Improving Life for Hoosiers with Arthritis:

The Indiana Arthritis Strategic Action Plan

THE INDIANA ARTHRITIS INITIATIVE MISSION:

Strengthen arthritis management and prevention efforts through the dissemination of information, partnerships with community leaders and organizations, and implementation of our Indiana Arthritis Strategic Action Plan in order to provide Indiana residents with the highest possible quality of life.

Key components of the mission are:

Information: Use data to determine which populations are most affected by arthritis. Disseminate this and other accurate arthritis information through multiple communication methods.

Partnerships: Partner with community leaders and organizations to reduce the burden of arthritis and engage the collective efforts of individuals and groups.

Action: Implement the strategic plan to increase public awareness of arthritis as the leading cause of disability, optimize function and minimize pain among people with arthritis, prevent arthritis whenever possible, and address the needs of the underserved.

The Indiana Arthritis Strategic Action Plan

TABLE OF CONTENTS

Acknowledgements 2

Why Arthritis Matters to Indiana 3

Introduction 3

- Arthritis Facts 5
- The Image Problem 4

Indiana Arthritis Initiative (IAI) 5

- Background 5
- Developing the Indiana Arthritis Strategic Action Plan 5

The Burden of Arthritis 7

- An Uneven Burden 7
- Arthritis and the Quality of Life 8
- The Cost of Arthritis 8

What We Can Do 9

The Strategic Action Plan: Overcoming the Burden 10

- Data and Surveillance Workgroup 10
- Public Education Workgroup 11
- Self-Management Workgroup 12
- Clinical Practices Workgroup 13
- Policy/Systems Workgroup 14

Information Links 15

Appendices 16

- Appendix A: Indiana Arthritis Initiative Members 16
- Appendix B: Indiana Demographics 17
- Appendix C: Abbreviations and Definitions 18

Notes 19

Cover Credits:

Top right photo: Arthritis Foundation Exercise Program (AFEP) at the Fall Creek Branch YMCA, Indianapolis. Gentle movements increase joint flexibility, range-of-motion, and overall stamina, and help maintain muscle strength. Movements in the AFEP course can be performed while seated or standing. The Arthritis Foundation developed AFEP and trains instructors. YMCA AFEP courses are usually open to non-members.

Bottom right photo: "AquaJoints," taught at the Arthur M. Glick JCC, Indianapolis. This class is designed to increase joint flexibility, range-of-motion, and stamina. Water allows people to exercise without putting excess pressure on joints and muscles, which many people find liberating. The Arthritis Foundation trains instructors and co-developed the program with the YMCA. Classes are offered in heated pools at facilities, like the JCC and YMCAs, which welcome non-members.

Acknowledgements

The Indiana State Department of Health thanks the Indiana Arthritis Initiative (IAI) Steering Committee Members for their dedication in directing this effort and work group members and other contributors for their commitment. Without their volunteered time and energy, none of this would be possible. (Please see Appendix A for a member list.) The IAI thanks Elizabeth Hamilton-Byrd, MD, medical epidemiologist, Epidemiology Resource Center, Indiana State Department of Health, for analyzing hospital discharge data, and Jon Lewis, PhD, Director, Data Analysis Team, Indiana State Department of Health, for assistance with BRFSS data interpretation.

Special thanks go to the Arthritis Foundation, Indiana Chapter, and their Evansville, Fort Wayne, and South Bend branches, for their dedicated effort to improve the lives of Hoosiers with arthritis.

This publication was supported by Cooperative Agreement #U58/CCU520313-04 from the Centers for Disease Control and Prevention (CDC). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of Centers for Disease Control and Prevention.

INTRODUCTION

ARTHRITIS FACTS

There are more than 100 diseases and conditions collectively known as "arthritis." The most common forms include osteoarthritis, rheumatoid arthritis, juvenile rheumatoid arthritis, fibromyalgia, bursitis, lupus, and gout. Though their causes may vary, these diseases often occur in or around one or more joints. Sometimes the problem is in the joints (as in osteoarthritis). Other times it is in the surrounding ligaments, tendons, or muscles (as in fibromyalgia). Some forms of arthritis are systemic and can affect the internal organs (as in rheumatoid arthritis).

Three of the most common forms of arthritis include:

- **Osteoarthritis (OA),** the most common type, estimated to affect an estimated 21 million Americans.[3] It is sometimes called "everyday" or "wear and tear" arthritis. A slippery material called *cartilage* covers the end of each bone and acts as a shock-absorbing cushion. In OA, cartilage starts to break down. Loss of the rubbery cushion in a joint—where bone meets bone —leads to symptoms of pain, stiffness, and swelling in the knee, hip, spine, feet, thumb, or fingers.

  Current research contradicts accepted wisdom that OA "is a natural part of aging." There is evidence that obesity is a significant risk factor in the development and progression of osteoarthritis. Even modest weight loss can reduce the risk of developing OA.

  Once OA symptoms have begun, weight-bearing activities can help improve function. Physical activity and strengthening exercises strengthen the muscles around joints, stabilizing them and enhancing *proprioception*, the sense of joint position that the body uses to maintain balance. In addition, moving joints through their full range of motion can reduce stiffness and pain. Lastly, losing excess weight may retard the damage caused to weight-bearing joints (like knees) by obesity and may also reduce symptoms. **In 2005, 78 percent of all arthritis-related hospitalizations in Indiana were due to OA.**

- **Fibromyalgia** affects muscles and is characterized by diffuse pain, fatigue, memory difficulties, disturbed sleep, and specific tender points. It occurs more often in women.

  Exercise is a key component of fibromyalgia treatment. Aerobic exercise has been shown to improve muscle fitness, reduce pain, and improve sleep; low impact activities, like walking, bicycling, or swimming, are recommended. Even for people who have been completely inactive and can only exercise a minute or two at the beginning, the goal is to slowly work towards aerobic fitness. Other treatments include medications to reduce pain and improve sleep, stretches to improve muscle tone, relaxation techniques, and pain management strategies.

- **Rheumatoid arthritis (RA)** is estimated to affect approximately 2.1 million people in the US, about 1 percent of the nation's population.[4] RA occurs more often in women. It is frequently first diagnosed during a woman's child-bearing years. RA is a systemic, autoimmune disease, the cause of which is unclear. RA is characterized by inflammation of the fluid lining the joints called *synovium*. The inflammation causes pain, stiffness, fatigue, redness, swelling, and warmth in the area around the joint. Over time, the inflamed joint lining can damage or deform the joint.

WHY ARTHRITIS MATTERS TO INDIANA

- More than 29% of Hoosier adults—over 1.3 million residents—reported doctor-diagnosed arthritis in 2005.
- More than 64 percent were working age adults (18-64 years old).
- Arthritis is the third leading cause of work disability nationwide.
- 38.6 percent of obese Hoosiers reported arthritis or chronic joint symptoms.
- 27.2 percent of Hoosiers were obese.
- Women, people who were obese, and people with low incomes had higher rates of arthritis and suffered more adverse effects.
- 29.7 percent of Hoosiers with arthritis reported fair or poor health compared to only 11.2 percent of those reporting no arthritis.
- More than $610 million was spent for arthritis hospital admissions in 2005, up from $562 million in 2004.
- Most arthritis care does not involve hospital admissions, so the real cost of arthritis—from lost wages, doctor visits, medications, and rehabilitation—is much higher.
- Research shows that physical activity and losing excess body weight can improve mobility, reduce pain and may prevent some forms of arthritis.

"Self-management": The beliefs and strategies that people with arthritis use on a daily basis to manage their condition, optimize their health, and feel their best.[5]

These beliefs and strategies include such things as:

• protecting joints, through certain movements and products, to "outsmart arthritis"[6]

• using techniques to reduce pain and stress

• engaging in appropriate physical activity

• losing excess body weight

• learning to communicate your needs to others

• accepting that some days will be better than others

• knowing when to call your doctor

• taking the appropriate medications

• learning more about self- management

Juli Paini, attorney, 42, diagnosed with Juvenile Rheumatoid Arthritis (JRA) at the age of two. Her JRA has been inactive for decades, but mechanical damage to joints made several surgeries necessary, so Juli chose a profession where she could work from home while recuperating after surgery. To manage her pain, she uses massage and modified yoga, and tries not to work too late too often.

"What I want people to understand is that even with all the pain and disability, you can still have a very good life….it just takes a bit more planning and patience. Arthritis is nothing to be frightened of."

Medications called *disease-modifying drugs* can slow or stop joint damage. *Biologic response modifiers* can block the inflammatory processes and reduce pain. These drugs, which greatly improve quality of life, make proper diagnosis and treatment early in the disease course more critical than ever.

Research shows that early diagnosis, proper medical treatment, and use of self-management strategies can optimize function, reduce pain, and improve quality of life for people with arthritis. Individuals should consult with a health care provider for advice appropriate to their medical needs.

THE IMAGE PROBLEM

A challenge to optimizing new insights into arthritis management and prevention is the commonly held image of arthritis. On one hand, it may never occur to some that the twinge in their knee or the ache in their back could be osteoarthritis. On the other hand, many people see arthritis as an inevitable fact of aging and may believe that nothing, other than medication, can relieve the pain and reduced mobility brought on by osteoarthritis and other types of arthritis.

Interestingly, these beliefs are found among health care professionals as well as the general public.

Given the steeper costs and higher death rates of cancer, heart disease, and diabetes, policy-makers often do not consider arthritis a pressing public health issue.

With continued funding from the CDC and additional partnerships, the Indiana Arthritis Initiative's goal is to inform all Hoosier citizens, including policy makers and healthcare providers, of the considerable physical, social and economic benefits of arthritis self-management.

INDIANA ARTHRITIS INITIATIVE (IAI)

BACKGROUND

In 1998, the Centers for Disease Control and Prevention (CDC), the Arthritis Foundation (AF), and the Association of State and Territorial Health Officials jointly released the *National Arthritis Action Plan: A Public Health Strategy* (NAAP), a national charter for addressing arthritis. By focusing on arthritis, the CDC acknowledged a chronic disease that, while contributing little directly to national mortality (i.e. death) rates, contributes greatly to disability and a diminished quality of life.

After the publication of NAAP, the CDC began funding states to develop state arthritis programs. In 1999, the Indiana State Department of Health (ISDH) applied for and was awarded funding. **CDC funded state programs to focus on improving life for people with arthritis by encouraging early diagnosis, proper treatment, and self-management strategies.** (To learn more about the CDC program, see http://www.cdc.gov/arthritis/. To view NAAP, see http://www.arthritis.org/resources/ActionPlanInterior.pdf)

Indiana Arthritis Initiative (IAI), the state's arthritis program, is facilitated by the ISDH Chronic Disease Division. A steering committee (see Appendix A for member list) directs the overall efforts of the IAI.

The steering committee charged IAI with five goals:

- Determine the impact of arthritis on Hoosiers
- Increase awareness and education among people with arthritis and groups at high-risk for arthritis, including underserved populations
- Increase the use of self-management resources and programs among people with arthritis, including underserved populations
- Strengthen and support clinical practices of health care providers serving people with arthritis, including underserved populations
- Promote system changes and increase linkages between systems to increase arthritis-related public health capacity and competence.

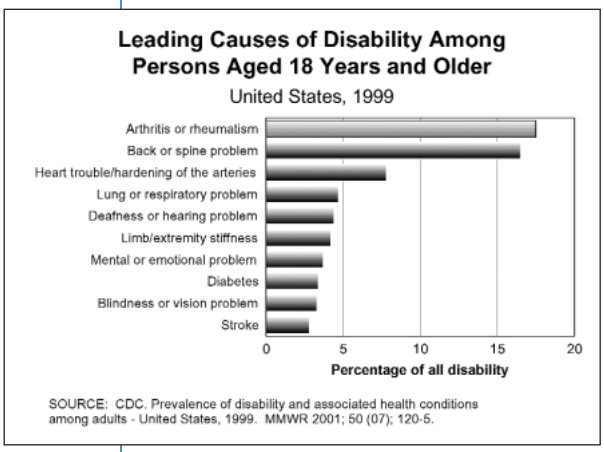
DEVELOPING THE INDIANA ARTHRITIS STRATEGIC ACTION PLAN

With goals decided, the next step was to set priorities. A work group was formed for each goal. These groups were: Data and Surveillance, Public Education, Self-Management, Clinical Practices, and Policy/Systems. All steering committee members serve on the group of greatest personal or professional interest.

Each work group met and drafted objectives and strategies which were further refined and then finalized by the steering committee. **These data-driven goals, objectives, and strategies formed the core of the strategic plan.**

The steering committee convened its first meeting in November 2002, and completed the strategic action plan in June 2003. Timelines for the plan extended through December 2005. In the fall of 2005, the work groups convened to review progress on the plan. They drafted new objectives and strategies under the Initiative's five goals (page 10-15), for years 2006-08.

Arthritis is the leading cause of disability[1] among Americans and the third leading cause of work disability, after back disorders and heart disease.[2]



WALKING

BIKING

Two 90 year-old members of a JCC “AquaJoints” aquatics class

ARTHRITIS AQUATICS

Programs that promote physical activity, appropriate weight maintenance, and successful arthritis management are a good investment and should be made more available throughout the state.

THE BURDEN OF ARTHRITIS

"Burden" refers to the rate of disease, functional limitations, reduced quality of life, work disability, lost wages, and costs associated with arthritis. The following information is based on data from the 2005 Behavioral Risk Factor Surveillance System (BRFSS) survey. The survey is administered in all states with funding from the CDC. Adults 18 years and older are randomly phoned at home and asked about personal behaviors that increase risk for one or more of the leading ten causes of death and disability. The full burden report, entitled "Arthritis and Indiana: Our State's Burden," is available at the ISDH Web site (http://www.in.gov/isdh/dataandstats/arthritis/index.htm).

AN UNEVEN BURDEN

The burden of arthritis falls unevenly in Indiana. Some subgroups of state residents not only have higher rates of arthritis, but may also suffer worse effects.

• Gender

Women were more likely to have arthritis than men, 32.4% vs. 25.7%, respectively. Rates for the sexes were comparable for adults under 45 years old; after age 45, rates for women pulled ahead of those for men. The prevalence rates for men and women drew closer again after age 65 (see FIGURE 1).

Women also self-report a higher level of certain adverse effects from their arthritis. Women with arthritis reported a slightly higher mean number of poor physical health days than men (7.4 vs. 6.6) and a higher mean number of poor mental health days than men (5.2 vs. 4.0). Men and women reported the same number of days with limited physical activity (6.1).

• Socioeconomic Status

Socioeconomic conditions may play a role in who gets arthritis, as they do for other chronic diseases.

By education, 33.5% of those with less than a high school education reported arthritis vs. 21.1% of respondents with a college degree (see FIGURE 2).

Respondents with a yearly household income of less than $15,000, and $15-24,999 reported similar prevalence rates of arthritis, 36.1% and 36.5% respectively. Respondents with a yearly household income of $75,000 or more reported a significantly lower prevalence rate, 22% (see FIGURE 3).

Lower income also corresponded to limitations from arthritis. Of those with a yearly household income lower than $15,000, 48.8% reported activity limitations, compared to 18.3% for those living in households with $50-74,999. **People with arthritis and incomes below $15,000 reported four times as many poor physical health days, three and one third as many poor mental health days, and three and one half times as many limited activity days as people with annual incomes of $75,000 or more.**

• Body Weight

Excess body weight increases pressure on weight-bearing joints and creates a greater risk for arthritis. Women who are obese are 4-5 times

FIGURE 1

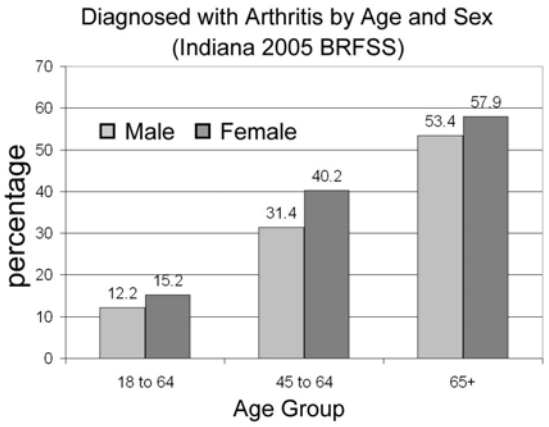


FIGURE 2

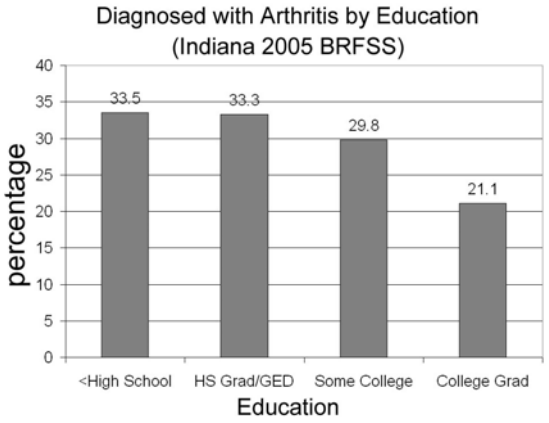


FIGURE 3

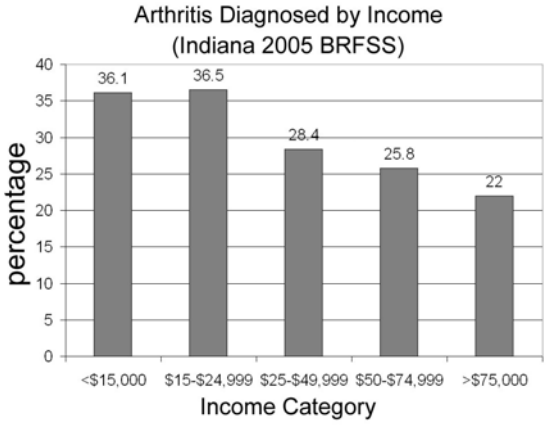


FIGURE 4

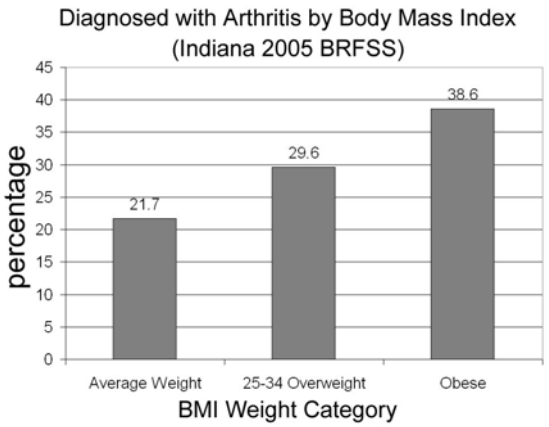


FIGURE 5

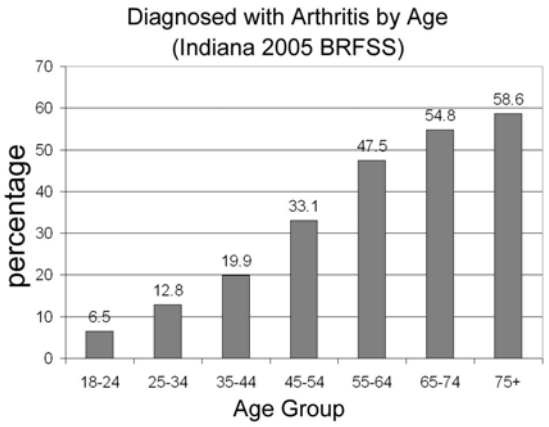


FIGURE 6

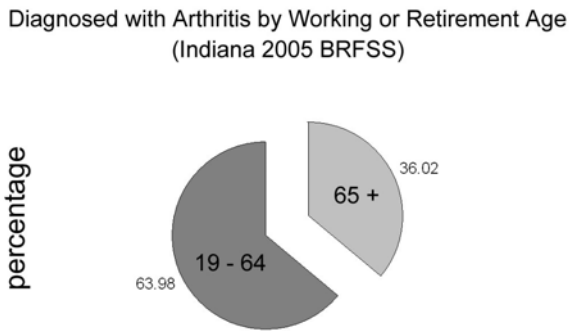


FIGURE 7

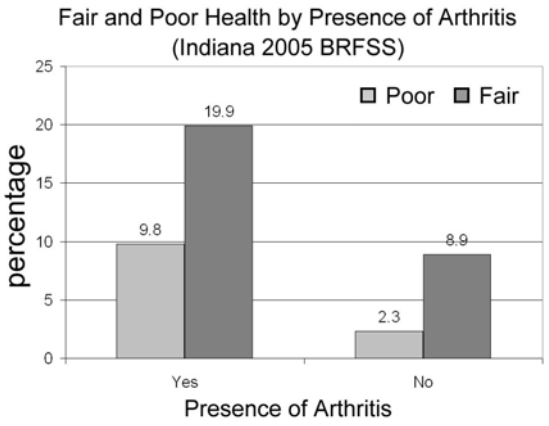
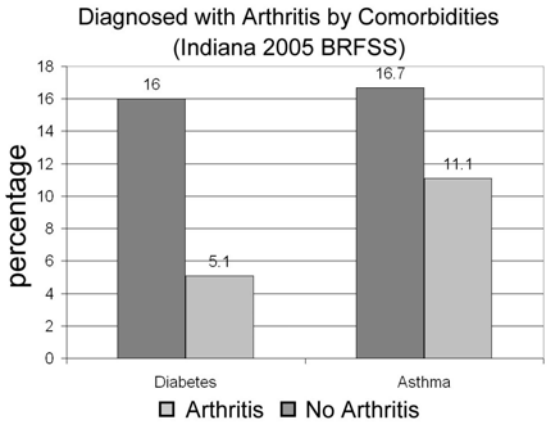


FIGURE 8



more likely to have knee OA than women of normal weight. Being obese is associated with a higher rate of hip OA and is also positively associated with hand OA.[7] More than 38% of respondents reporting obesity reported arthritis compared to 21.7% of those of normal or underweight (see FIGURE 4**). Indiana's rank as one of the most obese states in the nation[8] forecasts even more arthritis in its future.** Even modest weight loss reduces the risk for knee OA.

Obesity increased the likelihood that people with arthritis would face functional limitations. Individuals who were obese were nearly 65% more likely to report limitations from their chronic joint symptoms than individuals who were of normal weight.

- **Age**

In each successive age category, the percentage of people with arthritis grows (see FIGURE 5).

However, most Hoosiers with arthritis (64%) are under the age of 65 (see FIGURE 6) (see Appendix B for state demographics).

- **Race**

Whites (non-Hispanic/Latino) and African Americans (non-Hispanic/Latino) reported similar rates for arthritis, 29.5% and 28.3% respectively. Other race and multi-racial respondents had the highest rate at 35.3%. Hispanics/Latinos reported the lowest rate at 16.3%. The younger age of the Hispanic/Latino population in Indiana may be one factor contributing to their lower rate.

ARTHRITIS AND QUALITY OF LIFE

Nearly 30% of all respondents with arthritis characterized their health as fair or poor compared to 11.2% of people without arthritis (see FIGURE 7).

People with arthritis reported an average of 6.1 days per month when their activities were limited, compared to 2.7 for people who had not been diagnosed with arthritis.

People with arthritis are more likely to have another chronic disease, which may contribute to their being more likely to characterize their health as fair or poor. Respondents with arthritis reported more diabetes, and asthma than those without (see FIGURE 8).

THE COST OF ARTHRITIS

In 2005, Indiana residents had 21,063 hospitalizations with a primary discharge diagnosis of arthritis, totaling more than **$610 million dollars**. Most of the hospitalizations (78.1%) were due to OA.[9] **As the state's population continues to age, the cost of arthritis will increase. Since most people with arthritis do not require hospital care, hospitalization costs reflect only a part of the entire burden.** Other costs include physician visits, emergency room visits, physical therapy, occupational therapy, nursing home care, mental health counseling, x-rays, laboratory tests, and prescription and over-the-counter medications. Assistive devices like canes, crutches, and walkers, and "alternative" therapies like chiropractic, acupuncture, and glucosamine and chondroitin sulfate supplements are additional costs.

Economists estimate that 52 percent of the nation's costs from musculoskeletal conditions are due to indirect costs including wage losses of people with arthritis and their caregivers.[10] Intangible costs include pain, psychological suffering, and the stress placed on families.

WHAT WE CAN DO

People with arthritis can reduce pain and restore or maintain joint function by:

Protecting joints. For any motion, engage the strongest, largest muscles and joints possible. Lift a sack of groceries from the bottom with both hands and hold it close to the body instead of gripping the handle with one hand. Squat down to pick something off the floor instead of bending from the waist.

Using joints appropriately. Too often, people's reaction to aching or stiff joints is to use them less. However, appropriate movement can reduce the ache and improve function. Gentle range-of-motion exercises lubricate joints and reduce stiffness. Strengthening exercises protect joints. Low-impact aerobic activities, like swimming, walking, and bicycling, increase circulation to the joints and promote general well-being. Individuals should consult a health care provider for advice appropriate to their medical needs.

Losing excess body weight to reduce pressure on weight-bearing joints.

Learning more about self-management. Contact the Arthritis Foundation.

Some forms of arthritis may be prevented altogether by:

Practicing sports injury prevention to avoid damage to joints and soft tissue. Warm up first and do sport-specific strengthening exercises.

Reducing repetitive joint use at the work place.

Losing excess weight. Even modest loss helps.

"Outsmart" arthritis through self-management.

AFEP (Arthritis Foundation Exercise Program) class participant with instructor, Marva Holland.

"I love teaching AFEP because I get to show people that they don't have to give up."

Arthritis prevention should be incorporated into work place education, sports and recreation education, and well-being programs.

The Indiana Arthritis Strategic Action Plan

The goals and objectives of the plan are broad, in order to direct efforts over the next three years for reducing arthritis pain and limitations and for preventing arthritis. To ensure maximum benefit, the plan is "data driven", meaning that decisions about what to do, where, and when are based on the best available data.

Interventions—the concerted actions undertaken to improve the lives of people with arthritis —will be evaluated to track and assess their effectiveness. Depending upon the type of intervention, evaluation may focus on outcomes, i.e., did the intervention produce the desired result, or process measures, i.e., was the intervention carried out properly?

I. GOAL: Determine the impact of arthritis on Hoosiers

Rationale for the goal: Collect, analyze, and disseminate data on arthritis, risk factors, and the medical, social, and economic burden that arthritis places on Hoosiers. Use the data to identify the population groups most affected by arthritis and to drive planning, implementation, and evaluation of arthritis-related initiatives.

Responsibility: Data and Surveillance Workgroup

OBJECTIVE 1: Maintain and improve the surveillance and epidemiology of arthritis and arthritis risk factors on an ongoing basis.

Strategy 1a: Follow the CDC's suggested bi-annual protocol (odd years) for including arthritis-related modules in Indiana's Behavioral Risk Factor Surveillance System (BRFSS).

Strategy 1b: Within 3 months of receiving complete BRFSS data set from CDC, analyze data to examine distribution of arthritis, risk factors, (e.g. obesity, physical activity levels) and co-morbidities. Compare state data to national data and data from neighboring states. Perform in-state regional analyses when data are available.

Key organizations: ISDH

OBJECTIVE 2: Determine the socioeconomic cost of arthritis and its related disability, and determine disparities.

Strategy 2a: Use BRFSS arthritis, quality of life, and functional status questions to investigate disparities and socioeconomic costs for arthritis.

Strategy 2b: Estimate hospitalization costs by analyzing hospital discharge and outpatient data within 12 months of close of the data collection year (odd years).

Strategy 2c: Utilize student interns to explore other data sources, including Medicare and Medicaid, which will document morbidity, disparities and socioeconomic costs of arthritis.

Key organizations: ISDH, Indiana Health and Hospital Association

OBJECTIVE 3: Publicize findings from BRFSS, Hospital Discharge Summary and other data sources.

Strategy 3a: Prepare Arthritis Burden Report utilizing analyzed data and upload to ISDH website.

Strategy 3b: Distribute summary of findings to media, policy makers, advocacy groups, professional organizations, libraries and other interested organizations.

Strategy 3c: Biannually, prepare an in-depth update on arthritis for the Indiana Epidemiology Newsletter (posted on the ISDH website).

Strategy 3d: Compose summaries of the data targeted to specific sub-groups (such as women, seniors, African Americans,). Distribute summaries at events serving those sub-groups.

Key organization: ISDH

II. GOAL: Increase awareness and education among people with arthritis and groups at high risk for arthritis, including underserved populations

Rationale for the goal: Target people in community settings with the message that something can be done to reduce arthritis-related pain and impairment. Raise awareness about the prevalence, symptoms, myths, and the importance of early diagnosis, proper treatment, and self-management. Increase self-management beliefs and behaviors through communication strategies and educational programs.

Responsibility: Public Education Workgroup

OBJECTIVE 1: Promote awareness and education about arthritis management and prevention by increasing the number of venues through which educational materials are distributed by 10% annually.

Strategy 1a. Establish baseline data by developing a state-wide list of sites/events through which materials are distributed each year, i.e., local health departments, community health centers, senior centers and meal sites, county extension offices, Governor's Conference on Aging, State Fair, etc.

Strategy 1b. Annually select one geographic region of the state on which to focus intensively, culminating in classes and health communication activities during Arthritis Awareness Month (May). Create a region-specific materials distribution list that can be added to statewide list for annual distribution.

Strategy 1c. Identify under-served populations (e.g., African-Americans, Spanish-speaking, and people living in rural areas) and create customized awareness activities for these groups, utilizing CDC-developed and other health communication materials.

Strategy 1d. As resources permit, present and/or display at conferences and events, i.e. Rural Health Association Annual Conference, Governor's Conference on Aging, Indiana Academy of Family Physicians' Annual Conference, Extension Homemakers' Conference, Hispanic Health Summit, Black and Minority Health Fair, Women's Expo, AARP conferences, La Fiesta, local health fairs.

Strategy 1e. Identify other programs, e.g., Rural Health Association, Care-giving in the Heartland, faith-based organizations, Parks and Recreation, Indiana Minority Health Coalition, Indiana Latino Institute, that reach populations at risk for arthritis and collaborate to incorporate patient education. Increase opportunities to collaborate with organizations serving diverse communities.

Key organizations: AF, ISDH, Public Education Workgroup

OBJECTIVE 2: Build upon the capacity of employers to promote arthritis management and prevention for their employees and to encourage healthy behaviors in the workplace by increasing the number of employers who disseminate arthritis information by 10%.

Strategy 2a. Select one region of the state each year on which to focus intensively. Create a list of region-specific employers and add to the statewide list. Preference should be given to the region targeted for other arthritis awareness activities.

Strategy 2b. Offer to incorporate arthritis management and prevention messages into employers' programs and services, via print materials, presentations, newsletter articles or participation in health fairs.

Key organizations: IAI Steering Committee, Indiana Chamber of Commerce, ISDH, Public Education Workgroup

OBJECTIVE 3: Increase by 10% annually the number of college, school and community-based sport and recreation program contacts through which knowledge and awareness of the need for appropriate physical activity and joint protection can be communicated.

Strategy 3a. Work with the American College of Sports Medicine, American Physical Therapy Association, and American Occupational Therapy Association to develop appropriate messages.

Strategy 3b. Partner with the Governor's Council on Fitness and Sport, IHSAA, NCAA, parks and recreation departments, YMCA's, and school corporations to identify appropriate venues to disseminate information.

Key organizations: Department of Education, Department of Natural Resources, Governor's Council for Physical Fitness and Sports, ISDH, Public Education Workgroup

III. GOAL: Increase use of evidence-based resources and self-management programs among people with arthritis, including those in underserved populations

Rationale for the goal: Self-management techniques and programs have been shown to reduce pain and functional limitations, improve well-being, and reduce physician visits.[11] Target patients in clinical settings to increase use of self-management resources and programs through better promotion and increased availability.

Responsibility: Self-Management Workgroup

OBJECTIVE 1: Expand infrastructure of arthritis self-management programs by initiating 12 new classes annually. Priority will be given to underserved communities.

Strategy 1a. Use CDC funds to underwrite one instructor training annually for each of the following: Arthritis Foundation Self-Help Program, Arthritis Foundation Aquatics Program and Enhance Fitness. Train a total of 20 new instructors each year.

Strategy 1b. Utilize CDC funds to provide incentives for launching 20 new classes for Arthritis Foundation Self-Help, Arthritis Foundation Aquatics and Enhance Fitness.

Strategy 1c. Utilize CDC health communication campaign materials (*Physical Activity. The Arthritis Pain Reliever, Buenos Dias, Artritis)* to promote new exercise and disease self-management classes.

Strategy 1d: Develop a plan for program sustainability. Survey program instructors and their home agencies to discover types of incentives that will encourage program delivery. Investigate available resources.

OBJECTIVE 2: Increase visibility of arthritis-self management programs by increasing the number of sites through which promotional materials are distributed by 10% annually.

Strategy 2a. Merge and expand state-wide lists of sites/events through which materials are distributed each year, i.e., physician offices, local health departments, community health centers, senior centers and meal sites, county extension offices, Black Expo, State Fair, etc.

Strategy 2b. Select one region of the state annually on which to focus intensively, preferably same area in which program infrastructure is under development. Create a region-specific materials distribution list. Add to statewide list for annual distribution.

Strategy 2c. Secure funding, if necessary, for promotional materials.

Key Organizations: ISDH, Arthritis Foundation, community-based organizations

IV. GOAL: Strengthen and support clinical practices of health care providers serving people with arthritis, including underserved populations

Rationale for the goal: Increase primary care physicians and other health care providers' knowledge base about prevalence and current best practices in the treatment of arthritis and improve providers' ability to facilitate patient self-management.

Responsibility: Clinical Practices Workgroup

OBJECTIVE 1: Increase the number of opportunities for primary care physicians and other health care providers to learn about the prevalence of arthritis and the effectiveness of self-management techniques, including physical activity, by 5% annually.

Strategy 1a. Collect primary and/or secondary data on the frequency with which providers discuss self-management techniques with patients who have arthritis. Investigate possible barriers to this discussion and potential infrastructure that supports this process.

Strategy 1b. Contact professional groups (medical societies, physician academies, nursing associations, physical and occupational therapists groups, physician assistants and pharmacists), hospitals, physician practices, clinics and healthcare networks and to discover mechanisms for providing educational opportunities.

Strategy 1c. Work with existing programs to integrate arthritis self-management information into their offerings. Develop new opportunities to fill gaps. Partner with groups who have similar goals (AHEC, Community Health Centers, Office of Rural Health, Indiana Primary Health Care and other chronic disease programs).

Strategy 1d. Package information on arthritis self-management in a variety of ways so as to take advantage of various communication vehicles (newsletter articles, educational forums, CME, teleconferencing, lectures, videos, mini-clinics conducted by students).

OBJECTIVE 2: Increase the number of healthcare providers who advise their patients on self-management techniques by 10% annually.

Strategy 2a. Provide *Movement is Medicine* booklets and other educational materials to providers for distribution to their patients. Seek funding as needed to produce materials.

Strategy 2b. Create resource lists so that providers can refer patients to community programs and facilities.

Strategy 2c. Support policy and environmental changes in clinical settings that encourage providers to discuss self-management techniques with their patients.

Strategy 2d. Support providers in advocating for changes in community infrastructure (i.e. exercise classes, facilities, community policies, culturally appropriate activities) that would promote implementation of self-management practices.

OBJECTIVE 3: Increase information available to young people in arthritis-related occupations, particularly in shortage areas, during critical periods of career selection.

Strategy 3a. Work with colleges, universities and Area Health Education Centers to identify target careers, create messages, and develop a plan to disseminate information.

Key Partners: Clinical Practices Workgroup, AHEC, Clarian Health Partners, Arthritis Foundation

V. GOAL: Promote system changes and increase linkages between systems to increase arthritis-related public health capacity and competence.

Rationale for the goal: Support arthritis prevention, treatment, and self-management by improving partnerships within ISDH, between other state agencies and programs, and with outside partners, so that arthritis-specific efforts can be undertaken within broad contexts. Educate policymakers on system changes needed to reduce arthritis-related pain and functional limitations and increase prevention.

Responsibility: Policy/Systems Workgroup

OBJECTIVE 1: Strengthen the Indiana Arthritis Initiative's internal network by adding 5 new members annually and increasing the number of collaborative projects with other ISDH programs, by 10%.

Strategy 1a. Identify gaps in steering committee representation (e.g., geographic, racial/ethnic, socio-economic), and recruit various arthritis stakeholders to fill those gaps to create a diverse and committed membership.

Strategy 1b. Strengthen relationships with ISDH programs with similar goals (Office of Minority Health, the Office of Women's Health, Community Nutrition Program, Governor's Council on Physical Fitness and Sports and other chronic disease programs) to discover ways to pool resources and work together.

Strategy 1c. Work with the ISDH Grant Management Office to leverage public and private resources to increase arthritis prevention and management.

Strategy 1d. Work with INShape Indiana, ISDH obesity prevention initiatives, and built environment coalitions to promote arthritis self-management and facilitate development of community initiatives that encourage physical activity, i.e. opening schools, churches, and community centers to the public for walking and physical activity (tracks, gyms, or exercise space), supporting efforts to build bike or walking lanes, and linking parks and public resources with sidewalks.

Strategy 1e. Use statewide network of community health centers (CHC's) to strengthen clinical and patient self-management practices. Promote programs and distribute patient education material at CHC's; promote local linkages between Area Agencies on Aging (AAA) and CHC's.

OBJECTIVE 2: Expand, by 10% annually, the number of external partnerships with whom the Initiative engages for the purpose of imbedding self-management and education into existing community structures.

Strategy 2a. Partner with Indiana AAA's to distribute educational material at senior centers and meal sites and train staff to deliver self-management programs.

Strategy 2b. Partner with hospitals, physician offices, community clinics and allied health professionals to provide programs and materials to their patients.

Strategy 2c. Partner with employers to provide materials and classes through their wellness programs.

OBJECTIVE 3: Annually increase the number of opportunities policy-makers have to learn about arthritis prevalence, risk factors and growing healthcare/social costs.

Strategy 3a. Encourage the public to talk with policy makers by posting national and state arthritis-related legislation on the Arthritis Foundation web site.

Strategy 3b. Develop an annual plan to communicate with state legislators. Possible activities are hosting a legislative function before or during the session of the Indiana General Assembly, testifying before a committee, or providing written materials.

Strategy 3c. Include local and regional policy-makers in the planning of Arthritis Awareness Month activities.

Strategy 3d. Monitor development of other key Indiana strategic plans (Diabetes, Cancer Control, Community Health Improvement, Division of Aging, and others) to ensure IAI goals are incorporated.

Strategy 3e. Identify systemic gaps that obstruct prevention and/or self-management of arthritis, including access to health care.

INFORMATION LINKS

For additional information, please contact:

The Arthritis Foundation (AF)
www.arthritis.org
National Office 800.568.4045
Indiana Chapter 800.783.2342

Mayo Clinic
http://www.mayoclinic.com

MEDLINEplus
http://www.nlm.nih.gov/medlineplus/arthritis.html

Centers for Disease Control and Prevention (CDC) Arthritis Homepage
http://www.cdc.gov/arthritis/
Office of Pub. Inquiries: 800.311.3435

National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)
http://www.niams.nih.gov
NIAMS Information Clearinghouse: 877.226-4267

National Fibromyalgia Association (NFA)
http://www/fmaware.org
714.921.0150

Lupus Foundation of America (LFA)
http://www.lupus.org
800.558.0121 (Information request line)
800.558.0231 (Para informacion en Espanol)

American College of Rheumatology (ACR)
http://www.rheumatology.org
404.633.3777

American Academy of Orthopaedic Surgeons (AAOS)
http://www.aaos.org
847.823.7186

Indiana Academy of Family Physicians (IAFP)
http://www.in-afp.org
888.422.4237

Indiana State Department of Health (ISDH)
http://www.in.gov/isdh
317.234.2561

APPENDIX A:
INDIANA ARTHRITIS INITIATIVE
2007
STEERING COMMITTEE MEMBERS

Dyan Armstrong
Arthritis Foundation Aquatics Instructor
Turnstone Center for Adults

Carol Baird, DNS, APRN, BC
Professor, School of Nursing
Indiana University

Jonathan Barclay, MA
Assistant Director
Area Health Education Centers

Barbara Bowman
Brown County Extension Director
Purdue University Extension Service

Clary Butler, Jr., JD
State Coordinator
Indiana Minority Health Coalition

Barbara Carusillo, PT, OCS
Physical Therapist
Clarian Rehabilitation Services

Jenny Conder, MS
Health Promotion Director
Arthritis Foundation, Indiana Chapter

William Field, Ed.D.
Professor, Agricultural & Biological Engineering
Purdue University

Rick Freeman
Community Advocate

Shari Held
Freelance journalist

Jeanne Hogan
Senior Quality Assurance Analyst
Indiana State Department of Health

Antoniette Holt
Office of Minority Health
Indiana State Department of Health

Gordon Hughes, MD
Rheumatologist
Medical Consultants, Inc.

Anne Jacoby
Assistant Vice President
Vincennes University (Generations)

Jade Luchauer
Assistant Director
Indiana FSSA Division of Aging

Roseann Lyle
Professor, Department of Kinesiology
Purdue University

Aida McCammon
CEO
Indiana Latino Institute

Constance McCloy, PT, Ed D
Professor, Krannert School of Physical Therapy
University of Indianapolis

Kathy Segrist
Director, Center for Vital Aging
Ball State University

Javier Sevilla, MD
Professor, Clinical and Family Medicine
Indiana University

Gregory Steele, Dr PH, MPH
Department of Public Health
Indiana University

Heather Turner
Assistant Director, Membership and Chapter Services
American College of Sports Medicine

Edward Wills, Jr.
President
Arthritis Foundation, Indiana Chapter

Karen Wood, PT
Physical Therapist
Body One Physical Therapy

Helen Zagrzejewski
Arthritis Foundation Aquatics Instructor
Mishawaka Rehabilitation

ISDH Program Staff:
Wayne Fischer, Principal Investigator
Sue Hancock, Program Manager
Linda Stemnock, Epidemiology Resource Center

APPENDIX B:
INDIANA DEMOGRAPHICS

Indiana's population in 2000 numbered 6,080,485 residents, which represented an increase of 9.7 percent from 1990.[12]

Age
Of the state's 6 million residents:

- 29.1 percent < 20 years of age
- 36.5 percent were 20-44 years
- 22.1 percent were 45-64 years
- 12.4 percent were 65 and older

Income Levels
In 2000 9.5 percent of Hoosiers were living below poverty level (compared to 10.7 percent in 1990). Household income levels across the state were:

- 14.3 percent below $15,000
- 27.2 percent $15,000-$34,999
- 17.9 percent $35,000-$49,999
- 21.4 percent $50,000-$74,999
- 19.3 percent $75,000 or higher

Population Distribution

- 21.7 percent of Hoosiers live in Indiana's five largest cities: Evansville, Fort Wayne, Gary, Indianapolis, and South Bend.
- 14.2 percent live in Marion County.
- 23.5 percent live in counties on the "fringe" of large metropolitan areas (i.e., the counties surrounding Marion County or those bordering Chicago).
- 34.5 percent live in small metropolitan areas.
- 14 percent live in non-metropolitan counties with a city of at least 10,000.
- 13.8 percent live in non-metropolitan counties without a city of 10,000.[13]

Race
The state is becoming more racially diverse, with residents' self-reported race listed as:

- 87.5 percent white
- 8.4 percent African American
- 1 percent Asian
- 1.2 percent more than one race
- 1.9 percent American Indian, Alaska Native, or other
- 3.5 percent Hispanic

.

The Hispanic population increased to 3.5 percent, a 117.2 percent increase from 1.8 percent in 1990. Counties with the highest populations of Hispanics included:

- Lake County (12.2 percent)
- Elkhart County (8.9 percent)
- Clinton County (7.3 percent)
- Cass County (7.1 percent)
- Noble (7.1 percent)

Medically Underserved
Half of the state's 92 counties have been federally designated as Medically Under-served Areas (MUA) or Medically Under-served Populations (MUP). The MUA and MUP designations indicate that a geographic area (usually a county or collection of townships or census tracts) needs additional primary health care services.

Factors such as the availability of health professional resources within a 30-minute travel time, the availability of primary care resources in contiguous areas, the extent of markers of high need such as high mortality rates or high poverty rates, and the percent of population over age 65 are considered in the designation process. In 15 Indiana counties, the entire county is designated as underserved, while in 33 other counties, a collection of townships or census tracts are so designated.[14]

The ISDH has made serving the under-served a top priority. A network of **Safety Net Clinics** was established statewide to provide primary and preventive health care to Indiana's underserved populations. The network consists of 43 state-funded community health centers (CHC's), three federally funded nurse-managed clinics, and three rural health clinics.

There are 94 **local health departments** serving Indiana's 92 counties. These local departments, which are funded by state, local, and federal funds, provide a variety of services, including some primary care. However, most of their efforts are directed towards promoting health and reducing disease.

APPENDIX C:
ABBREVIATIONS and DEFINITION

AF: Arthritis Foundation, the nation's largest volunteer organization dedicated to addressing arthritis. The mission of the AF is to improve lives through leadership in the prevention, control, and cure of arthritis and related diseases.

Arthritis: A classification of having arthritis was based on responses to a question in Indiana's 2005 Behavioral Risk Factor Surveillance System (BRFSS) survey. Respondents were considered to have physician-diagnosed arthritis If they answered yes to the question, "Have you ever been told by a doctor that you have arthritis?"

BRFSS: Behavioral Risk Factor Surveillance System (BRFSS) survey is an annual survey, administered in all 50 states and funded by the CDC, in which residents 18 years and older are randomly phoned at home and asked about personal behaviors which increase risk for one or more of the leading 10 causes of death and disability.

Burden: The burden of arthritis includes the rates of disease, functional limitations, reduced quality of life, work disability, lost wages, and medical costs associated with arthritis.

Bursitis: Bursitis is an inflammation of the bursa, which is a small sac of tissue close to joints. Inflammation results in localized pain which usually resolves within a few days to a few weeks. It often results from overuse or continued pressure.

CDC: Centers for Disease Control and Prevention, recognized as the lead federal agency for protecting the health and safety of the people of the United States.

Fibromyalgia: Fibromyalgia is one of the more common forms of arthritis. It affects muscles and is characterized by diffuse pain, fatigue, memory difficulties, disturbed sleep, and specific tender points. It occurs more often in women.

Goals: Goals are the desired end state. They tend to be broad in scope.

Gout: Gout is caused when levels of uric acid in the body are too high, leading to the creation of crystals, usually in the big toe, ankles, and knees, which cause pain and swelling. It affects more men than women.

IAI: Indiana Arthritis Initiative, Indiana's state arthritis program. It is facilitated by the ISDH Chronic Disease Division and funded by CDC.

ISDH: The Indiana State Department of Health supports Indiana's economic prosperity and quality of life by promoting, protecting and providing for the health of Hoosiers in their communities.

Juvenile RA: Juvenile rheumatoid arthritis (JRA) is the most prevalent form of arthritis in children. JRA can affect only a few joints or it can be systemic, affecting joints and internal organs. The most common features of JRA include joint inflammation, tightening of muscles, joint damage, and altered growth in affected bones.

Lupus: Lupus is a chronic inflammatory disease that can affect various parts of the body, especially the skin, joints, blood, and kidneys. Lupus can range from mild, affecting only a few organs, to serious, creating life-threatening problems.

OA: Osteoarthritis, the most common form of arthritis, estimated to affect at least 21 million Americans. Symptoms include pain, stiffness, and swelling. The joints most commonly affected include the knee, hip, spine, feet, thumb, or fingers.

Objectives: Objectives, less broad in scope than goals, are ends undertaken to achieve a goal. Objectives should be specific with measurable milestones or timelines.

RA: Rheumatoid arthritis, an inflammatory form of arthritis that occurs more often in women than in men. It is a systemic, autoimmune disease, characterized by inflammation of the joints. The inflammation causes pain, stiffness, fatigue, redness, swelling, and warmth in the area around the joint. Over time, the inflamed joint lining can damage or deform the joint.

Strategies: Strategies are actions undertaken to fulfill an objective. Strategies are relatively narrow in scope and include details such as the lead organization, time frame, and objective measures of success.

NOTES

1.) CDC. Prevalence of disability and associated health conditions among adults—United States, 1999. MMWR 2001;50(08):120-5. Please note that the definition of disability in this analysis was broader than that used in an earlier 1994 report. Disability was defined as self-reported or proxy-reported difficulty with one or more eight measures:

a) difficulty with one or more specified functional abilities (able to see words and letters in newspaper print, hear normal conversations, have speech understood by others, lift and carry up to 10 lbs, climb a flight of stairs without resting, and walk three city blocks);

b) difficulties with one or more activities of daily living (get around inside the home, get in and out of bed or a chair, bathe, dress, and use the toilet);

c) difficulty with one or more instrumental activities of daily living (get around outside the home, keep track of money and bills, prepare meals, do light housework, use the phone);

d) reporting one or more selected impairments (learning disabilities, mental retardation, other developmental disabilities, Alzheimer disease, senility, dementia, and other mental or emotional conditions);

e) use of assistive aids (e.g., wheelchair, cane, crutches, or walker) for 6 months or longer;

f) limitation in the ability to work around the house;

g) limitation in the ability to work at a job or business (data for people 16-67 years);

h) receiving federal benefits on the basis of an inability to work.

2.) Cited in Stoddard S, Jans L, Ripple J, and Kraus L. Chartbook on work and disability in the United States, 1998. An InfoUse Report. Washington, DC: US National Institute on Disability and Rehabilitation Research, 1998, on http://www.infouse.com/ disabilitydata/. The data is based on the National Health Interview Survey (NHIS), 1992. In the NHIS, a person can be described as having a work limitation if he or she describes a chronic health condition that prevents performance of work at all, allows only certain types of work to be performed, or prevents him or her from working regularly. Working age is considered 18-69 years old.

3.) Osteoarthritis statistic from the American College of Rheumatology Web site: http://www.rheumatology.org/patients/factsheet/oa.html.

4.) Arthritis Foundation Website, www.arthritis.org.

5.) Self-management definition is adapted from a model presented by Teresa J. Brady, PhD, in "Overview of evidence-based interventions" at the Fourth Annual Arthritis Grantee Conference, April 28-19, 2003, Atlanta, Georgia.

6.) The phrase "outsmart arthritis" is from The Arthritis Helpbook, 5th Edition: A tested self-management program for coping with arthritis and fibromyalgia. Lorig, Kate, and Fries, James F. Cambridge, Massachusetts: Perseus Books, 2000, pp. 55-91. This book is used in the Arthritis Foundation Self-Help Course and is also available for purchase from the Arthritis Foundation.

7.) Klippel JH, Crofford LJ, Stone JH, Weyand CM, editors. "Osteoarthritis: Epidemiology, pathology, and pathogenesis," In Primer on the Rheumatic Diseases, 12th Edition. Atlanta, GA: Arthritis Foundation, 2001, p. 285.

8.) 2001 BRFSS Indiana Summary Prevalence Report, CDC. Obesity was determined by self-reported weight and height and calculation using the Body Mass Index (BMI).

9.) 2000 Hospital Discharge Data. Source: Indiana State Department of Health, Epidemiology Resource Center. ICD-9 codes used to compute arthritis data were those defined by the National Arthritis Data Workgroup (NADW) which is composed of researchers from CDC, AF, and the American College of Rheumatology (ACR). For a list of the ICD-9 codes, see CDC, Arthritis prevalence and activity limitations, MMWR, June 24, 1994; 43(24):433-438.

10.) Yelin E; Callahan LF. The economic cost and social and psychological impact of musculoskeletal conditions. Arthritis Rheum. 1995 Oct;38(10):1351-62.

11.) Brady TJ, Kruger J, Helmick CG, Callahan LF, Boutaugh ML. Intervention programs for arthritis and other rheumatic diseases. Health education & behavior. 30(1):44-63,February 2003.

12.) Indiana Census 2000 data from http://www.stats.indiana.edu.

13.) Data from Epidemiology Research Center, Indiana State Department of Health.

14.) As of September 2002. MUA/MUP data from http://www.in.gov/ishd/publications/llo/shortages/shortage.htm