowa 50265

The CHAIRMAN. Thank you, Mr. McVicker.  
Now, we go to Dr. Wetle.

**STATEMENT OF TERRIE WETLE, PH.D., DEPUTY DIRECTOR,  
NATIONAL INSTITUTE ON AGING, NATIONAL INSTITUTES OF  
HEALTH, BETHESDA, MD**

Dr. WETLE. Mr. Chairman, and members of the committee, I am Dr. Terrie Wetle of the National Institute on Aging and I wish to thank you for inviting NIA to participate in this hearing and also to applaud you for leadership in efforts to promote the benefits of exercise among older people.

In the 16th Century Ponce de Leon failed in his search for the Fountain of Youth. Aging is an inevitable part of life. But on the verge of the 21st Century, we are recognizing that there is a key to living a healthier, longer life and to helping people feel younger throughout their life. That key is exercise.

Exercise does not guarantee eternal youth, but it can help prolong healthy life and improve the quality of that life especially in later years. And there is research to support these assertions.

Americans would pay almost any price if we could invent a pill that contained all the benefits of exercise: Increased life expectancy, improved mental health, decreased disability. Unfortunately, despite these improved benefits, many Americans, especially older Americans, are not engaging in regular sufficient physical activity.

In 1996, the Surgeon General's Office issued the landmark report entitled, "Physical Activity and Health" a report that documented what had been found in many studies: Namely that older adults are more likely to be inactive than individuals in any other age group. While fewer than 1 in 4 adults in the age group of 18-through-29 engage in no physical activity, among people 75-and-older one-third of men and one-half of women are inactive.

Chart 1 illustrates how inactivity rates increase as people age. Seventeen percent of men aged 60-through-69 reported participating in no physical activity and 40 percent of men over the age of 80 reported no physical activity.

As you can see, it is even worse for women. Thirty percent of women between the ages of 60-through-69 report engaging in no physical activity and this increases to 62 percent of women over the age of 80.

Physical activity levels also differ among racial and ethnic groups. Thirty-five percent of African Americans and 40 percent of Mexican Americans of all ages report no physical activity as compared to 18 percent of Caucasians.

So, the message is clear: Regardless of gender or of ethnic status, Americans, particularly older Americans, are not exercising as much as they should to achieve the many associated benefits.

So, what are these health benefits? Simply stated, exercise can improve your mood, relieve depression, and help delay the onset of disabilities and life-threatening diseases. Lack of physical exercise and poor diet, taken together, are the second leading underlying cause of death in the United States. Smoking is No. 1.

People who exercise not only feel better, they live healthier and longer lives. And it is never too late to start exercising.

Research also indicates that moderate physical activity can prevent disability in later life. Physically active older adults double their likelihood of living lives free of disability compared to sedentary older adults. Such physical activities don't have to involve the strenuous sports reported earlier on this panel by senior athletes but can include walking or gardening. The positive effects of walking were just affirmed last month in the *New England Journal of Medicine* in a report from the NHLBI-supported nurses health study noting that brisk walking three times a week cut the risk of heart disease in women by a full 40 percent.

Exercise can also increase our life expectancy. On Chart 2, we show results from a study by Dr. Steven Blair at the Cooper Institute in Dallas. In a study of 9,000 men, aged 20-through-82, he showed that men 60 and older who became fit over a 5-year period, in other words they went from unfit to fit, had a 50 percent lower death rate than those men who remained unfit. Certainly the men who started fit and stayed fit, did the very best, but becoming fit, even in later life, has strong benefits.

Exercise can also reduce symptoms associated with chronic disease. Researchers at Bowman Gray and the University of Tennessee tested the effects of two types of exercise in helping people with osteoarthritis of the knee and they showed that both weightlifting and aerobic training improved pain reports as well as improved function as compared to people participating in simply a health education effort.

Positive results have been shown in relieving other conditions, such as chronic pain or peripheral artery disease. Exercise also improves our brain function. Moderate exercise improves sleep, both in people with depression or with no signs of depression. It can improve cognition and animal studies have shown that exercise can enhance the generation of new brain cells even in older animals.

Exercise improves fitness and reduces falls. Hip fractures are a major cause of disability among older persons. A study done at Yale University by Mary Tinetti and her colleagues indicated that a multi-factorial risk reduction intervention for falls, including exercise, could reduce falls by as much as 40 percent and also led to cost savings of \$3,700 as compared to the control group.

Controlled studies in frail nursing home residents, as old as 98 years of age, found that a 10-week program of resistance training with weights doubled leg strength, increased walking speed, improved stair climbing, and led to increased spontaneous physical activity.

We have trouble however encouraging older people to exercise. But we are learning about this too. It has been shown that home based exercise is particularly attractive to older people and the *Exercise Guide* produced by the National Institute on Aging shows how people can tailor exercise for themselves to improve the quality of their lives.

Working with Senator and Astronaut John Glenn, we have produced Public Service Announcements that have been shown on television and were recently nominated for an Emmy Award and *Parade Magazine* just this Sunday focused on our exercise guide. To date, we have distributed more than 230,000 free copies of the guide.

What are our future directions? Kenneth Manton in research using the National Long-Term Care Survey has shown that indeed, the health of older people is improving. He calculated that there are at least 1.4 million fewer older disabled Americans in 1994 than there would have been if disability rates had not improved since 1982. These findings have been replicated by Vickie Freedman and her colleagues at Rand using different data and show that these improvements are, indeed, accelerating.

The NIA is working with other NIH institutes in encouraging research in the area of long-term health behavior change. We anticipate working with you and other members of the Senate and Congress and your colleagues to promote good health practices among older people.

Once again, thank you for inviting the NIA to participate in today's hearing. We look forward to your questions.

[The prepared statement of Ms. Wetle follows:]

**DEPARTMENT OF HEALTH AND HUMAN SERVICES**

**NATIONAL INSTITUTES OF HEALTH**

**NATIONAL INSTITUTE ON AGING**

for the

**SENATE SPECIAL COMMITTEE ON AGING**

**Hearing on Healthy Aging**

Dr. Terrie Wetle, Deputy Director

National Institute on Aging

September 14, 1999

**Statement of Dr. Terrie Wetle  
Deputy Director, National Institute on Aging  
Senate Special Committee on Aging  
Hearing on Healthy Aging  
September 14, 1999**

I am Dr. Terrie Wetle, Deputy Director of the National Institute on Aging, and on behalf of the Institute and our Director, Dr. Richard Hodes, I thank you for asking the NIA to participate in this important hearing. I applaud you, Mr. Chairman, and the other members of the committee, for your leadership and for recognizing and promoting the benefits of exercise for older people.

As the 16<sup>th</sup> century explorer Juan Ponce de Leon discovered, the fountain of youth does not exist. Aging is an inevitable phase of the life cycle. In the twentieth century though, we have discovered a key to helping people feel younger and stay healthier—exercise. Exercise, while it does not guarantee eternal youth, can help prolong healthy life and improve the quality of that life, especially in later years. Recent scientific research advances support these assertions.

Americans would pay almost any price for a pill that contained all the benefits associated with exercise: increased life expectancy, improved mental health, and decreased disability. Scientific research has shown repeatedly that exercise can benefit both the body and mind. Unfortunately, despite the proven benefits of exercise, many Americans—especially older Americans—are not engaging in regular, sufficient physical activity. NIA supported research is expanding our understanding of the benefits of physical fitness as well as the factors that motivate and deter people from making exercise a part of their daily routine. The importance of exercise research cannot be underestimated—particularly as our population ages.

**Exercise and Older Adults**

In 1996, the Surgeon General's office issued its landmark report, "Physical Activity and Health." This report, which featured a comprehensive review of relevant research, included revealing statistics about levels of physical activity among people of varying ages. Regardless of the survey, results were consistent: older adults are likely to be more inactive than individuals in other age groups. According to survey data from 1988 to 1992, fewer than one in four adults aged 18-29 years engaged in no physical activity (aerobic, flexibility and muscle strength activities), whereas about one in three men and one in two women over 74 years of age were inactive.

Chart 1 depicts data from the third National Health and Nutrition Examination Survey (NHANES) (1988-1991) and illustrates how inactivity rates increase as people age. Moreover, women are considerably less active than men. According to 1988-1991 NHANES study data, 30 percent of women between the ages of 60-69 engaged in no leisure time activity, as compared to 17 percent of men in the same age group. For



individuals 80 years and older, the difference is even more dramatic: 62 percent of women reported engaging in no physical activity as compared to 40 percent of men.

Physical activity levels also differ among racial and ethnic groups. Researchers at American University recently assessed NHANES data and concluded that the age-adjusted prevalence of leisure-time inactivity is higher among African Americans (35%) and Mexican Americans (40%) than among Caucasians (18%). These differences persisted across almost every demographic category, including age, education, family income, occupation, employment, poverty and marital status. The message is clear: regardless of gender and socio-economic status, older people are not exercising as much as they should to achieve the many health benefits that scientific research has linked to regular physical activity.

### **The Benefits of Exercise**

Simply stated, exercise can improve your mood, relieve moderate depression, and help delay the onset of disabilities and life-threatening diseases. Lack of physical activity and poor diet, taken together, are the second largest underlying causes of death in the United States. (Smoking is the number one cause.) People who exercise not only feel better, they live healthier, longer lives than their non-active counterparts. The good news is that it is never too late to start, and even moderate exercise can have a beneficial effect.

### **Prevents Disability**

Studies have shown that moderate physical activity may prevent disability later in life. Recent epidemiological analyses supported by the NIA demonstrate that disability-free life expectancy is substantially longer in persons who engage in exercise. In a study published this year in the *American Journal of Epidemiology*, NIA-supported researchers reported that physically active older individuals had a twofold-increased likelihood of living the remainder of their lives with no disability compared with sedentary adults. They were more likely not only to live to advanced old age, but also to remain independent in basic self-care activities in the year prior to their deaths (Leveille, et al., *Am J Epidemiol*, 1999). It should be noted that moderate physical activity in this study included walking and gardening—two activities that are feasible for many older adults. The positive effects of moderate exercise, in particular walking, were reaffirmed as recently as last month when the *New England Journal of Medicine* published findings from the Nurses' Health Study supported by the National Heart, Lung, and Blood Institute that concluded brisk walking three hours a week can cut the risk of heart disease in women by as much as 40 percent, equivalent to the benefits of regular, more vigorous exercise.

### **May Increase Life Expectancy**

Studies have begun to identify a link between exercise and increased life expectancy. Dr. Steven Blair and colleagues at the Cooper Institute in Dallas demonstrated that higher fitness (as measured by performance on an exercise treadmill test) is associated with

lower mortality rates in men. Their study (Chart II) included 9,000 men aged 20 to 82 and compared death rates in physically unfit men who remained unfit over five years with men who became fit during the same period. The study found that unfit men aged 60 and over who became fit had death rates 50 percent lower than those who remained unfit. This relationship could be due either to factors, which are beyond the individual's control (e.g. variations in aerobic power among individuals due to genetic factors), or to aspects of fitness that are modifiable by factors such as physical activity, or to both kinds of factors (Blair, *JAMA*, 1995). There may also be a self-selection bias as to who chose to become fit. Nonetheless, the findings provide powerful evidence as to the potential health benefits of exercise. Future research is necessary to elucidate the relationship of exercise to this observed reduction in cardiovascular disease mortality rates among men.

The health benefits of a healthy lifestyle are considerable. For example, persons who both exercise and avoid smoking live longer. In a collaborative study by NIA researchers and the National Research Institute in Florence, Italy, non-smokers were found to live about five years longer than smokers do. People who reported moderate to high levels of exercise lived three or more years longer than less active study participants—whether or not they had ever smoked (Ferrucci, et al., *Am J Epidemiol*, 1999). Healthy habits of avoiding smoking and engaging in exercise each by themselves contribute to active life expectancy, and the best outcome is for those who both exercise regularly and avoid smoking.

#### **Reduces Symptoms Associated with Chronic Diseases and Other Health Conditions**

Exercise can also benefit people suffering from a variety of physical ailments, such as osteoarthritis, a common condition and a major cause of pain and activity limitation in older people. The Fitness Arthritis and Seniors Trial (FAST), conducted by the Bowman Gray School of Medicine and University of Tennessee Older Americans Independence Center, tested the long-term utility of two types of exercise, aerobic training (walking) and resistance training (weight lifting), in helping older people with knee osteoarthritis maintain their function and quality of life. Participants in weight lifting or aerobic training reported less pain and better function than those participating in a health education group. The rate of injury was very small and there was no evidence the arthritis was made worse by exercise (Ettinger, et al., *JAMA*, 1997). Other studies have examined the effects of exercise on other conditions, such as chronic pain and peripheral arterial disease, and observed similar positive results, particularly regarding improved pain management.

The effects of exercise on the body's neurological functions have also been studied. Moderate exercise improves quality of sleep among elders with no symptoms of depression as well as persons who have depression (Singh, *Sleep*, 1997). In addition, animal studies tell us that exercise can enhance generation of brain cells, which may someday mean that neurons lost through age, trauma, or disease might be replaced via a prescribed regimen of exercise (Kemperman, et. al., *Nature*, 1997; Kemperman, et.al., *Jour Neuroscience*, 1998; Van Praag, et.al., *Nature and Neuroscience* 1997).

### **Improves Fitness and Reduce Falls**

Exercise, specifically high-intensity resistance training, can counteract muscle weakness and physical frailty even in very elderly people. Controlled studies in frail nursing home residents, both men and women from 72 to 98 years of age, found that a ten-week resistance exercise program approximately doubled leg strength, increased walking speed by 11 percent, improved stair-climbing power by 28%, and led to increased spontaneous physical activity, when compared with controls (Fiatarone, *NEJM*, 1994).

Exercise interventions have also been incorporated into successful fall prevention strategies. Every year, more than 250,000 hip fractures occur among older persons. Falls are the primary cause of these costly and painful injuries. Researchers at the Yale University Older Americans Independence Center conducted the first randomized controlled trial using a variety of interventions, including strength training, to reduce falls in older people. Over a one-year follow-up period, the treated subjects had a 44% lower rate of falls than a control group that received social visits only. The intervention was also shown to be cost-effective, particularly among individuals at high risk for falling. The results show that intervention strategies reduced the average annual cost of health care for high-risk individuals by nearly \$3,700 (Tinetti, et al., *NEJM*, 1994 and Rizzo, et al., *Medical Care*, 1996).

### **Encouraging Exercise Across the Life Span**

Despite increasing, compelling evidence about the benefits of exercise, we still have trouble convincing people to adopt active lifestyles. As a result, the NIA is supporting research to understand both what motivates older people to exercise and precludes them from making a long-term commitment to an exercise program.

The research has shown that effective strategies for encouraging people to exercise includes the adoption of home-based programs. A study conducted by researchers at Boston University found that a home-based exercise training program, called Strong-for-Life, which consisted of a series of videotaped exercise routines using elastic bands and motivational messages (and, for half of the group, instruction from a physical therapist) improved exercise participation rates (Jette, et al., *AJPH*, 1999). Programs tailored to meet an individual's needs and preferences can also help to improve participation rates. In a survey conducted last year by researchers at Stanford University, more than half of the older respondents (67%) reported that they preferred to exercise on their own with some instruction rather than in an exercise class (Wilcox, King et al., *Jour of Aging and Phy Activ*, 1999).

The Community Healthy Activities Model Program for Seniors (CHAMPS) is an example of a successful physical activity promotion program that tailors the activity to accommodate each person's health problems, preferences for type of activity, ability, and other factors. The program, having been pilot tested with elders living in low-income congregate housing and with members of a Medicare HMO, demonstrated that over a one-year period it was successful in increasing the physical activity level of people 65

years or older. At two years, participants maintained about half of the increased levels of physical activity (Stewart et al., *Annals of Beh Med*, 1997 and Stewart et al., Presentation at Cooper Institute, 1997). CHAMPS has become a model for a program offered through the State of California Department of Health Services through their Physical Activity "Active Aging Community Mini-Grant Program."

Last year, the National Institute on Aging published a free manual, *Exercise: A Guide from the National Institute on Aging*, which is the cornerstone of the Institute's ongoing campaign to encourage older people to exercise. The Guide, which is based on scientific evidence, is intended to help people design their own exercise program so they will maintain and enjoy it. It offers safety tips and information about nutrition, and demonstrates a variety of easy stretching, balance, and strength training exercises people can do at home with equipment as simple as a chair and empty milk jugs filled with sand. To date, the Institute has distributed over 200,000 copies of the guide. Former United States Senator John Glenn is helping NIA promote the guide, and public service announcements (PSA) have run on television and radio stations throughout the country, encouraging people to order it. The Institute is honored that the National Academy of Television Arts and Sciences recently nominated its series of exercise PSAs for an Emmy.

Accommodating individual needs though is not enough to ensure that people will start and maintain an exercise program. Researchers have learned that ethnicity can affect the perceptions individuals have about exercise and their willingness to enter and participate in community-based exercise programs. Interventions can be more effective if they are adapted to cultural expectations and beliefs and community structures. For example, an aerobic dance class using music familiar to a particular ethnic group may be particularly effective in encouraging compliance in participation.

People are also more likely to be motivated to exercise if their physician recommends it. Unfortunately, a study conducted by researchers at the University of California at San Francisco found that less than 50% of older adults ever receive a physician's suggestion to exercise (Damush et al., *Jour Geron Med Sci*, 1999). This finding suggests that physicians should be encouraged to recommend exercise for older people if we expect to see physical activity rates increase in the future.

#### **Future Directions**

The amount of information research has uncovered about the positive effects of exercise is impressive. Nonetheless, many questions remain unanswered about exercise and its role in improving the health of older people.

Recently reported research in declining disability rates among older persons may be associated with improved health habits. In 1997, Dr. Kenneth Manton and his colleagues at Duke University published findings, based on waves of data from the National Long-Term Care Study, which demonstrated a dramatic and unexpected reduction in rates of disability among older persons. Manton calculated that at least 1.4 million fewer older

Americans were disabled in 1994 than there would have been if disability rates had not improved since 1982, and that these reductions accelerated over the 12 years (Chart III). Manton's conclusions were met with considerable skepticism, and efforts were launched to either disprove or support these findings.

In early 1998, Vicki Freedman and Linda Martin of RAND, using a different dataset and different measures of functional ability, found equally large declines from 1984 to 1993 in the prevalence of chronic disability, after controlling for changes in the composition of the population during the study period. They also found that improvements in functioning in absolute terms were greatest among those 80 and older. The extent to which physical activity has played a role in this decline in disability, or may play a role in accelerating the rate of disability decline in the future, are questions that researchers will continue to examine.

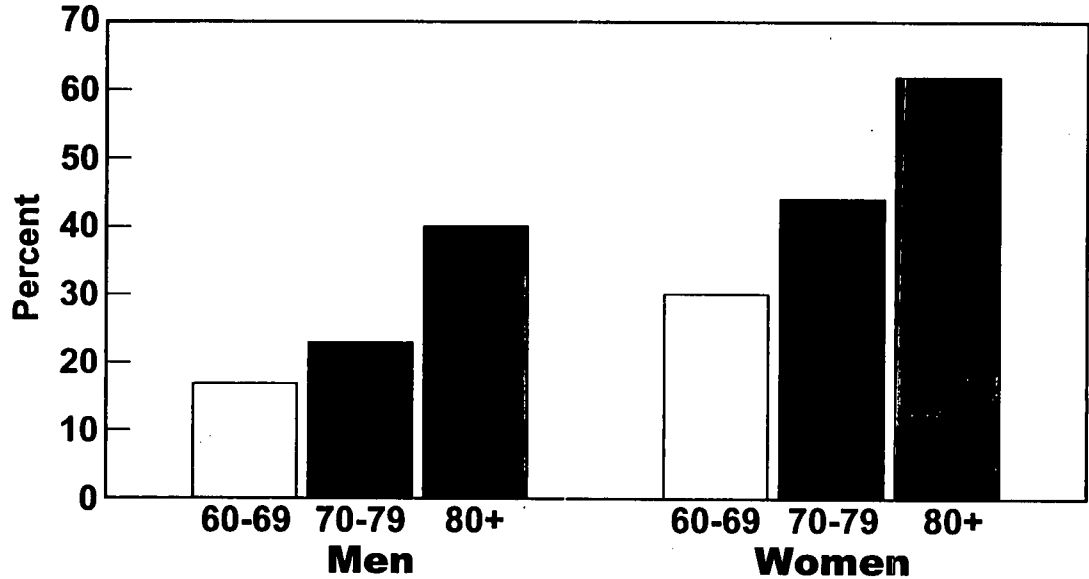
The NIA, as well as other Institutes at the National Institutes of Health, are committed to funding high quality research that enhances our understanding of exercise and how people of all ages can be motivated to engage in physical activity. NIH, as an indication of its commitment to this area of research, has issued a request for applications (RFA) that is being supported by 17 of the NIH Institutes, including NIA, several NIH central offices and the American Heart Association. This RFA will support research on interventions designed to achieve long-term health behavior change. Insufficient exercise is one of the health behaviors that will be examined by projects funded under the RFA.

We anticipate sharing these advances with the Congress and working with you and your colleagues to promote good health practices with the American people.

Once again, thank you for inviting the NIA to participate in today's hearing. I look forward to answering your questions.

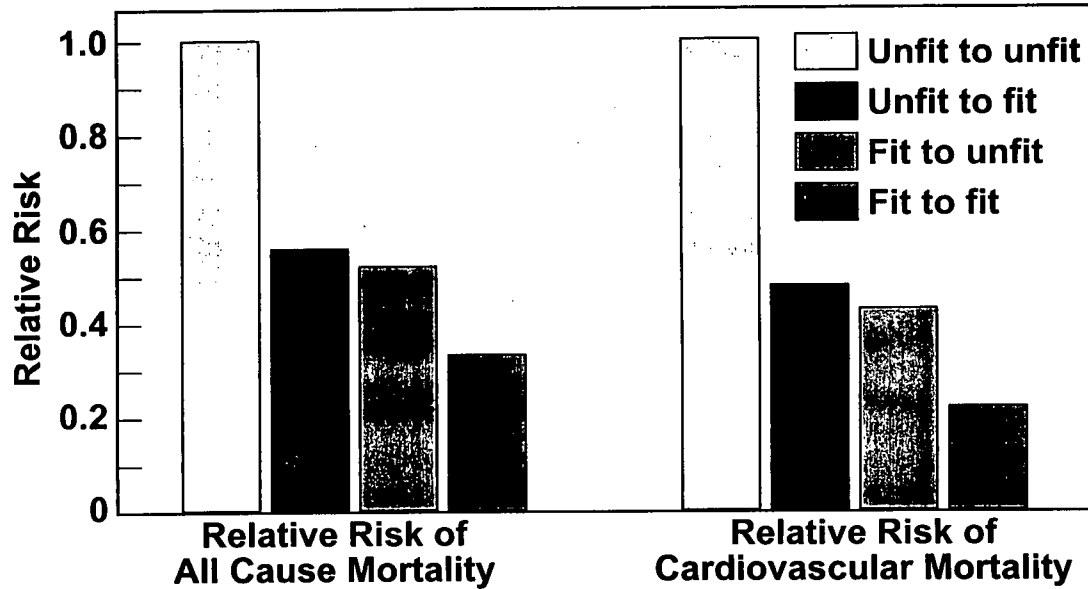
# Exercise and Older People Inactivity Increases with Age

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Sources: *Archives of Internal Medicine*, 1996, and Report of the Surgeon General, *Physical Activity and Health*, 1996.

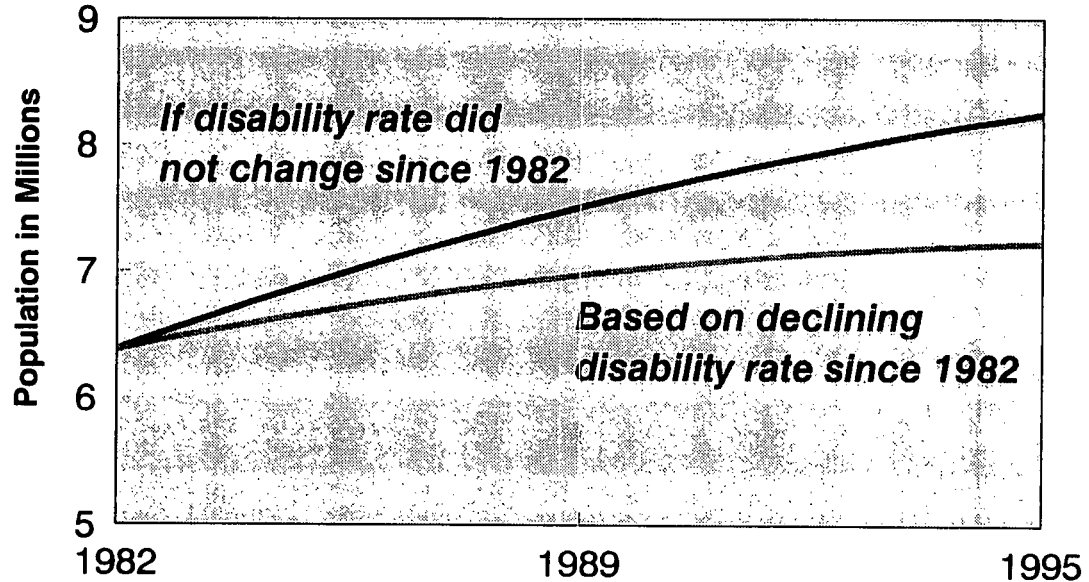
# Becoming Physically Fit Reduces Mortality



Source: Blair et al., JAMA, 1995.

# Projected vs. Actual Number of Chronically Disabled Americans 65 and Older

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Source: National Long-Term Care Survey, 1982-1995.

Chart III



The CHAIRMAN. Thank you very much.  
Now, we go to the last witness, Dr. Fries.

**STATEMENT OF JAMES F. FRIES, M.D., EXPERT ON HEALTHY AGING, PROFESSOR OF MEDICINE, STANFORD UNIVERSITY SCHOOL OF MEDICINE, PALO ALTO, CA**

Dr. FRIES. Chairman Grassley and members of the committee, it is, indeed, a pleasure to be here. I feel I have to credential myself in this athletic crowd here. I had in my 50's set out to climb the highest mountain on every continent, a record that still has not been met. I missed it by a little bit.

Three weeks ago I was, at age 61, running in the Pike's Peak Marathon, which is quite a vertical ascent over a short period of time. So, I credit all my betters and my elders who are at the table with us today.

The health of seniors is both our largest national health problem and our largest national cost problem, our largest economic problem. Lack of regular exercise is the single largest contributor to disability, diminished quality of life and unnecessary medical expenses for seniors.

I will make three points and briefly explore their policy implications. First, the theory behind healthy aging can be represented by the term, "Compression of Morbidity." Second, new data show postponement of disability and infirmity in seniors by 8 to 12 years by regular exercise and changes in other risk factors.

Third, randomized controlled trials in seniors prove our ability to increase exercise, to improve other behavioral risk factors, to improve health and to reduce Medicare costs in seniors.

First chart. The Compression of Morbidity theory predicts reductions of lifetime disability, shown on the chart as the shaded areas, and of medical care costs, shown similarly, by compression of the morbidity between an increasing average age at onset of disability and the average age at death—the two arrows of the figure.

The healthy life is seen as a life vigorous and vital until shortly before its natural close. The strategy is that of postponing the onset of disability and of high medical costs through prevention. However, for much of this century there was movement away from this ideal with a steady increase in the proportion of a typical life spent disabled or infirm.

The acute infectious diseases of 1900 had given way to chronic diseases, resulting in longer periods of disability and morbidity.

If people took better care of themselves and exercised and lived longer, some suggested they would live longer and into those later years where disability is the greatest and that they would actually experience an increase in overall lifetime disability. Such critics feared that good health habits would lead to a large population of enfeebled, demented elders who would pose an immense strain upon medical care resources.

In the chart, current lifetime disability is represented as the top line and is concentrated between an average age onset of age 55, and the average age at death now just over 75 years.

When considering future scenarios, extension of morbidity on the second line occurs if longevity is increased but the onset of disability remains the same. This is the worst scenario. Compression of

Morbidity, on the third line, occurs if disability is postponed more than longevity is extended, as with the effects of exercise.

New data now document the ability of exercise to greatly postpone the onset of disability. For 14 years our research group at Stanford has studied the effects of long-distance running and other vigorous exercise on patient outcomes in 537 members of a senior runners club now averaging 70 years of age compared with 423 similarly aged community controls. Disability levels were assessed each year allowing the area under the disability curve, that shaded area of the previous slide, to be computed.

Both male and female runners, exercising vigorously for an average of 280 minutes per week, delayed the onset of disability by 8 to 12 years, compared with controls. Longevity differences between these groups, on the other hand, are projected as only 2 to 3 years, bringing those arrows together.

Both male and female exercisers, as shown on the bottom two lines on the top panel, increased disability at a rate only one-third that of the controls after adjustment for all of the relevant covariats. The percentage of subjects with more serious disability, in the bottom panel, was even more different between controls and exercising agents.

As these subjects moved from age 58 toward age 70 the differences in disability rates between the exercising group on the bottom line and the control population shown on the top line actually increased rather than decreased. Lifetime disability in exercisers is only one-third that of sedentary individuals, and at a disability level of 0.1 on a scale of 0-to-3, disability is postponed by more than 12 years in the exercising group compared with the controls—a truly striking amount. You can imagine a senior population, a Medicare population which ages physically 12 years more slowly than at present.

We have reported similar results in the University of Pennsylvania Alumni study and a number of studies by other groups confirm these findings as you have just heard.

Daviglus showed very substantial decreases in Medicare costs for those with few health risk factors in mid-life. Freedman & Martin showed significant age-specific functional improvement in seniors over a recent 7-year period. Reed and colleagues related healthy aging to previous health risks with results closely similar to ours.

Randomized control trials, which are how we take our theory and our epidemiology into practice, prove our current ability to achieve healthier and less costly senior lives through relatively inexpensive health improvement programs costing less than \$100 per year, per person, in contrast to the \$5,574 per year currently expended in care for these same people.

The Bank of America retiree study, the very large California Public Employment Retirement System trial, disease-specific trials in arthritis and in Parkinson's disease and trials of self-management materials among others, have documented our ability to both reduce health risks and to achieve a substantial return on investment.

Health policy implications follow. The Health Care Financing Administration must be enabled to provide effective health improvement programs for all Medicare beneficiaries. The cost would be

modest. Specifically this requires revision of Sections 1861 and 1862 of the Medicare enabling legislation.

Second, incentives for behavioral risk reduction in seniors need to be provided as perhaps with reduction in deductibles.

Third, a review process must limit covered programs to those with proven effectiveness. We do not need more ineffective programs.

Risk reduction must become an essential part of HCFA planning and organization must follow.

Research through the AHCPR and the National Institute on Aging must work toward improved behavioral interventions and rigorous program evaluation.

Federal efforts must be coordinated to allow efficient implementations of programs that now exist and can be extended to our senior and Medicare populations.

A healthier senior population is an achievable goal, Mr. Chairman, and the personal and societal benefits can be very large, indeed.

Thank you.

[The prepared statement of Dr. Fries follows.]

**TESTIMONY**

**United States Senate Special Committee on Aging**

**September 14, 1999  
Senate Hart 216**

**Exercise, Health Risks, and the Health of Seniors**

**James F. Fries, M.D.  
Professor of Medicine  
Stanford University School of Medicine**

The Health of Seniors is both our largest national health problem and our largest national economic problem. Lack of systematic, regular exercise is the largest single contributor to disability, diminished quality-of-life, and unnecessary medical expenses for seniors.

I will make three points and briefly explore their policy implications. First, the underlying theory behind healthy aging is represented by the Compression of Morbidity paradigm. Second, new data document postponement of disability and infirmity in seniors by eight to twelve years through regular exercise and through changes in other risk factors. Third, major randomized controlled trials in seniors prove our ability to increase exercise, improve other behavioral risk factors, to improve health, and to reduce medical care costs.

[Figure 1]

The Compression of Morbidity paradigm envisions reduction of lifetime infirmity, shown on the chart as the shaded area, and of medical care costs by compression of the period of morbidity between an increasing average age at onset of disability and the average age of death.[1] The healthy life is seen as a life vigorous and vital until shortly before its natural close. The strategy is that of postponing the onset of disability and high medical costs through prevention of diseases and reduction in medical care costs. However, for much of this century there was movement away from this ideal, with a steady increase in the proportion of a typical life spent ill or infirm.[2][3] The acute infectious diseases of 1900 had given way to chronic diseases, resulting in longer periods of disability and

morbidity.

As people took better care of themselves and lived longer, some suggested, they would live into those later years in which disability is greatest and would experience an increase in overall lifetime disability. Such critics feared that good behavioral health habits would lead to a large population of enfeebled, demented elders who would pose an immense strain upon medical care resources.[4] In the chart, present average disability is represented by the top line and is concentrated between an average onset at age 55 and the average age at death, now just over 75 years.[5] In future scenarios, extension of morbidity, on the second line, occurs if longevity is increased but the onset of disability is not postponed; this is the worst scenario. Compression of morbidity, on the third line, occurs if disability is postponed more than longevity is extended, as with the effects of exercise. The direct test of compression (or extension) of morbidity depends upon the effects of reduced health risks upon cumulative lifetime disability.

[Figure 2]

New longitudinal data document the ability of exercise to greatly postpone the onset of disability with age. For 14 years our research group at Stanford has studied the effects of long distance running and other vigorous exercise on patient outcomes in 537 members of a senior runners club, now averaging 70 years of age, compared with 423 age-matched community controls.[6] Disability levels were assessed yearly, allowing the area under the disability curve to be computed. Runners, exercising vigorously for an average of 280 minutes per week, delayed the onset of disability by about 10 years compared with controls. Longevity

differences between groups, on the other hand, are projected as only 2 to 3 years. Both male and female runners increased disability at a rate only one-third that of the controls, after adjusting statistically for age, initial disability, educational level, smoking behavior, body mass index, history of arthritis, and the presence of comorbid disease. [Figure 3] As these subjects moved from age 58 toward age 70, the differences in disability rates between the exercising and the control population actually increased, rather than decreased. Lifetime disability in exercisers is only one-third that of sedentary individuals.[6][7][8] We have reported similar effects in the University of Pennsylvania alumni study [9] and major studies by other groups confirm these findings. Daviglius and colleagues [10] show substantial decreases in Medicare costs for those with few health risk factors in mid-life. Freedman and Martin [11] showed significant age-specific functional improvement in seniors over a recent seven year period. Reed and colleagues [12] related healthy aging to prospectively determined health risks, with results closely similar to ours.

[Figure 4]

Randomized controlled trials prove our current ability to achieve healthier and less costly senior lives through relatively inexpensive health improvement programs costing less than \$100 per year per person. The Bank of America retiree study, [13] the very large California Public Employee Retirement System trial, [14] disease-specific trials in arthritis [15] and in Parkinson's disease, [16] and trials of self-management materials [17] all have documented our ability to both reduce health risks and to achieve a substantial return on investment.[18]

[Figure 5]

Health policy implications follow:

- The Health Care Financing Administration must be enabled to provide effective health improvement programs for all Medicare beneficiaries. The cost will be modest.
- Incentives for behavioral risk reduction in seniors need to be provided.
- A review process must limit covered programs to those with proven effectiveness.
- Risk reduction must be an essential part of HCFA planning.
- Research through the AHCPH and the NIA must work toward improved behavioral interventions and rigorous program evaluation.
- Federal efforts must be coordinated for efficient implementations.

Healthier senior populations are achievable, and the personal and societal benefits will be very large indeed.[18]



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Figure 1

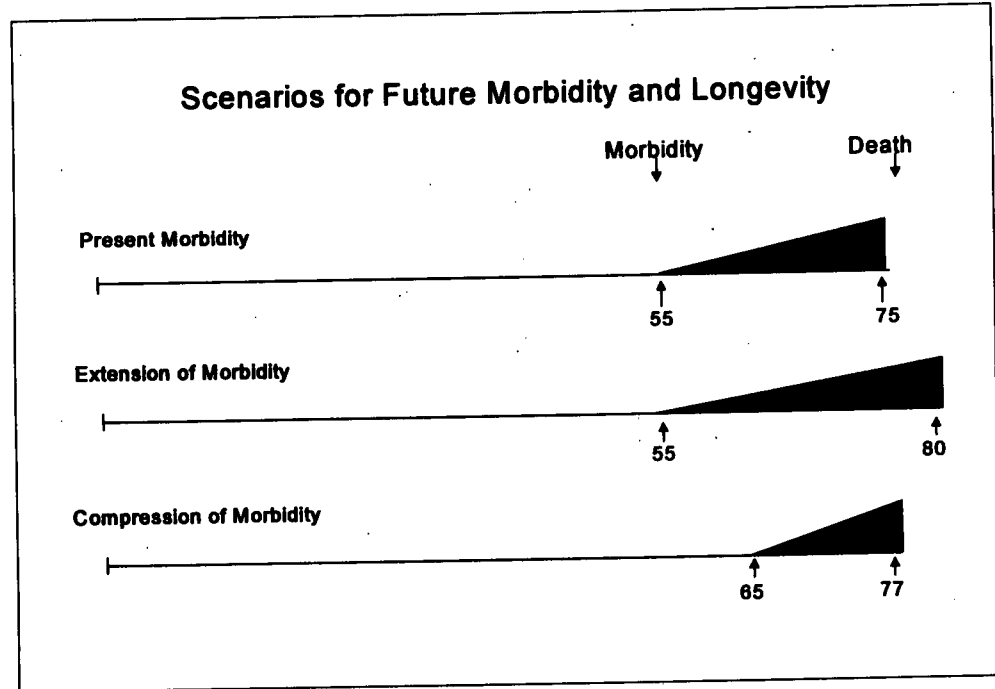


Figure 2

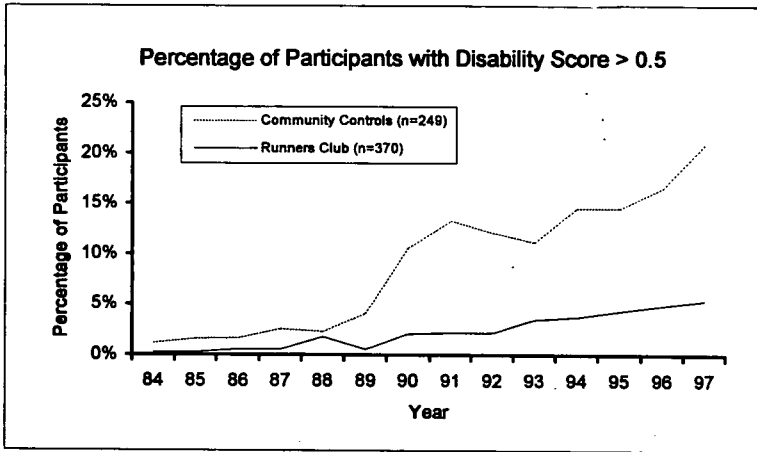
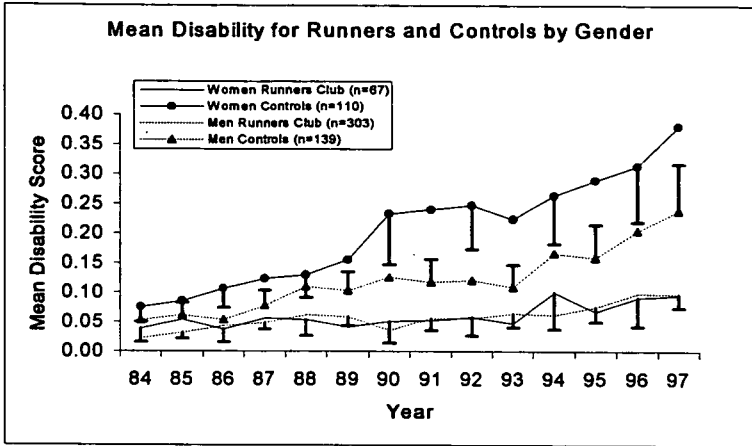


Figure 3

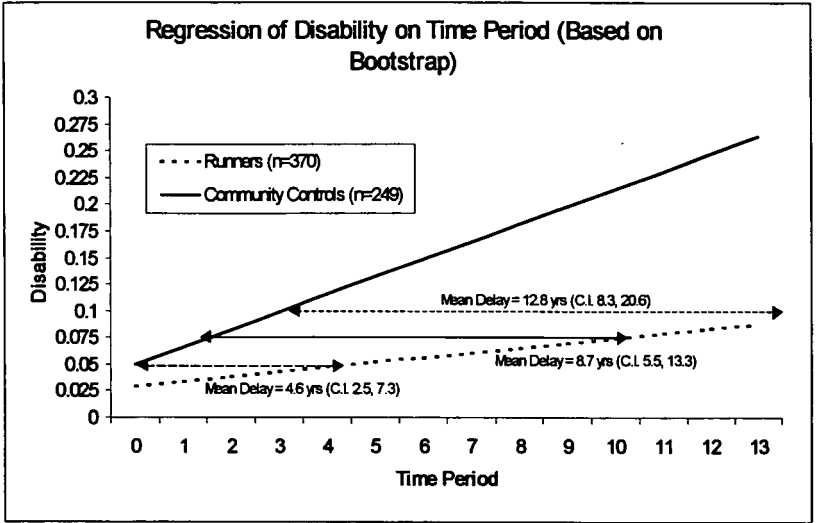


Figure 4

## Need and Demand Reduction Randomized Trials in Seniors

	n	time	health risk score	cost per person	savings per person	ROI
<b>Bank of America</b>	4,712	12 months	-12%	\$29	\$179	6.1
<b>CALPers</b>	57,268	12 months	-10%	\$59	\$300	5.1
<b>Arthritis</b>	809	6 months	-7%	\$50	\$260	5.2
<b>Parkinson's</b>	290	6 months	-10%	100	\$570	5.7
<b>Take Care of Yourself</b>	2,833	12 months	-17%	\$6	\$20	3.5

Figure 5

## A NATIONAL SENIOR HEALTH IMPROVEMENT POLICY

- **HCFA should invest \$100 per year (less than 2% of Medicare costs) for each and every Medicare beneficiary to improve their health and reduce their present and future need for medical care. Expected return is 10% of Medicare costs.**
- **Medicare Part B premiums should be reduced for persons enrolled in health promotion and disease prevention programs and for those with low risk profiles, such as non-smokers.**
- **HCFA should establish a mechanism to review health improvement interventions for proven effectiveness and to limit approvals to programs of proven quality.**
- **Risk management is central to health planning and should be represented within HCFA as a major division with ongoing funding.**
- **Research to improve interventions and to evaluate program effects should be supported systematically, perhaps through the Agency for Health Care Policy and Research (AHCPR) of the U.S.P.H.S.**
- **An inter-agency coordinating council, perhaps organized through the Office for Health Promotion and Disease Prevention (OHPDP) should act to bring together federal efforts and private initiatives.**

The CHAIRMAN. Thank you very much, Dr. Fries.

Before I ask questions, let me mention some administrative details. This may not occur, but sometimes when members cannot attend our hearings, they submit written questions and request written responses. For those of you who are from out of town, if this is a problem for you my staff would be glad to help you with this process. So, if there are some questions that you would be asked to respond to, let us know if we can help.

Now, I am going to ask questions of specific people but if anybody else wants to respond please feel free to comment.

I am going to start with Mr. McVicker and Ms. Norckauer.

How did you both learn about the Senior Games in your home state and what could be done to encourage more involvement with these events?

Mr. MCVICKER. Well, I was fortunate because the Iowa Senior Games are held in West Des Moines and they are held in conjunction with the West Des Moines Community School District, of which I was employed. And, so, that was there and it was available to me. And visiting with people, they said I just, you know, ought to try it and give an opportunity to do it and that I did.

The CHAIRMAN. Do you have any suggestions for how more people might become involved?

Mr. MCVICKER. Right.

We did a feasibility study and did some work with the Iowa Senior Games and one of the ways that we are trying to work with the Iowa games is to get the message to the corners of the State and create clinics, create smaller games whereby they can then come to Iowa to the State games.

But I think it is just a matter of getting the word out as to what they are and the fact that anybody who wants to can become a part of that.

The CHAIRMAN. OK.

Mary Elizabeth.

Ms. NORCKAUER. Well, I became involved when I was asked to be a manager of these events. And that was the first that I had heard about senior games on any level. And, of course, I started asking, what is the age limit? And at that time when we first started, the age limit was 60. After 2 years, they reduced it to 55, and it stayed there until the National Senior Games Association lowered the limit to 50. So, in order for our people to qualify for the nationals we had to also move it down to 50.

Now, for people to become involved there are the regional games. We have divided our state into I think it is seven regions. And there should be one close enough, well, I would say within 100 miles of everyone.

Now, for some people even a 100 miles is a long distance. So, I would recommend that they get in touch with their Council on Aging, which is in every small town and really locally active, and contact those people to find out what activities they have going on. Because if they have never participated in anything and they say, now, I don't want to, maybe they don't want to compete, but I just want to be with people, I would like to learn to play pingpong, table tennis as they call it now, or some of the other activities like that and they could start through the Council on Aging.



Now, even for the state games, some of these Councils on Aging raise money. They will put on a cake sale or other types of events there and raise money and maybe take a bus of their people to the state games.

Now, in some activities you have to qualify on the regional basis. So, they might have to, but that would get them involved. Now, the second thing that I have recommended to people who said, well, I didn't know anything about this, you know, what is it all about, how old, do I have to be good? And I tell them, no, you do not have to be good. I have people on the state level and they will come up, say for the javelin, would you show me how to throw this. And they are there to compete.

They have washer toss. Sometimes they have, oh, academic type of things like poetry reading, and oh, horseshoe throwing, all kinds of events.

I said the first time—if you live near Baton Rouge, LA, that is where we have the state games—and I said, why don't you volunteer? And I said, once you are there and you see all these people having so much fun and competing and they are not all good, only one person is going to win. I have had several people this year to go ahead and sign up and I give them the telephone number or an address and I say, you phone them and they will be thrilled to death to have you as a volunteer.

You have to draw them near the activity and once they get there and talk to the others and see, the next year they are probably going to enter.

The CHAIRMAN. Yes, Mr. McVicker.

Mr. MCVICKER. Many of the state games' directors are part-time employees. In other words, it is not a full-time job and, so, they are stretched many times to the limit. I think also additional finances coming to operations like the National Senior Games and the state games would really be beneficial in organizing and administrating those organizations to reach out to more people.

The CHAIRMAN. I thank you very much.

Now, I will ask both of you, again, another question.

You mentioned that having a goal or a competitive event helps keep you motivated to continue working out. I think that was you, Mr. McVicker, who said that. However, competition is not for everyone. So, what would you recommend to people who want to stay fit but do not see themselves as athletes or do not want to enter competition?

Would both of you answer that?

Mr. MCVICKER. I think one of the important things that I mentioned is that they need to have fun, they need to enjoy what they are doing, whether the end result is competing or not. And one of the best ways to enjoy it is to do it with somebody as opposed to trying to do it by yourself. It is to get a group, maybe go out and jog together or bike together, whatever the case may be. But to enjoy what they are doing. I think that is the most important thing.

I have just recently retired and I made up my mind that I was going to wake up every day with a challenge that if I didn't have a challenge to do, that I would soon lose a lot of my physical and mental prowess. And I think people need to look at the challenges

that are there whether they are competing against somebody and winning or losing or they are just challenging themselves to go ahead and do it but I think that is important, as well.

The CHAIRMAN. Mary Elizabeth.

Ms. NORCKAUER. I think that is an excellent suggestion, having a goal. I used to have someone that worked for me and they said, you have to have a reason for waking up every morning. And I think if these people have a schedule and they know they have to meet Louise at 8:30 to go walk around the block or to walk to the store, it will put meaning into their life.

Now, again, there are all types of recreational type of activities going on. Churches are doing this. The CYO, through their league. It used to be CYO, that was Youth Organization. And now they have programs as many of them for the older people as they have the younger ones and these are strictly recreational, so, they could get involved with those.

Again, it is getting with a group, and it will keep you on a schedule and you will have fun.

The CHAIRMAN. Ms. Richard, could I ask you what you do in your exercise program to target older populations, if you do; and people who have never exercised before? And I assume you do that. How do you encourage people to begin exercising?

Ms. RICHARD. I have a different point of view. I really don't use age as a criteria because no matter what your age you can be more or less physically fit. So, I have a different way of looking at it.

We limit ourselves if we define ourselves by age. There are things that I am experiencing physically, and I can easily attribute them to age. However, I choose to look at it from another point of view.

People often use age as a scapegoat, as a crutch. We show a little wear and tear after a while. However, we are each so exquisitely different. And even as Mr. McVicker and Mary Elizabeth speak, I think that those of us who are the baby boomers are going to not want to be described as seniors. I think we are going to go into it kicking and screaming.

They are going to have to bury me with my sneakers on. I am not going to give into anybody else's definition of age. Who am I at 50, who am I at 60, what does 70 look like? I am going to define it for myself.

I represent a large number of people that feel the same way. Allow me to reach as far as I can without being limited by names and criteria that are old-fashioned.

I don't know if I am being too, pie-in-the-skyish. But I would really like to see that at 80 years old we are standing, strong and tall with strong-bones. I get mail from people all the time saying I am 75, I am 80, I am 85, I am walking every day. Do you think I am doing enough?

Things are so different today.

The CHAIRMAN. Then maybe my question should be, and your answer is very legitimate, since you don't give different advice to different people of different ages, just what advice do you give people to get them to exercise more?

Do you give the same for people at 20 as well as 80, is what you are telling us?

Ms. RICHARD. Basically. So many people will say they can't find the time. I will respond by saying you could exercise for a half hour most days or you could be 60 or 70 and have a stroke, and it will take you half the day to get dressed.

It is like investing, money in the bank. That is why I go back to my thought about having a vitality age as compared to a chronological age. The thing that will get people up and going is that they know it will benefit them not only health-wise but it will affect their pocketbooks. It will affect their job. It will affect everything.

We could set up ongoing education credits such as those required of attorneys, teachers, and doctors.

The CHAIRMAN. Do you have a verbal message on this point about the necessity for exercising in your TV program or is it all just physical demonstrations.

Ms. RICHARD. I have a verbal message. I have a 45-second food for thought segment on each program. I have done 26 shows a year for 14 years and still people will call and say, "I am 62, I haven't been working out in a long time." What I am hearing is "I haven't been working out in a long time," 62 doesn't do anything for me.

We really have to get away from categorizing by age. There are so many other variables.

The CHAIRMAN. I was going to include you in this next question that I was going to ask Mr. McVicker and Mary Elizabeth, but maybe you have answered it already. But how has your exercise program changed as you have aged? I would like to ask all three of you to respond if you haven't answered this question already.

Would you start, Mr. McVicker.

Mr. McVICKER. I think it has probably changed in terms of aerobic exercise more than anything. I was what I would call a contact exerciser. I did a lot of the heavy lifting. I did a lot of, when I was younger, played a lot of football, I played a lot of sports, like that. But I have refined it to the point where it is more of a cardiovascular fitness type of exercise.

When you then change cardiovascularly, you change also other ways. Stamina changes, but it is pretty much geared around cardiovascular fitness.

I think mentally because my cardiovascular fitness level is up, I think I am mentally sharper and can do things in a better way than prior to having the cardiovascular fitness levels that I had prior to starting, really exercising 5 or 6 years ago.

You know, I was around exercise all my life and I thought what I was doing was OK. I thought I was doing everything I needed to do but I really wasn't. I was shorting myself because I wasn't doing what I needed to do but I convinced myself that I was because I knew how to exercise. That is what I have been doing all my life, but I really didn't. It finally dawned on me that I wasn't doing what I should be doing and, so, I made that change.

The CHAIRMAN. Mary Elizabeth.

Ms. NORCKAUER. Well, in the sports that I had done formerly, the shooting sports, archery, rifle, pistol and shotgun, they were a static type of sport, where it took intense concentration and focus, eye control, nerve control, where you could not move. And, so, I had to do some cardiovascular work just to keep in shape with that.

I think my training changed when all of a sudden I woke up at this 60 or 62 years of age and said, what am I doing for my heart? That is what is going to improve my life in the coming years and possibly extend my life.

So, I happened to be sharing an office with Dr. Mann who had an adult fitness program, another way people can get involved. If they had gone through heart surgery or for any reason they could come out and he would give them a stress test and give them a prescription for exercise, not on the basis of age, as she is saying, but on the basis of the stress test and their physical fitness level.

So, that is the way I started into the aerobic type of exercise. And he said, sure, come on in. You have to have a physical exam and then I will give you the stress test and that was when I started into the jogging.

So, that was a big change.

The other thing I believe in reading and getting a background on anything that I do that is new. And that first year when I started into this new type of aerobics, I read 12 or 13 books. I talked to people who were very knowledgeable on it to be sure I was doing the right thing, moving the body in a right way.

I became smarter through all of this reading and now as I am still, every year as I get older, my training is, the mileage is not there. I don't train as long or as hard or if I come out the front door and, you know, I just don't feel like doing this today, I am smart enough now to listen to my body and I will turn around and walk back in the house. Maybe later on in the afternoon I will do something. So, I think I train smarter now. I program my practices. Never do the same thing every day and do a variety of things.

So, if you are asking how has my training changed, I think that it has been limited a little bit by the age process, but I still do the same thing, but just not as much.

The CHAIRMAN. Ms. Richard, has anything changed for you?

Ms. RICHARD. Yes. I would definitely like to comment on this. I have much more intense awareness of the importance of—and I keep making the same point—of exercising my muscles, strengthening my muscles and bones. As for aerobic exercise, whether you are taking an aerobic class or you are walking three miles, most days, as the American Heart Association recommends, you are going to get the aerobic workout. That is easy to accomplish. You just walk out your front door.

It is equally as easy to work the muscles and bones so that you will have a better quality of life as you age. You will have strength, balance, and more. Your question is, has my routine changed? Yes. I have become much more in touch with the need to work my muscles and bones. It is something that I can't imagine not doing.

The CHAIRMAN. Thank you.

Now, I am going to have a question for Dr. Wetle.

What has been the public response to the NIH exercise guide and how are you most likely to hear about it?

Ms. WETLE. The public response has been extremely positive. On the Saturday before the Sunday distribution of "Parade Magazine" we had more than 1,500 calls requesting the Guide, from people who got their papers early. And as I said, we have distributed more than 230,000 copies to date.

But we must find ways to motivate people to exercise beyond the Guide. You don't get much aerobic exercise bringing the book in from the mailbox and reading it, you have to do something more.

And, so, to motivate exercise we have in the back of the book a daily record and a schedule. After people have exercised for a full month they can send in a report and we have a certificate signed by the Director of the National Institute on Aging, suitable for framing, that we mail back. And, although the exercise guide has not been yet available even for a year, we already have sent almost 4,000 such certificates to people who have completed the first month.

We are also getting calls and letters from people reporting to us their own personal experiences. Their son or daughter got the guide for them, they read it through, began with some of the simpler exercises, and have increased over time and are feeling good about themselves.

In the book we emphasize four aspects of exercise. We emphasize the aerobics or endurance aspect and the strength training aspect, but we also have exercises to improve balance and to improve flexibility so that we hit all the four major components.

People love it. Even my friends who wouldn't consider themselves elder, are taking up the book and enjoying doing the exercises.

The CHAIRMAN. You mentioned the role that motivation can play in helping older people to maintain an exercise regimen. How is the NIA motivating those who are using the guide to develop and maintain their own exercise program?

Ms. WETLE. Well, in addition to providing the certificates, we also provide information about what the benefits of these exercises are. In collaboration with NASA, we developed a website where people can actually do the exercises along with little moving figures to be sure that they are doing the exercises properly. And we respond to every letter that we get and to the phone calls we get from people who are enthusiastic about this.

The CHAIRMAN. You mentioned the role that culturally appropriate exercise intervention can play in encouraging older minority adults to take up and maintain an exercise program. Would you elaborate on what those interventions are and have they been tested and have they been demonstrated to be successful?

Ms. WETLE. Yes. We need to recognize that in many age cohorts and socioeconomic groups the idea of retirement was a time when you didn't have to work any more. It was a wonderful thing. It was viewed as a good thing to be able to just sit down and take a rest.

And we recognize that in different groups exercise has different meanings, and people are more or less motivated by different aspects. For some it is how they look. For some it is how they feel. For some it is future health benefits, for others it is what it can do for them right now.

There are successful programs that you might find particularly interesting: One was in a Mexican American community where they were trying to encourage older people to take part in an aerobics activity and they couldn't get the people to come to the classes. Even those they got there, dropped out very quickly. Then someone got the idea to change it to a salsa music class with, wonderful spanish dancing. And then they had a new problem which was that

all the control group people, who weren't supposed to be exercising were sneaking into the salsa dance class and the class was over-enrolled and actually they were having trouble proving the effect of the study because the control group was doing the exercises. [Laughter.]

Another example is in African American communities where, again, were elders not wanting to be involved in an aerobics class because that seemed not to be in keeping with tradition. Tom Prohaska and colleagues in Chicago worked with the African American churches to develop an exercise program with a spiritual aspect and philosophy behind the class and to work on using music and dance movements which were much more in keeping with the cultural experience of that group. And it was also, again, highly successful and, in fact, the group took ownership of the class and it has continued now several years after our funded research.

We continue to look for ways such as these to capture people in the areas that they are really interested and to move from whatever their starting point is to increase the breadth and the level of participation.

The CHAIRMAN. Let me direct several questions toward Dr. Fries. But Dr. Wetle, you may want to respond as well.

In your testimony, you offer several conclusions regarding how public policy should be crafted to encourage healthy behavior. Could you identify what you would envision an agency—and I use HCFA as an example, but there may be other government agencies as well—what they can do to encourage changes in seniors' behavior?

Dr. FRIES. Yes.

Thank you.

HCFA is a good example because nothing can really change without HCFA's response. And it is a very large, very bureaucratic organization which has trouble changing course any faster than a battleship at sea.

Yet, it is changing. There are a number of initiatives that have come out of HCFA just in the last 18 months which would have been startling to have learned about at previous times. For example, they have established a way of measuring for the vitality, to pick up the term, of individuals in the Medicare HMOs. They are taking a sample of 1,000 people from each of 291 Medicare HMOs and giving them essentially a vitality, physical function, quality of life examination with the idea of trying to find out which HMOs were better than which other ones, and what were the ingredients that could effectively allow Medicare processes to improve?

Then there has been within HCFA an office of health promotion and disease prevention for some time, but it has been very underfunded. And, as I mentioned, the legislation has not allowed any initiatives to be undertaken. What you need are large, randomized trials in the field of the very best interventions which we have and then rapid roll-out to 33 million people. So, you have a real strategic problem of moving rapidly.

RAND has been contracted to look for best practices and best interventions in several categories with the idea of launching very substantial pilot programs as early as the middle of next year and a budget for that unit which has been \$10 million over the last bit

of time is now been proposed for next year at \$75 million, which will allow for payment for substantial numbers of these pilot programs.

There are many, many people who believe that HCFA should take the lead and be enabled to deal with prevention with healthy aging, and with retarding the aging of the population, and that that might even be its largest potential mission.

Certainly the National Institute on Aging, the Arthritis Institute, with which I work closely, a lot of the lay groups that work for the different chronic illnesses where we have found exercise to be an effective treatment, the CDC, and a whole variety of other agencies are very interested in taking this very large national problem and bringing a lot of forces to bear on it.

So, I do see movement which I never saw before and I have an optimism which I haven't had before.

The CHAIRMAN. Keeping in touch with the theme of encouraging changes in seniors' behaviors, what type of incentives work for those who have had a lifetime of unhealthy behavior?

Dr. FRIES. We need both incentives in the pure incentive area but we also need motivational interventions which reinforce change toward healthier behaviors.

People essentially have to learn that the system can't take care of them, they have to take care of themselves, that health is its own reward, and that even if there were no incentive, the amount that you feel better is its own reward. It doesn't matter how much your hospitalization is paid for, it's much better not to be in the hospital and to be home and enjoying life. So, health has to be perceived more by people of all ages, I would say, as its own reward and people have to recognize to a greater degree that they have more control than they thought over their own future health. And they will then show more willingness to move toward that.

In the relatively modest cost interventions we have been dealing with, we see slow changes in sort of 6 month increments as you provide programs to populations of all ages. We are working according to basic educational theory now with regard to moving people along toward making changes where you don't necessarily do it all the first time. It is not a conversion experience. Exercise is a staged event and it begins with motivating people to put in the time.

Several approaches were mentioned here today. Parking the car farther away, taking the stairs; There are a whole variety of things to put in that perhaps half an hour a day of exercise doing something that is not unpleasant. Then, having made the habit of time, increasing the intensity of the activity becomes easier than starting with a high-intensity activity to begin with.

The CHAIRMAN. Dr. Wetle.

Ms. WETLE. Yes.

Building upon Dr. Fries' comments—I believe that there are additional things that we can do. Fifty percent of older persons have never been asked by their physician about exercise nor have they been encouraged by their physician to exercise more. A major educational effort needs to be done with physicians and practitioners.

In some managed care organizations, Medicare enrollees get a discounted rate at health clubs or other exercise programs. That is another thing that we can do to encourage participation.

Finally, in some health programs, after a heart attack cardiovascular reconditioning is considered good quality care and a part of the reimbursable package post-heart attack.

I believe that we should view exercise encouragement and supportive, tailored exercise programs as a part of good quality health care. We, at the NIA, are working closely with people at HCFA in the healthy aging project to share new scientific advances and to translate these advances as quickly as possible into demonstration projects to improve health care. Dr. Fries mentioned, this will allow successful programs, in turn, to be translated into good, quality services reimbursed by Medicare and by Medicaid.

Dr. FRIES. Just to, again, carry on here. There is a new term which is coming out called "population health." And it is being promoted to various health maintenance organizations and various health plans and so forth. It is sort of between Public Health, which often has been considered as the water supply and a variety of the social problems which need public approaches and the personal medical care system which is between the doctor and the patient and other aspects of that.

The problem with using the physician as a modality for teaching and encouraging exercise is substantial because of the cost of care, even if it were enabled within that care system, because of the lack of training and the lack of time and the repetitious nature of the task.

So, the "population health" concept says that the HMOs or the health plan forms a population and that plan has a moral commitment to improve the health of that population to the greatest degree possible, by whatever means.

Population health mechanisms, which mean going to individuals by the mail, by the telephone, by paraprofessionals, and over the Internet in coming years, directly to all members so that you create a system which attends to its healthy individuals and not just to the individuals when they became ill.

The CHAIRMAN. That is my last question.

I have no closing comments. I want to say thank you all very much for your outstanding testimony, whether it is from research or from your personal experience. And hopefully this hearing will encourage more people to think about having a higher quality of life through exercise.

Thank you all very much.

[Whereupon, at 3:38 p.m., the committee adjourned.]

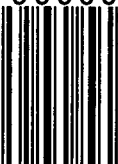




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