

**Connecticut Arthritis
A.C.T.I.O.N.*
Plan: A Public Health Strategy**

***Arthritis Can be Triumphed over In Our
Neighborhoods**

**State of Connecticut
Department of Public Health
Hartford**

July 2002

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See Appendix A

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PREFACE

The *State of Connecticut Arthritis A.C.T.I.O.N. Plan: A Public Health Strategy (CAAP)* is a collaborative effort of over 200 statewide community and professional partners under the leadership of the State of Connecticut Department of Public Health (DPH). The Arthritis Foundation, Southern New England Chapter, is a primary partner and co-leader in this initiative. *This plan embraces partnerships and acknowledges that no single organization can effectively address the burden of arthritis and other rheumatic conditions.*

This Plan potentially provides best practice models for both internal state agency partnerships and external community partnerships. The DPH is a potential best practice model demonstrating internal collaboration and linkages within the Health Education and Intervention Division (HEI). HEI is committed to establishing effective chronic disease program partnerships within their existing Centers for Disease Control and Prevention (CDC) grant-funded programs (i.e., Arthritis, Breast and Cervical Cancer Early Detection, Cardiovascular Health, Diabetes, Obesity Prevention, Tobacco Use Prevention and WISEWOMAN). Internal linkages across these chronic disease programs promote an optimal utilization of resources and address common risk factors (e.g., obesity and physical inactivity). The synergy from these internal partnerships facilitates a coordinated statewide leadership for chronic disease prevention and enhances the success of each program. The developmental process of this Plan, the breadth and depth of the key participating constituents and the outcomes from the statewide arthritis forum are factors that make this Plan a potential best practice community partnership model. Incremental ongoing evaluation measures will document outcomes, best practices and lessons learned.

A comprehensive arthritis assessment was conducted as part of the development of this Plan. Assessment activities focused on identifying the strengths, needs, gaps, barriers, weaknesses, fiscal constraints, priorities and environmental and contextual factors¹ unique to Connecticut. The assessment process emphasized partnerships and collaborations within the DPH, and throughout the State. These partnerships facilitated the availability and timely analysis of meaningful data.

The Connecticut burden of arthritis is framed by the national burden. Therefore, the assessment phase of this Plan incorporates both local and national data sources. Connecticut specific data sources include the following: the 2000 Connecticut Behavioral Risk Factor Surveillance System (BRFSS), Arthritis, Quality of Life and other arthritis-related modules; 1993-1998 Connecticut Hospital Discharge Abstract and Billing Database; focus groups; surveys; outcomes from current practices and initiatives; recommendations from the first Connecticut Arthritis Forum. National data sources for the CAAP include the following: *National Arthritis Action Plan: A Public Health Strategy* (NAAP); Healthy People 2010; BRFSS; the National Health Interview Survey (NHIS); a CDC non-published arthritis prevalence study; review of the literature (e.g., research studies and best practices). The NAAP provides a theoretical framework and blueprint for this Plan. The BRFSS data and

¹ Contextual factors include items such as the availability of self-management courses, relationships with health systems, provider practice patterns and integrated medical models.

the twenty-eight Healthy People 2010 (HP2010) arthritis-related objectives² provide information for evidence-based initiatives and priority setting. The HP2010 arthritis-related objectives also provide national baseline data and target goals for improving outcomes. Whenever possible, Connecticut specific data is compared to the HP2010 data and projected targets. Assessment outcomes from these various data sources help provide baseline information and to set projected targets for the CAAP.

Evaluation is an integral part of the CAAP. Process, qualitative and quantitative outcome measures need to be monitored throughout this Plan. Evaluation outcome measures will document the Plan's effectiveness and provide information necessary to build the arthritis capacity and function within the State.

The CAAP is a five-year vision, guide and resource for the coordinated implementation of data-driven, cost-effective, statewide arthritis priorities. It aims to serve as a written catalyst to increase the awareness of arthritis, facilitate surveillance, and promote self-sustaining policies and systems. The CAAP also seeks to ensure the development of resources, encourage community level support, and increase access to services. It provides the strategic framework and action plan to reduce the disability/burden of arthritis and other rheumatic conditions, and to improve the quality of life for people who are at risk or who are affected with arthritis. The implementation of this Plan offers a continued opportunity to build upon existing and new partnerships, and to promote healthy people living in healthy Connecticut communities.

The CAAP will be disseminated statewide and will be supported by ongoing social marketing and health education activities. These activities will promote partnerships, foster a commitment to increase public awareness of arthritis, and focus on identified target populations.

² Healthy People 2010: Arthritis-Related Objectives. Objectives for Improving Health (Part A: Focus Areas 1-14) 2000 Vol. I. (2) 2-1 through 2-8.

**CONNECTICUT STATE ARTHRITIS A.C.T.I.O.N.* PLAN:
A PUBLIC HEALTH STRATEGY (CAAP)**

*ARTHRITIS CAN BE TRIUMPHED OVER IN OUR NEIGHBORHOODS

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EXECUTIVE SUMMARY

REDUCING THE BURDEN OF ARTHRITIS

SUMMARY

The State of Connecticut Arthritis A.C.T.I.O.N. Plan: A Public Health Strategy (CAAP) is a public health approach for reducing the burden of arthritis and other rheumatic conditions in the State. This Plan shifts the emphasis from the medical model to the public health model. The medical model focuses on the treatment of individuals who are already affected with arthritis. The public health model focuses on the community, policy and system changes, and prevention strategies to reduce the burden of arthritis and other rheumatic conditions in the population-at-large. The population-at-large includes people with arthritis and those at risk for developing arthritis.

It is difficult to define the burden of arthritis or compare arthritis prevalence rates because there is no one consistent case definition for arthritis and because various surveillance methods are used. National prevalence estimates are most often based on physician diagnoses, research studies and national telephone surveys [e.g., National Health Interview Survey and the Behavioral Risk Factor Surveillance System (BRFSS)]. Connecticut prevalence data is most often based on hospital discharge data and the BRFSS telephone survey that defines arthritis by self-reported chronic joint pain or symptoms (for at least one month) and/or recall of a doctor diagnosis. In 1997, it was estimated by the Centers for Disease Control and Prevention (CDC) that arthritis affects approximately 42.7 million (1 out of 6) Americans, and it was projected that arthritis will affect 60 million (1 out of 5) Americans by 2020.³ In 2000, the Connecticut BRFSS survey estimated that approximately 811,000 (1 out of 3) Connecticut adult residents⁴ are affected with arthritis. Although these rates are not comparable, currently there are national efforts promoting the implementation of one consistent case definition for arthritis. A consistent case definition and surveillance methodology will provide more meaningful data.

Arthritis is the leading cause of disability among persons aged 15 years and older.⁵ It can negatively impact the quality of life and lead to chronic pain, fatigue, depression, unemployment, inability to perform activities of daily living, or the loss of independence. Pain is the most important symptom among persons with arthritis, resulting in the widespread use of conventional prescription and nonprescription medications, surgical interventions and alternative medical treatments. Arthritis can also cause physical, psychological, social and economic burdens. For example, it is estimated that the United States expends nearly \$65 billion annually in lost work and healthcare related costs due to arthritis. This expense is estimated to be equivalent to 1.1 percent of the gross national

³ CDC. Prevalence of disabilities and associated health conditions among adults – United States, 1999. MMWR 2001;50:120-5.

⁴ Reported by CDC arthritis epidemiologists (Chad Helmick, MD et al), 8/2001 based in 2000 state-specific BRFSS and 2000 U.S. Census data sets for civilian non-institutionalized adults (also validated with 2000 CT BRFSS data analysis).

⁵ Chronic Disease Epidemiology and Control, 2nd Edition. Brownson, Remington, & Davis editors. American Public Health Association, Washington, DC; 1998.

*product or a mild recession.*⁶ The impact of arthritis reinforces the importance of partnerships and collaborations for the success of this Plan.

Therefore, the CAAP focuses on improving statewide surveillance systems, increasing awareness and communication, promoting education and arthritis self-management, and facilitating policy and system changes. It emphasizes community-based prevention strategies and the integration of the three levels of prevention⁷ into existing systems and infrastructures. Primary prevention strategies are always a strong focus of public health initiatives and will be included in this Plan. However, the implementation of secondary and tertiary prevention strategies is a priority in this Plan because of the very high prevalence of arthritis. Secondary prevention strategies will increase early diagnosis and treatment. Tertiary prevention strategies such as implementing the evidenced-based Arthritis Self-Help Course (ASHC) will reduce the debilitating impact of arthritis. Quantitative, qualitative and process evaluation outcome measures are emphasized throughout the implementation of this Plan.

THE PROBLEM

There is a high prevalence of arthritis, and as previously mentioned, it is expected to dramatically increase from approximately 42.7 million to 60 million people nationally by 2020. The prevalence of arthritis and other rheumatic conditions occurs throughout the age continuum; however, it increases with age.⁸ Prevalence rates are higher among persons aged 65 years and older and among women. Arthritis and musculoskeletal diseases are the most common cause of physical disabilities, and the second most common chronic disease condition in the United States.⁹ Arthritis and other rheumatic conditions include more than 100 diseases¹⁰ and conditions that affect the joints, muscles and other surrounding and connective tissues. Osteoarthritis is the most prevalent type of arthritis affecting approximately 21 million people (15.3 million women and 5.4 million men).¹¹ It is a degenerative joint disease characterized by joint symptoms (e.g., pain, stiffness, and decreased mobility) due to loss of cartilage and bone changes within the joint. It most commonly affects the hands, knees, hips, feet and spine. Osteoarthritis contributes significantly to the arthritis burden and has both public health and financial implications on the population-at-large. Therefore, it is a CAAP priority to target people, their families, and providers who are affected with osteoarthritis.

There are gaps in arthritis surveillance, self-management, education, awareness, policies, and overall public health initiatives. The evidenced-based prevention measures available to reduce the burden of arthritis are underutilized and not widely integrated into existing

⁶ Helmick CG, Lawrence RC, Pollard RA, Lloyd E, Heyse S. Arthritis and other rheumatic conditions: who is affected now and who will be affected later? Arthritis Care and Research, 1995.

⁷ American Public Health Association. Chronic Disease Epidemiology and Control. Defines the three levels of prevention intervention measures as: primary (prevent arthritis/reduce risk), secondary (promote early diagnosis and appropriate management) and tertiary (reduce preventable pain and disability).

⁸ Arthritis Foundation: Association of State and Territorial Health Officials, and CDC. National Arthritis Action Plan: a public health strategy. Atlanta, Georgia: Arthritis Foundation, 1999.

⁹ Lawrence RC, Helmick CG, Arnett FC, et al. Estimates of the prevalence of arthritis and selected musculoskeletal disorder in the United States. Arthritis Rheum 1998; 41:778-99.

¹⁰ CDC. International Classification of Disease, 9th Edition, Clinical Manifestations. MMWR 1999; 48 (17).

¹¹ CDC. Prevalence and impact of chronic joint symptoms, 1996. MMWR 1998; 47 (17): 341-51.

systems and community infrastructures. In order to reduce the impact of arthritis, a coordinated public health approach needs to be implemented.

TARGET POPULATIONS

Target arthritis populations for Connecticut include the following: elders aged 65 years and older; women aged 40 to 64 years old; African Americans and Latinos; people with poor socioeconomic status; persons with less than a high school education; and medically underserved populations. In addition, multidisciplinary health professionals have been identified as a target population for receiving and disseminating consistent communication, outreach, and arthritis education messages/activities. These target populations were derived from national and state-specific data, and because the implementation of secondary and tertiary prevention strategies are a priority of this Plan.

THE CHALLENGE

The CAAP's challenge is to redefine arthritis as a public health priority. It presents realistic prioritized strategies to reduce the burden of arthritis. The CAAP aims to provide a framework that engages partnerships, facilitates policy changes, and supports community-based, self-sustaining initiatives. It also aims to implement underutilized, cost-effective and evidenced-based prevention measures to target people with arthritis and those at greatest risk for developing arthritis. Proposed interventions include the three levels of disease prevention (e.g., primary, secondary and tertiary) in order to delay onset, reduce the risk of disease and disability, promote independence and health maintenance, and address the needs of persons already experiencing the pain and disability associated with arthritis. During the initial implementation of this Plan, resources will be prioritized to address tertiary prevention measures. The rationale for this prioritization is that persons already affected with arthritis will demonstrate more immediate measurable outcomes.

There is no cure for arthritis. However, via education and collaborative partnerships, prevention measures can be implemented to reduce the burden and impact of arthritis.

CAAP GOAL

The overall goal of this Plan is to reduce the burden of arthritis by implementing the following public health prevention strategies.

CAAP PUBLIC HEALTH PREVENTION STRATEGIES

Over 200 statewide partners developed the CAAP's public health prevention strategies. These prevention strategies are based primarily on state-specific BRFSS data, Healthy People 2010 objectives, the NAAP, and identified gaps and needs. Many of these strategies were the outcome of the first statewide Arthritis Forum convened in February 2001.

- ❑ Improve the statewide arthritis surveillance system and facilitate the analysis and dissemination of timely data-driven information in order to identify priorities, trend activities and provide outcome data.
- ❑ Promote a statewide arthritis program and create environments that foster policy and system development, and that sustain strategies at the community level in order to reduce the burden of arthritis.
- ❑ Facilitate population-based modifiable risk factor reduction (e.g., weight control, physical activity, avoidance of certain occupational and sports-related injuries, early diagnosis and appropriate medical and self-management) in order to improve health outcomes.
- ❑ Foster accurate and consistent provider and patient educational resources in order to promote awareness, education, and prevention intervention measures.
- ❑ Establish local, regional and national partnerships in order to promote a coordinated collaborative approach for reducing the impact of arthritis.
- ❑ Conduct culturally sensitive social marketing mass media campaigns that target identified, at-risk groups in order to increase awareness and prevention.
- ❑ Create opportunities for arthritis self-management (e.g., arthritis self-help course) in order to reduce the pain, disability, and other symptoms of arthritis.
- ❑ Ensure that the CAAP evaluation plan is implemented in order to monitor activities and measure outcomes.

THE PLAN PRIORITIES

Ten statewide CAAP priorities have been identified. These priorities are framed by the NAAP, the national Healthy People 2010 Objectives and state-specific needs. The ten identified priorities are organized into four areas: surveillance and epidemiology; communication and outreach; program and education; policy, systems and sustainability. These four areas capture the necessary elements and initiatives for a coordinated arthritis strategic public health plan.

SURVEILLANCE AND EPIDEMIOLOGY PRIORITIES

- ❑ To establish a systematic surveillance and epidemiological system for selecting, prioritizing and trending arthritis indicators in Connecticut.
- ❑ To explore the disparity of total knee replacements due to osteoarthritis in Connecticut. Then to apply information as appropriate to social marketing initiatives (e.g., identify target populations), in order to improve arthritis outcomes and reduce health care costs.

COMMUNICATION AND OUTREACH PRIORITIES

- ❑ To increase statewide partnerships and participation related to arthritis activities.
- ❑ To increase public awareness and recognition of arthritis as a public health issue, focusing especially on osteoarthritis. Target populations will include adult “baby – boomer” women aged 40 to 64 years old; African-American men aged 65 years and older; people of Hispanic ethnicity; seniors aged 65 years and older; and urban communities identified with a higher prevalence of physical inactivity and obesity.
- ❑ To facilitate an arthritis networking group and/or forum in order to share information, and implement the CAAP.
- ❑ To facilitate early diagnosis and treatment of arthritis, in order to reinforce the importance of knowing the type of arthritis and the treatment options.

PROGRAMS AND EDUCATION PRIORITIES

- ❑ To promote and facilitate evidenced-based arthritis self-management in order to improve health outcomes.
- ❑ To promote and facilitate healthy behaviors such as physical activity and weight management via program, policy and environmental initiatives in order to improve health outcomes.

POLICY, SYSTEMS AND SUSTAINABILITY PRIORITIES

- ❑ To facilitate the development of a State chronic disease prevention coalition in order to address shared risk factors, policies and systems issues.
- ❑ To foster the integration of education, resources and a three-tiered prevention model into existing systems and infrastructures.

EVALUATION

Evaluation is an integral component of this Plan. Process, qualitative, and quantitative evaluation measures are included to gain insights, measure change in behaviors, and assess the impact and effectiveness on communities and target populations. Criteria are preset to measure, collect, and analyze evaluation indicators. Data collection methodologies must be systematic, consistent, and ongoing. Findings must be disseminated to stakeholders in a timely manner. Whenever possible, the findings that celebrate successes, promote evidence-based best practices, and identify opportunities for improvement need to be shared and included in social marketing campaigns as appropriate.

PROCESS EVALUATION

Process evaluation focuses on how activities and initiatives are assessed, planned, implemented and evaluated. Process examines partnerships, progression and the steps taken to bring about an action. Valuable outcomes from process evaluation measures often include lessons learned through interactions with stakeholders and partners.

QUALITATIVE EVALUATION

Qualitative evaluation refers to the appropriateness and integrity of the evaluated item, and measures the reliability, validity, and usefulness of the activity or information. Qualitative data can also capture perceptions and opinions of participants.

QUANTITATIVE EVALUATION

Quantitative evaluation utilizes a more traditional numeric approach to measurement that assigns a value to a certain amount of evidence gathered by implementing the evaluation methodology. Implementing a predetermined methodology should produce numerical data that can be potentially analyzed. Descriptive or inferential statistical analysis can be applied as appropriate.

CONCLUSION

In conclusion, the CAAP is a data driven, five-year strategic plan to reduce the burden of arthritis in Connecticut. This Plan includes prevention strategies and social marketing initiatives that address the Healthy People 2010 arthritis-related objectives, the *National Arthritis Action Plan: A Public Health Strategy* (NAAP) and state-specific needs. The CAAP is divided into four priority areas: surveillance and epidemiology; community and outreach; program and education; and policy, systems and sustainability.

The interventions outlined in this Plan are public health population-based prevention strategies. They are intended to address arthritis and other rheumatic conditions in general. This Plan does not recommend specific health care case management treatment options. The CAAP provides a vision to facilitate systems, policies and prevention measures consistent with a public health approach and the population-at-large.

BACKGROUND

DEFINITION OF ARTHRITIS

It is important to note that there is no consistent national case definition for arthritis. Throughout this Plan, the term *arthritis* will refer to arthritis and other rheumatic conditions. **The definition for arthritis, most frequently referred to in this Plan, is the 2000 Behavioral Risk Factor Surveillance System (BRFSS) case definition of self-reporting chronic joint pain and/or symptoms for at least a month and/or self-reporting a physician diagnosis of arthritis.** Other definitions of arthritis include variations of the aforementioned definition or documentation of a physician diagnosis. Survey (e.g., BRFSS, NHIS) case definitions are based on information obtained from respondents' recall of a physician diagnosis or self-reporting and quantifying the length of duration of chronic joint pain and/or symptoms (e.g., swelling, stiffness). Definitions of physician diagnosis vary because more than 120 types of conditions are included in the overall definition of arthritis. The consistencies with physician diagnoses are further complicated because they are obtained by various methodologies. Methodologies include respondents' recall, abstracting from medical record chart reviews, or from various other methods such as physician driven studies and queries of ICD9-CM codes. Most published research studies define arthritis by documentation of a physician diagnosis. Therefore, since the case definition of arthritis is dynamically evolving over time, the findings are often times not comparable.

In this Plan, in an effort to compare data, various arthritis subgroups are extracted from the 2000 Connecticut BRFSS survey. These subgroups represent some of the various arthritis definitions or subsets used in other databases. The analyses of the Connecticut 2000 BRFSS survey demonstrate the effect different definitions can have on prevalence rates. For instance, if arthritis is defined by self-reported physician diagnosis the prevalence is only 22 percent. Even though this definition indicates under reporting (because it is estimated that a physician sees less than twenty-five percent of the people with arthritis) it may be useful for comparing prevalence over time and with other data sets using a similar definition. Table 1 summarizes three various definitional subgroups extracted from the Connecticut 2000 BRFSS, the prevalence response rate and the areas in this Plan where the subgroup is used for comparative purposes.

Table 1.
Arthritis Case Definitions Applied to the CAAP for Comparative Purposes
Connecticut 2000 BRFSS*

Various Case Definitions	BRFSS Response Prevalence Rate	Where Discussed in this Plan
Self-reported physician diagnosis and/or having chronic joint pain and/or symptoms for up to one month	32.3%	Prevalence
Self-reports that a doctor diagnosed arthritis	22%	Physician Diagnosis
Self-reported chronic joint pain or symptoms for at least one month	21%	Pain

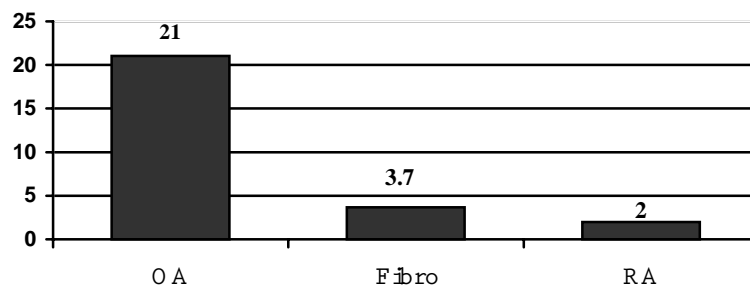
□ For civilian non-institutionalized adults aged ≥ 18 .

It is important to emphasize that there is a national commitment for developing a consistent case definition and methodologies. These efforts will allow for improved prevalence estimates and for comparisons between state and/or national databases. National efforts are currently underway to address the implementation of one arthritis case definition for both the BRFSS and NHIS surveys. These surveys are national telephone randomly selected surveys that have best-estimated arthritis prevalence on national and state levels. Both surveys include self-reports of chronic joint pain and/or symptoms in their case definition of arthritis. The NHIS case definition of arthritis also includes self-reporting activity limitations due to arthritis.¹² It is projected that the new case definition for both surveys will include self-reports of chronic joint pain and/or arthritic symptoms up to three months and/or self-reports of a physician diagnosis. The new arthritis case definition is targeted for implementation in 2002 for both the NHIS and BRFSS surveys.

TYPES OF ARTHRITIS

Arthritis and other rheumatic conditions include over 120 chronic diagnoses that affect the joints, the surrounding tissues, and other connective tissues.¹³ These diagnoses are classified in the diagnostic ICD-9-CM Code Book.¹⁴ These codes help to consistently classify arthritis and are widely used internationally as part of a disease classification system. The three most common forms of arthritis are osteoarthritis, fibromyalgia and rheumatoid arthritis. See Figure 1 for comparisons of the three most common types of arthritis in the United States.

Figure 1.
The Prevalence of the Three Most Common Types of Arthritis
In the USA¹⁵



OA = Osteoarthritis, Fibro = Fibromyalgia, RA = Rheumatoid Arthritis
(Prevalence is reported in units of millions, i.e., 21 million, 3.7 million, 2.1 million)

¹² Massey JT, Moore TF, Pasons VL, Tadros W. Design and estimation for the National Health Interview Survey, 1985-94. *Vital Health Stat.* 1989; 21:1-4.

¹³ Arthritis Foundation: Association of State and Territorial Health Officials, and CDC. *National arthritis action plan: a public health strategy.* Atlanta, Georgia: Arthritis Foundation, 1999.

¹⁴ International Classification of Diseases, 9th Revision, Clinical Modification. 2nd ed. Washington, DC: US DHHS; 1980. DHHS publication PHS 80-1260.

¹⁵ Arthritis Foundation: Association of State and Territorial Health Officials, and CDC. *National arthritis action plan: a public health strategy.* Atlanta, Georgia: Arthritis Foundation, 1999.

OSTEOARTHRITIS

Osteoarthritis is a degenerative joint disease, which most often affects the hip, joint, knee, foot and hand, but it can affect any joint. Activity limitations are the result of pain, stiffness and movement problems caused by the degenerative joint cartilage and changes in underlying bone and supporting tissue. Osteoarthritis affects approximately 21 million Americans: 15.4 million women and 5.3 million men.

FIBROMYALGIA

Fibromyalgia is a pain syndrome involving muscles and muscle attachment areas. Activity limitations are the result of pain through the muscles of the body, sleep disorders, fatigue, headaches and irritable bowel syndrome. Fibromyalgia affects approximately 3.7 million Americans.

RHEUMATOID ARTHRITIS

Rheumatoid arthritis is an inflammation of the joint lining. Activity limitations are the result of pain, stiffness and swelling of joints. Rheumatoid arthritis affects approximately 2.1 million Americans.

THE NATIONAL AND CONNECTICUT ARTHRITIS BURDEN

The measure of the arthritis burden is complicated by the inconsistent case definition previously discussed. Unless sited, this document focuses on the 2000 BRFSS arthritis case definition. This definition includes self-reports of a physician diagnosis, and/or self-reports of chronic joint pain and/or symptoms lasting for up to one month. The arthritis burden is captured from information available from various data sources previously discussed. The analyses of one of the primary data sources, the 2000 BRFSS (both national and Connecticut specific), are incomplete at this time. Therefore, many more measures related to arthritis will be available in the future.

PREVALENCE

NATIONAL /OVERVIEW:

Arthritis affects an estimated 42.7 million Americans – approximately one out of every six people¹⁶. It is estimated that 60 million people, or one in five Americans, will have arthritis by the year 2020¹⁷. These projections represent a 50 percent increase in the arthritis prevalence over two decades. Therefore, the aging of the baby boomer cohort (aged 40 – 64) suggests an imminent arthritis epidemic. In addition, higher prevalence rates of arthritis have been documented in the Southern region of the United States, probably because senior adults are migrating to warmer climates as they retire.¹⁸

Arthritis prevalence estimates from the BRFSS varied by state and year. Baseline prevalence rates are increasing over time. For instance in 1996 they ranged from 24.2 percent to 35.1 percent, and from 26.2 percent to 33.8 percent in 1998. The unadjusted prevalence of arthritis reported in these data sources were higher among women than men, increased with age and decreased at higher education levels. These differences persisted in a multivariate model with adjustments for sex, age and education.¹⁹

National prevalence rates have been estimated from published studies, the National Health Interview Survey (NHIS) and the Behavioral Risk Factor Surveillance System (BRFSS).

CONNECTICUT

The Connecticut burden of arthritis is perhaps best captured by the BRFSS data. Results from the State specific 2000 BRFSS survey indicate that **one in three (32.2 percent or 811,000) civilian non-institutionalized adults aged 18 or older in Connecticut met the case definition for arthritis**. The case definition included self-reporting chronic joint pain and/or symptoms and/or recall of a physician diagnosis.²⁰ Table 1 indicated variations in prevalence rates based on definitional subgroups.

¹⁶ CDC. Prevalence and impact of chronic joint symptoms – seven states, 1996. MMWR 1998;47(17):345-51.

¹⁷ CDC. Arthritis prevalence and activity limitations – United States, 1990. MMWR 1994;43:433-8.

¹⁸ National Center for Health Statistics (NCHS): Vital and Health Statistics Series 10, No. 200. 1996

¹⁹ CDC. Health-related quality of life among adults with arthritis – BRFSS, 11 states, 1996-98. MMWR 2000;49(17):366-9

²⁰ CDC. Helmick C, et al Arthritis epidemiologists non-published arthritis standard tables, 2001.

The arthritis prevalence in Connecticut has been documented to be higher than most states since 1990. The 1990 Connecticut arthritis prevalence, using a previous case definition of self-reporting a doctor diagnosis, was estimated by the CDC to affect one out of six people nationally and one out of five people in Connecticut.²¹ These 1990 historical prevalence comparisons estimated Connecticut to be higher (21.3percent) than nearby regional states that implemented the BRFSS arthritis module [e.g., Rhode Island (20.9percent), Pennsylvania (15.4percent), and New Jersey (12.3percent)].²² Plausible reasons for the higher prevalence of arthritis in Connecticut are the aging baby boomer population (40-64 year olds) and a higher senior census.

A national non-published CDC arthritis prevalence study documents that the median arthritis prevalence is 30 percent of the population. Compared to other states in this CDC arthritis study, Connecticut's arthritis prevalence is above the median. The study cohort consisted of 15 states and Puerto Rico, and implemented an expanded surveillance case definition. The case definition included persons who reported doctor diagnosis of arthritis and/or chronic joint pain.

Geographic Information System (GIS) maps identify the Connecticut towns that have the highest prevalence of seniors and women aged 40 to 64 years. These two target populations are identified both by quantity (number) and by their proportion (rate per population) within each town/city. (See Appendix E for GIS maps). Target locations in Connecticut are the central urban areas and the rural northwest, southwest corner and shoreline areas.

Other state-specific arthritis burden estimates are derived from the following data sources: National BRFSS data (state-specific estimates); 1990-1998 National Health Interview Survey (NHIS) results (state-specific estimates); 1993-1998 Connecticut Hospital Discharge Abstract and Billing Database; focus groups; state-specific arthritis program surveys; the First Statewide Arthritis Forum recommendations; review of the literature. In addition, physical inactivity and obesity were also assessed since they are shared risk factors with other chronic diseases.

²¹ CDC. Prevalence and impact of chronic joint symptoms, 1996. *MMWR* 1998; 47 (17): 345-51

²² CDC. Health-Related Quality of Life Among Adults with Arthritis—Behavioral Risk Factor Surveillance System, 11 States, 1996-1998. *MMWR* 2000; 49 (17): 366-9

Arthritis Foundation: Association of State and Territorial Health Officials, and CDC. National arthritis action plan: a public health strategy. Atlanta, Georgia: Arthritis Foundation, 1999.

PHYSICIAN DIAGNOSIS

NATIONAL/OVERVIEW:

Physician diagnosis has been an important element in defining arthritis prevalence, especially for research studies published in the literature. However, there have been various methods and data sources for capturing physician diagnosis. For example, physician diagnoses have been captured by a respondent's self-reported recall of being told by a physician that he/she has arthritis, respondent's self-report and x-ray, a non-physician reviewer's documentation of the presence of arthritis from an inpatient medical record ICD-9-CM discharge code and by physician initiated studies based on their patients. There are also variations with methodologies with the aforementioned examples.

In reviewing medical records to obtain prevalence data, there have been variations in selection and assignment of an ICD-9-CM code to the 127 different types of arthritis. Not all of the arthritis types have a specific ICD-9-CM code and how codes are ranked (e.g., primary, secondary, tertiary) affects the results of queries. For example when querying the diagnosis osteoarthritis, it is important to identify all possible ICD-9-CM codes that are relevant and then to decide if primary or all ranking need to be captured. Therefore, the method of selection of the discharge diagnosis code also has an influence on prevalence data. Codes can be selected as the primary, secondary and/or tertiary diagnosis. These various methodologies do not allow for comparisons and limits and/or qualifies findings.

Limiting the case definition of arthritis to a physician diagnosis may also underestimate prevalence, especially since studies have shown that 16 percent of adults aged 18 years and older self-diagnose arthritis and have not seen a doctor for their arthritis²³. Physicians play an important role in arthritis. The prevalence of physician diagnosis is influenced by factors such as: physician/population ratios; access to care; insurance and payor systems; belief frameworks; practice patterns; types of practices (e.g., rheumatology, primary care,). Although physician diagnosis is very useful and has been a corner stone to many research studies it is important to understand the limitations of the results due to methodologies and definitions.

CONNECTICUT:

The 2000 BRFSS and the Connecticut Hospital Discharge Abstract and Billing Database have been the two primary sources for quantifying physician diagnosis of arthritis. The 2000 BRFSS demonstrates that 22 percent of the respondents (556,000 or one out of five) reported being told by a doctor that they have arthritis. However, 46 percent of the respondents, who reported being told by a doctor that they have arthritis, did not know what type of arthritis that they have. Of the respondents who reported being told by a doctor that they have arthritis, 33 percent of the respondents stated that they have osteoarthritis.

²³ Rao JK, Callahan LF, Helmick CG. Characteristics of persons with self-reported arthritis and other rheumatic condition who do not see a doctor. *J Rheumatol* 1997;24:169-73.

A query of the Connecticut Hospital Discharge Abstract and Billing Database demonstrates that osteoarthritis is one of the 15 leading causes of hospitalization in Connecticut for both males and females. During 1998, in Connecticut there were 4,549 acute care hospital discharges with a principal diagnosis of osteoarthritis. Table 2 summarizes the demographic profile of the most prevalent factors of age, gender and race/ethnicity of patients with a principal diagnosis of osteoarthritis.

Table 2.
Summary Demographic Profile of the Most Prevalent Factors In Patients
with a Principal Diagnosis of Osteoarthritis

(From the Connecticut Hospital Discharge Abstract and Billing Database 1998)

Gender	62% Female
Age	69% aged 65 years old and older
Race/ Ethnicity	89% White non-Hispanic

*(N=4,549 Connecticut Acute Care Hospital Patients
 Discharged with a Principal Diagnosis of Osteoarthritis)*

PAIN IMPACT

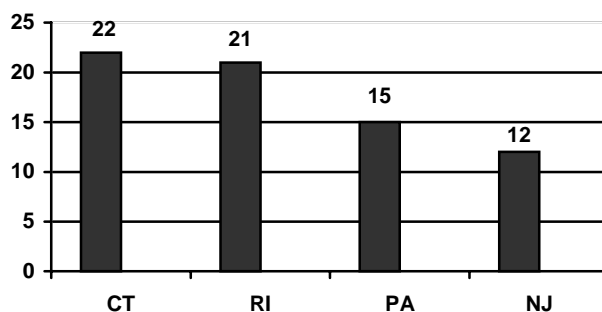
NATIONAL/OVERVIEW:

Pain is the most important symptom among persons with arthritis, resulting in the widespread use of conventional prescription and nonprescription medications, surgical interventions and alternative medical treatments.²⁴ Coping difficulties, depression, anxiety, and low self-esteem are recognized as major personal and emotional problems among persons with arthritis²⁵. These issues are also especially frequent among persons with physical pain. However, currently there is no data source that quantifies pain related to arthritis. The BRFSS and other national surveys collapse pain and arthritis symptoms into one item in the survey instrument. There are some selected regional comparisons from the 1998 BRFSS data of self-reported chronic joint pain symptoms of arthritis. National comparisons indicate that there is a higher prevalence in the northeast and south. Figure 3 illustrates these comparisons.

²⁴ Melvin, J and Jensen, G (eds) Rheumatologic Rehabilitation Series Volume I: Assessment and Management. Rockville, MD: American Occupational Therapy Association, 1998 259-278.

²⁵ CDC. Targeting Arthritis: the nation's leading cause of disability. at-a-glance. 1998, Atlanta GA.

Figure 3.
Selected Regional Comparison Of
Self-Reported Chronic Joint Pain and/or Symptoms of Arthritis*
(Connecticut BRFSS data, Other States 1998 BRFSS) Reported as Prevalence (% of state population)
CDC May 8, 1998/MMWR 47(17); 345-351)



CONNECTICUT:

Connecticut-specific data sources that quantify pain directly related to arthritis are also unavailable because no current data sources relate pain with arthritis. The best estimate of pain for people with arthritis is from the 2000 BRFSS. The limitation of this data is that pain and chronic joint symptoms are also collapsed into one item in the questionnaire.

The results of the 2000 BRFSS indicate that white non-Hispanics and black non-Hispanics more often self-report pain and chronic joint symptoms than other race and ethnic groupings. In addition, of those who self-reported this finding, there were more women (24 percent) than men (19 percent). Chronic joint pain and symptoms also increase with age and decrease with higher household income and education. The poor (26 percent) and those with less than a high school education (26 percent) self-reported a higher prevalence.

Table 3.
2000 Connecticut BRFSS Demographic Prevalence of
Chronic Joint Pain and/or Symptoms

White non-Hispanics	22%
Black non-Hispanics	21%
Hispanics prevalence	17%
Other	13%
Overall/Total	21%

DISABILITY / ACTIVITY LIMITATION IMPACT

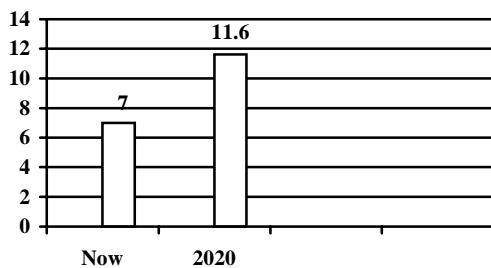
NATIONAL/OVERVIEW:

Disability is the physical or mental impairment that impedes normal achievement. Arthritis is the leading cause of disability among persons aged 15 and older.²⁶ The National Health Interview Survey (NHIS) obtained the first disability population estimates in 1992. Disability was defined by a respondent’s self-reporting a limitation in activity caused by chronic health disorders, injuries or impairments. Respondents were randomly selected, civilian, non-institutionalized, United States adults aged 18 and over. The number of persons reporting disabling conditions increased from 49 million during 1991-1992 to 54 million during 1995-1996.²⁷

Activity limitation is a decrease in one’s ability to function or to perform one’s normal daily activities. Activity limitation is self-reported in both the NHIS and BRFSS surveys. Respondents are asked to describe his/her ability to conduct daily activities of living. If limitations are identified, the respondents are asked to specify the health condition causing the limitation and to indicate how long he/she has had the condition. These questions are used to determine lost workdays and limitation in movement.

Arthritis is the number one cause of activity limitation in the United States.²⁸ According to the 1997 NHIS, 27 percent of adults, aged 18 years and older, with chronic joint symptoms experienced a limitation in activity due to arthritis. Arthritis limits the major activities (e.g., working, housekeeping, school) of nearly 3 percent of the entire U.S. population (7 million persons), including 1 out of 5 persons with arthritis. In addition, with the aging baby boomers (people aged 40-64), activity limitations from arthritis are expected to increase by approximately 40 percent by 2020.²⁹

Figure 2.
Arthritis Prevalence & Projected Increase in the Limitation of Activity in Americans



²⁶ Helmick,CG, Lawrence RC, Pollard RA, Lloyd E, Heyes S. Arthritis and other rheumatic conditions: who is affected now and who will be affected later? Arthritis Care and Research, 1995.

²⁷ Kaye H, LaPlante M, Carlson D, et al. Trends in disability rates in the United States, 1970-1994. San Francisco, California: University of California, Disability Statistics Center, 1996.

²⁸ CDC national arthritis month – May 2001, prevalence of arthritis in the United States, 1997. MMWR (50) 17: 333-337.

²⁹ CDC national arthritis month – May 2001, prevalence of arthritis in the United States, 1997. MMWR (50) 17: 333-337.

Table 4 summarizes the Healthy People 2010 Objective 2-2's special populations and their self-reported chronic joint pain and symptoms with related activity limitation. The highest rates of activity limitations were identified in the poor and those with less than a high school education.

Table 4.
Healthy People 2010 Objective 2-2:
Percentage of Adults 18 years and Older
Reporting Chronic Joint Pain and Symptoms with Activity Limitations

SPECIAL POPULATIONS	PERCENTAGE REPORTING ACTIVITY LIMITATION
Black or African American	32%
Hispanic or Latino	28%
Female	31%
Poor	36%
Less than a high school education	34%

CONNECTICUT:

The 2000 BRFSS is the source for Connecticut-specific data on disability and activity limitations. Forty-three percent of the 2000 BRFSS respondents, who self-reported pain and/or chronic joint symptoms lasting up to one month, also self-reported that they had activity limitations. These activity limitations were highest in the less than high school education (50 percent) and lower income levels (55 percent). Hispanics reported almost two-fold higher activity limitation (59 percent) of the respondents who reported joint pain in the past 12 months. When this finding was compared to national NHIS data, only 28 percent of the Hispanics reported activity limitation. Activity limitations is not captured by the 2000 BRFSS respondents who self-reported a physician diagnosis of arthritis because they were not asked about activity limitations.

EMPLOYMENT IMPACT

NATIONAL/OVERVIEW:

The pain and/or the symptoms of arthritis often lead to disability and have a great impact on the workforce. In the 1997 BRFSS, 67 percent of adults aged 18 to 64 self-reported that a physician told them that they have arthritis and that they were employed. It is important to note that the majority of the adults (aged 18 to 64) with arthritis (67 percent) are in the workforce. Employees with arthritis can also significantly impact the employer. People working with disabilities often need to have provisions made for them in accordance with the

American Disability Act. Pain and symptoms of arthritis can also impact productivity, and days missed.

Table 5.
Summary Demographic Profile Of The 67 percent Employed
Who Self-Reported Arthritis In The 1997 National BRFSS
(Highest Reported Prevalence in Category)

Gender	60% were female
Education Level	47% have less than a high school education
Race / Ethnicity	60% were Hispanic or Latino 52% were African American
Socioeconomic Status	39% were poor

CONNECTICUT:

State-specific BRFSS arthritis employment data are not available at this time. Currently, state-specific worker compensation, labor and employment data is being explored. However, the 2000 BRFSS respondents reported that 68 percent were employed. Twenty percent reported that they were either retired or unable to work. Thirty-two percent of the retired or unable to work respondents were 64 years old or younger. This information suggests that many people with arthritis are probably in the workforce.

TOTAL KNEE REPLACEMENT(S) IMPACT

NATIONAL/OVERVIEW

The prevalence of knee osteoarthritis is higher in women than men³⁰, and increases with age. Further, women exhibit worse symptoms and disability from knee osteoarthritis than men.³¹ The increased risk of knee osteoarthritis may extend to black women but not to black men.³² These findings are consistent with the prevalence of being overweight (which is a risk factor for knee osteoarthritis). Kumanyika reported in his study that knee osteoarthritis was almost the same in black and white men, but much higher in black women than white women.³³

³⁰ Anderson JJ, Felson DT. Factors associated with osteoarthritis of the knee in the first national Health and Nutrition Survey (HANES I). Evidence for an association with overweight, race and physical demands of work. Am J Epidemiol 1988;128:179-89.

³¹ Hawker GA, Wright JG, Coyte PC, et al. Differences between men and women in the rate of use of hip and knee arthroplasty. New Engl J Med 2000;342:1016-22.

³² Anderson JJ, Felson DT. Factors associated with osteoarthritis of the knee in the first national Health and Nutrition Survey (HANES I). Evidence for an association with overweight, race and physical demands of work. Am J Epidemiol 1988;128:179-89.

³³ Kumanyika S. Special issued regarding obesity in minority populations. Ann Inter Med 1993;199:650-4.

The Healthy People 2010 Developmental Objective 2-6 cites that certain studies have shown that African Americans have much lower rates of total knee replacements than whites, even when adjusted for age, gender, and insurance coverage. The reasons for this suggested difference are unclear. However, the effect may have significant impact on pain and disability. Further data is needed to verify, replicate findings and explore this potential racial disparity.

CONNECTICUT:

The Connecticut total knee replacement data was obtained from the Connecticut Hospital Discharge Abstract and Billing Database (1993-1998). Total knee replacement rates were analyzed exploring race, sex and age disparities. In 1996-98, more than 88 percent of the inpatient acute care hospital discharges with total knee replacements had a primary diagnosis of osteoarthritis. In the age cohort 65 and older, the rate of osteoarthritis was 94 percent.

This initial analysis demonstrates the rate of hospital discharges with a total knee replacement operation was 122.9 per 100,000 people aged 25 years or older, with an overall ratio of one total knee procedure per 180 people with arthritis. The ratio was similar for non-Hispanic whites and blacks; however, much smaller (1 for 450) for Hispanics. These findings have their limitations because of the small population and prevalence. Further surveillance for trending, reliability and validity will need to be explored.

Table 6.
Adult* Total Knee Replacement Rates*** by Race, Sex and Age**
Connecticut Acute Care Hospital Discharge Database
(Combined Years 1996-1998)

ETHNICITY, GENDER	25-34	35-44	45-54	55-64	65+	TOTAL	M&F TOTAL	AAHR	AAHR 95% CI	# HOSPITAL DISCHARGES
White, NH Male	1.1	7.9	41.7	147.9	375.4	103.8	130.9	66.4	63.9 , 68.9	2773
Black, NH Male	1.4	11.2	40.4	143.9	182.9	46.6	97.7	44	34.9 , 53.1	102
Hispanic Male	0.0	8.8	6.2	58.3	80.0	14.6	30.8	16.9	10.1 , 23.7	28
White, NH Female	0.5	7.6	50.3	219.5	447.0	155.5		84.9	82.4 , 87.4	4593
Black, NH Female	3.9	12.5	92.4	342.2	564.4	139.5		115.8	103.9 , 127.7	374
Hispanic Female	2.7	1.6	30.4	186.6	214.3	45.5		47.5	37.8 , 57.2	97

*Adults aged 25 years old and older **ICD-9-CM Code 81.54 ***Rates per 100,000 ****NH = non Hispanic CI=confidence interval
M&F Total = Male and Female total AAHR=Age-adjusted hospitalization rate; adjusted to US 2000 standard population

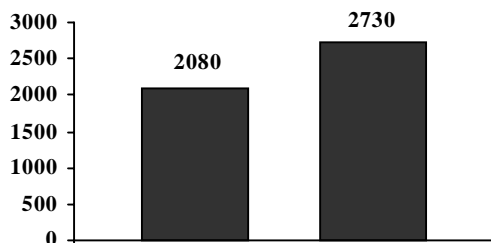
Table 6 shows total knee replacement rates by age, sex, and race/ethnicity. Rates increased with age. The Connecticut age-adjusted total knee replacement rates were higher in women than men. Among men, the age-adjusted rates were highest in whites, intermediate in blacks, and lowest in Hispanics. In women, the age-adjusted rates were highest in blacks, intermediate in whites, and lowest in Hispanics.

Several studies have suggested that women and blacks receive some types of surgery less often than white men, and less often than they should. Proper interpretation of the data, however, requires knowledge regarding the prevalence and severity of disease, access to health care, clinical judgment of physicians, and preferences of patients. The prevalence of any arthritis was used in Table 6 as of substitute for knee osteoarthritis. Information about the prevalence of osteoarthritis in the knee does not exist for the Connecticut population. Thus one cannot conclude from these tables whether the differences in rates of total knee replacements by sex, race, and ethnicity reflect differences in the prevalence of disease or some other cause.

There were 12,026 or 143 per 100,000 acute care hospital discharges from 1993 through 1997, for females aged 20 and older, with the primary ICD-9-CM diagnosis of osteoarthritis. From 1993 to 1997 there was a 26 percent increase.

Figure 4.
Connecticut Acute Care Female Hospitalizations
With Osteoarthritis as the Principal Inpatient Discharge Diagnosis

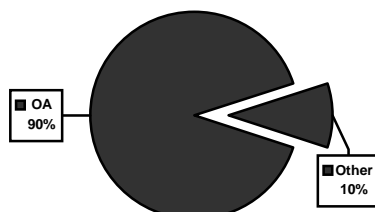
26percent Increase From 1993 to 1997
 (1993 = 2,080 discharges; 1998 = 2,800 discharge)



Ninety percent of all total hip and knee procedures performed in Connecticut hospitals during 1998, had osteoarthritis as the primary diagnosis. This finding is expected, especially since joint replacement is the treatment of choice for knee osteoarthritis with painful and disabling symptoms.

Figure 5.
Principal Discharge Diagnosis of All Total Hip & Total Knee Procedures
in Connecticut Acute Care Hospitals, 1998

(N=4,734 Discharges) (OA = Osteoarthritis)



Adults aged 20 and older were analyzed for age and racial disparities for total knee replacements using the 1996-1998 Connecticut Hospital Discharge Data base. These data *do not* seem to reflect the national findings reported in the Healthy People 2010 Objective 2-6 (Eliminate the racial disparities in the rate of total knee replacements).

Table 7.
Adult* Total Knee Replacement Ratio By Race
Connecticut Acute Care Hospital Discharge Database
Combined Years 1996-1998

AGE		WHITE, NON- HISPANIC	BLACK, NON- HISPANIC	HISPANIC	TOTAL
≥20	Arthritis Prevalence**	24,100	16,300	13,900	22,100
≥25	Knee Replacement***	130.9	97.7	30.8	122.9
	Ratio (total knee replacement to people who have arthritis)	1 to 180	1 to 170	1 to 450	1 to 180

*Adults aged 25 years old and older (cut point in data)

**Estimated adult prevalence based on 2000-CT BRFSS respondents with doctor diagnosed arthritis.(Data limitation).

*** Total Knee Replacement (ICD-9-CM Procedure code 81.54), combined years 1996-1998 (due to small numbers), CT Hospital Discharge Database

Table 7 shows that the reported rate of arthritis in Connecticut residents 20 or older was 22.1 percent, or 22,100 per 100,000 people. The rate of hospital discharges with a total knee replacement operation was 122.9 per 100,000 people aged 25 or older, for a ratio of one total knee replacement per 180 people with arthritis. The ratio was similar for non-Hispanic whites and blacks, but was much smaller (1 to 450) for Hispanics.

SELF-MANAGEMENT IMPACT

NATIONAL/OVERVIEW:

Existing evidenced-based interactive education interventions, such as the Arthritis Self-help Course (ASHC), reach less than one percent of the population with arthritis.³⁴ The efficacy of self-management strategies has been well documented in the literature as effective tertiary public health prevention measures. Self-management promotes positive behavior change(s), health improvement, independence and mobility based on information, readiness and group support. People learn to participate in their own care and choose to make behavior modifications to improve their health. The Arthritis Self-Help Course (ASHC) is a six-week educational program designed to teach people with arthritis how to take a more active part in their arthritis care. Kate Lorig, R.N., Dr.P.H., originally developed the program, at the

³⁴ US Department of Health and Human Services. Healthy People 2010. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 volumes. Washington, DC. US Government Printing Office, November 2000. Chapter 2.

Stanford Arthritis Center.³⁵ The Healthy People 2010 Developmental Objective 2-8 aims to expand self-management and educational efforts.

CONNECTICUT:

In Connecticut during 1999 only 23 people participated in the six-week evidenced-based Arthritis Self-Help Course (ASHC). From 1999-2000 approximately 200 people participated in the evidenced-based 1-½ hour Pain Cycle course. The 2000 BRFSS data indicates that of the 21 percent who self-reported being told by their doctor that they had arthritis, only 46 percent of the respondents could recall the type of arthritis that they had. This finding reinforces the need for the ASHC, especially since part of the course curriculum is dedicated to how to talk to your doctor. Another focus of the self-management course is to learn about pain, medications, nutrition and weight management, and physical activity.

To help address this gap in self-management, the State of Connecticut Department of Public Health, Bureau of Community Health, Health Education and Intervention was awarded a CDC grant entitled “Reducing the Impact of Arthritis and Other Rheumatic Conditions”. One of the main foci of this grant is to implement a model entitled “FAST” (Freedom from Arthritis using Self-management Techniques). The FAST model will increase evidenced-based Arthritis Self-Help Course leaders, and link exercise programs with the ASHC. Fifteen pilot sites are projected throughout the state. Three different exercise cohorts will be utilized (e.g., PACE, Silver Sneakers, general exercise programs).

PHYSICAL ACTIVITY IMPACT

NATIONAL/OVERVIEW:

The importance of safe regular physical activity throughout life for health and chronic disease prevention has been well recognized. The protective benefits of physical activity and the identification of physical inactivity as a risk factor for arthritis has also been documented. On average, physically active people outlive those who are inactive. Regular exercise helps to maintain functional independence of older adults and enhances the quality of life for people of all ages.³⁶ Physical activity for bone and joint health was highlighted in a 1996 report *Physical Activity and Health: A Report of the Surgeon General*.³⁷ Physical activity is recognized as a leading health indicator in the Healthy People 2010 objectives and included in the NHIS surveys. Target populations with low rates of physical activity include women, people with lower incomes and less education, African Americans and Hispanics, adults in the northeastern and southern States, people with disabilities and people over 75 years of

³⁵ Arthritis Self-Help Course Guidelines and Procedures. Arthritis Foundation Atlanta Georgia, 1996.

³⁶ US Department of Health and Human Services. Healthy People 2010. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 volumes. Washington, DC. US Government Printing Office, November 2000. P 22-3.

³⁷ US Department of Health and Human Services (HHS). *Physical Activity and Health: A Report of the Surgeon General*. Atlanta, GA:HHS, CDC, 1996.

age.³⁸ There are several Healthy People 2010 Objectives emphasizing the importance of physical activity. Two priority objectives are to reduce the number of adults aged 18 and older who do not engage in physical activity to 15 percent, and to increase the proportion of people to 30 percent who do engage in regular (preferably daily) light to moderate physical activity for at least 30 minutes per day.

Table 8.
Summary Of HP2010 Physical Activity Objectives³⁹
Comparison Of General Population
To Persons Who Met The Arthritis Case Definition, 1997 NHIS

Physical Activity Item Evaluated	Persons without Arthritis	Person with Arthritis	Target
Engage in no leisure-time physical activity.	38%	43%	20%
Engaged in regularly, preferably daily, in moderate physical activity for at least 30 minutes per day.	15%	15%	30%
Engage in vigorous physical activity three or more times per week for 20 or more minutes per session.	24%	21%	30%
Adults who perform physical activities enhance their routine with strength training*.	18%	18%	30%

*Civilian non-institutionalized adults aged 18years and older, *Strength training is required to promote muscular strength and endurance. Arthritis case definition included*

CONNECTICUT:

The Connecticut BRFSS provided information about physical activity in adults. Information about physical activity among those with arthritis is not available at this time. The BRFSS data is self-reported and is limited to leisure time activity. Therefore, job related physical activity such as construction work or professional sports is not captured in this data. This data yielded information that demonstrated that of the 2,506 adult respondents, that 80 percent (confidence interval 77.8 – 81.4, n=2506) were at risk for health problems due to lack of regular and sustained physical activity.⁴⁰

³⁸ US Department of Health and Human Services. Healthy People 2010. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 volumes. Washington, DC. US Government Printing Office, November 2000, p.27.

³⁹ US Department of Health and Human Services. Healthy People 2010. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 volumes. Washington, DC. US Government Printing Office, November 2000, Chapter 22.

⁴⁰ Connecticut Behavioral Health Risks Factors Related to Cancer, 2000. State of Connecticut Department of Public Health. Report prepared by Mary Adams, MPH.

Table 9.
At Risk For Health Problems Related to Lack of Exercise*
 (Connecticut BRFSS, 1998)

	At Risk	Not At Risk
% (CI)	79.6 (77.8-81.4)	20.4 (18.6-22.2)
n =	2506	620

(% = Percentage, CI = Confidence Interval, n = Cell Size)
 (Percentages are weighted to population characteristics)
 *Exercise is defined as regular and sustained physical activity

The 1998 BRFSS data also indicated that physical inactivity, using either the measure of no exercise or moderate exercise appears to be improving slightly, with a slight downward trend in the rate of no exercise. The trend data from 1989 through 1996 demonstrates that females report a higher rate of no physical activity and a lower rate of moderate exercise compared to males. However, compared to the other 50 states, Connecticut’s values for physical activity were very near the median values.

Figure 6.
No Leisure Time Physical Activity Trends
Connecticut Adults, 1989-2000



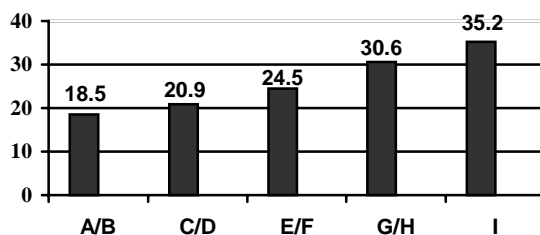
Source: BRFSS, self-reports. Question not asked in 1993 or 1995.

Lack of exercise was also analyzed by community type as defined by the Connecticut State Department of Education’s (SDE’s) Educational Reference Groups (ERG). This measure combines socioeconomic and demographic characteristics into a single category relating to academic achievement. This measure was selected as a convenient way to look at BRFSS data at a sub-state level, combining towns with similar socioeconomic status (SES), even though they might not be close geographically. Earlier studies of Connecticut BRFSS data showed that risk factor prevalence rates were related to the household income and educational attainment of respondents. Therefore, ERGs were selected as a useful grouping. All 169 towns and school districts were assigned into one of nine levels of ERG groupings (Appendix F).⁴¹ ERG I included urban areas (e.g., Bridgeport, Hartford, New Britain, New

⁴¹ Connecticut Behavioral Health Risks Factors Related to Cancer, State of Connecticut Department of Public Health, 2000. Prepared by Mary Adams. p.5.

Haven, New London, Waterbury, Windham). These data suggest that specific urban locations defined in ERG I (lowest income/education), may be a target area in efforts that address certain physical activity initiatives.

Figure 7.
No Leisure Time Physical Activity Self-Reports By ERG*



(Connecticut Adults, BRFSS 1996)

*ERG = Educational Reference Group, Source, self reports, BRFSS -

*See Appendix F for Actual Towns

There are many initiatives underway addressing physical inactivity in Connecticut. An example of an interagency collaboration is the *Pathways through Connecticut: A Transportation Guide to Multi-use Trails*. This publication was a collaborative effort between the State of Connecticut Department of Public Health Cardiovascular Health Program, the Connecticut Department of Transportation, Connecticut Department of Environmental Protection and the Federal Highway Administration. This resource guide promotes exercise and represents a policy change supported on the community, state and federal levels.

WEIGHT MANAGEMENT IMPACT

NATIONAL/OVERVIEW:

Overweight and obesity are considered to be modifiable risk factors. Those who are overweight are 29 percent more likely to be at risk for developing a health problem. Therefore, reaching and maintaining an appropriate weight is a modifiable risk factor that has a positive outcome on ones' health status. Overweight⁴² and obesity⁴³ are major contributors to preventable causes of death and chronic diseases. In the 1997 NHANES, 30 percent of

⁴² Overweight ≤1997 = men with Body Mass Index (BMI) ≥women BMI ≥ 27.3, new guidelines from 1998 on, men or women BMI of 25-29.9

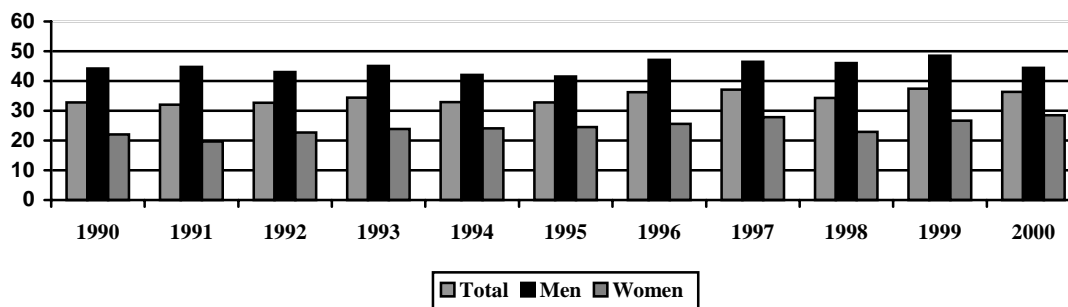
⁴³ obesity = persons with BMI ≥30 (missing data excluded).

respondents reported that they were obese.⁴⁴ Weight is a significant risk factor for developing osteoarthritis of the knees and related disabilities. The Framingham study showed that a weight loss, of as little as eleven pounds over a ten year period in women of medium height, was associated with roughly a 50 percent reduction in the risk of developing symptomatic knee osteoarthritis. Excess weight increases the amount of force across a weight-bearing joint that causes cartilage breakdown. The excess adipose tissue also may produce abnormal levels of certain hormones or growth factors that may affect cartilage or underlying bone, and may predispose an individual to develop osteoarthritis.⁴⁵

CONNECTICUT:

Compared to the BRFSS participants, Connecticut’s values for overweight were very near the median values for all 50 states. The trend data from 1989 through 2000 BRFSS demonstrates that the Connecticut prevalence of overweight has increased steadily. The prevalence of overweight also increased with age through 65 years old. Overweight was higher among those with household incomes less than \$25,000. Of the respondents from the 2000 Connecticut BRFSS who met the case definition of arthritis, 38 percent were overweight and 24 percent were obese. Of the respondents who did not meet the arthritis case definition, 13 percent were obese and 34 percent overweight. BRFSS data suggests that men were more likely to be overweight than women.

Figure 8.
Connecticut Overweight Trends by Body Mass Index*
BRFSS Data 1990 through 2000



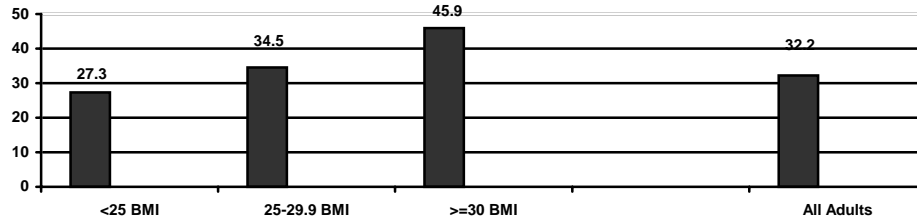
*All respondents 18 and older who report that their Body Mass Index (BMI) is between 25.0 and 29.9. BMI is defined as weight in kilograms divided by height in meters squared (w/h*2). Denominator includes all survey respondents except those with missing, don't know, and refused answers. Value reported is a weighted percent.

The analysis of the 2000 BRFSS arthritis subgroup (32.2 percent of the respondents that met the arthritis case definition of self-reporting chronic joint pain and/symptoms and/or self-reporting a physician diagnosis) by weight status indicated that more than 34 percent of the respondents were overweight and almost 46 percent were obese. Only 27.3 percent of those who met the arthritis case definition were either at a normal weight or underweight.

⁴⁴ CDC national arthritis month – May 2001, prevalence of arthritis in the United States, 1997. MMWR (50) 17: 333-337.

⁴⁵ Felson D and Zhang Y, An update on the epidemiology of knee and hip osteoarthritis with a view to prevention. Arthritis and Rheumatism. (41)8. 1998. P 1343-1355.

Figure 9.
Connecticut Arthritis Prevalence by Weight Status
BRFSS 2000



<25 BMI = healthy weight or underweight, 25-29.9 BMI = overweight, >=30 BMI = obese
 All adults (32.2percent) are the BRFSS respondents that met the case definition for arthritis.

The NHANES data, which actually measured height and weight, found that 36 percent of women and 33 percent of men were overweight. This finding may reflect gender differences in self-reporting height and weight.

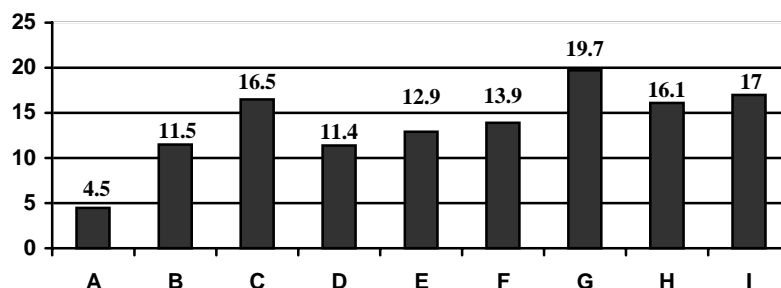
Table 10.
At Risk for Health Problems Related to Being Overweight
(NHANES II definition, Connecticut 1999)

	At Risk	Not At Risk
% (CI)	28.6 (26.6-30.5)	71.4 (69.4-73.3)
n	1028	2291

**BMI GE 27.8 in Men and GE 27.3 in Women
 % = Percentage, CI = Confidence Interval, n = Cell Size
 Percentages are weighted to population characteristics*

Obesity was more prevalent among blacks and Hispanics than among non-Hispanic whites or those of other race/ethnic groups. Analyzing obesity across the various ERG groupings indicated that rates ranged from 4.5 percent in ERG A to 19.7 percent in ERG G (see Appendix F). These data provide information on possible target communities for weight management initiatives. The Connecticut state-specific findings in regards to physical activity and obesity are similar to national population-based results. The highest obesity prevalence is in ERG G, which represents mostly small rural areas in Connecticut.

**Figure 10.
Obesity by ERG***



(Connecticut Adults, BRFSS Results 1996-1997)
 Source: BRFSS, self-reports; obesity = BMI >= 30,
 *See Appendix F for actual towns

COST IMPACT

NATIONAL/OVERVIEW:

The cost attributed to arthritis nationally is estimated to be \$65 billion. This cost estimate is equivalent to 1.1 percent of the gross national product and likened to a mild recession.⁴⁶ \$15 billion dollars are spent in direct costs, as a result of 39 million physician office visits and one half of a million hospitalizations each year. \$50 billion dollars are the result of indirect costs estimated from lost wages based on 1996 data. The total social and medical costs are projected to exceed \$100 billion dollars by 2020.

CONNECTICUT:

Osteoarthritis is ranked as the leading median charge (\$19,000) for discharge diagnoses for inpatient Connecticut hospitals.⁴⁷ In 1993 there were 2080 female hospital discharges with the primary ICD-9-CM osteoarthritis code, totaling \$42,306 with a median charge of \$19,036. This was the highest median charge for the 24 most common ICD-9-CM codes for females. This trend continued through 1997 with the highest median charge of \$18,019.

⁴⁶ Yelin E., Callahan L., The Economic Cost and Social and Psychological Impact of Musculoskeletal Conditions. *Arthritis and Rheumatism* 1995; 38: 1351-1362.

⁴⁷ Connecticut Hospital Discharge Data, State of Connecticut Department of Public Health, Policy, Planning and Evaluation Division.

Table 11.
The 1998 Connecticut Hospital Discharge Data
Characterized by Prevalence, Median Charge, Median Length of Stay

TYPE OF ARTHRITIS AS A PRIMARY ICD-9-CM DISCHARGE DIAGNOSIS	PREVALENCE (%)	MEDIAN CHARGE	MEDIAN LENGTH OF STAY
Any type of arthritis discharge diagnosis	7,404 (2%)	\$16,586	4 days
Osteoarthritis discharge diagnosis	4,549 (1%)	\$19,155	4 days
Rheumatoid arthritis discharge diagnosis	202 (0.05%)	\$14,591	3.9 days
Fibromyalgia discharge diagnosis	46 (0.01%)	\$6,880	3.1 days

Other cost data estimates related to the economic impact of arthritis in Connecticut are unavailable at this time.

PAIN IMPACT

NATIONAL/OVERVIEW

Based on the national data pain is the most important symptom for persons with arthritis. Pain related to arthritis is difficult to quantify because the pain-related arthritis BRFSS question links pain with chronic joint symptoms. The BRFSS Quality of Life Module also provides some information about activity limitations, mobility and independence; however, direct measures of pain related to arthritis are not available at this time.

Analysis of the BRFSS arthritis module question that collapses chronic joint pain with symptoms (e.g., swelling and joint stiffness) for up to one month is presently the best approximation of pain. National data for the 2000 BRFSS indicates that Hispanics have the lowest reported prevalence (17 percent) of chronic joint pain, yet the highest activity limitation prevalence (59 percent) of those who reported chronic joint pain. Plausible explanations could be the following: they are sicker, there is a difference in perception about pain, there is a difference in attitude about pain, there is a difference in knowledge about pain, there is a difference in utilization of resources and palliative measures, there is a difference in culture. These and other factors need to be explored.

CONNECTICUT:

In the 2000 BRFSS, 41 percent of the respondents reported that they had pain, aching, stiffness or swelling, in or around a joint during the past 12 months. Thirty-seven percent were male and 63 percent were female. The prevalence of pain or chronic joint symptoms in Connecticut using the 2000 BRFSS and census data is estimated to be one in three adults.

THE PUBLIC HEALTH APPROACH

The burden of arthritis needs to be a coordinated public health approach. A public health approach addresses the needs of the whole population and community groups, instead of addressing the specific needs of individuals. The challenge for the public health approach is to identify and to facilitate the implementation of population-based strategies that will improve the health of the population of Connecticut. This approach aims to ensure that the key components are present for reducing the burden of arthritis. These components are reflected in the ten prioritized strategies in this Plan.

PREVENTION

In this CAAP, prevention strategies are categorized into three levels:

PRIMARY PREVENTION

Primary prevention – intervention measures that reduce the risk of developing arthritis and inhibit arthritis from occurring. Examples of primary prevention include education and proper nutrition and weight maintenance in children.

SECONDARY PREVENTION

Secondary prevention – intervention measures that promote early diagnosis and detection and the initiation of prompt appropriate management in order to reduce the impact of arthritis. Examples of secondary prevention include educational and screening of employees by occupational onsite health clinics that prevent disabilities related to arthritis.

TERTIARY PREVENTION

Tertiary prevention – prevention measures that focus on reducing or minimizing the pain, disability and complications of arthritis once it has developed. Examples of tertiary prevention include implementing the evidenced-based arthritis self-help course and learning how to talk to your doctor about arthritis and related treatment options.

PARTNERSHIPS

Developing functional healthy community partnerships is a key element of this Plan. Partnerships promote community-based sustainability and the integration of initiatives into existing infrastructures. The process of developing partnerships involves the following: identifying appropriate agencies and organizations; networking and meeting with decision-makers and leaders; engaging in mutually beneficial and compatible activities.

There is no cure for arthritis. However, via education and collaborative partnerships, prevention measures can be implemented to reduce the burden and impact of arthritis.

THE AIMS OF THIS PLAN ARE TO:

- ❑ Establish a statewide surveillance system.
- ❑ Establish a coordinated, collaborative public health approach to arthritis, by developing partnerships.
- ❑ Ensure the development and access to appropriate arthritis resources, services and support.
- ❑ Prevent arthritis whenever possible.
- ❑ Promote awareness, early detection, diagnosis and appropriate management.
- ❑ Minimize the consequences of pain and disability that is associated with arthritis.
- ❑ Ensure the evaluation of outcome and process measures related to the implementation of this plan.
- ❑ Incorporate appropriate evidence-based initiatives reflected in the National Arthritis Action Plan (NAAP) and the Healthy People 2010 (HP 2010) arthritis-related Objectives.

DEVELOPMENT OF THE CONNECTICUT ARTHRITIS A.C.T.I.O.N PLAN (CAAP)

The development of the Connecticut Arthritis A.C.T.I.O.N. Plan (CAAP) started with the recognition of the national prevalence and trends. The State of Connecticut Department of Public Health (DPH) under the leadership of the director of Health Education and Intervention Division (HEI), obtained a federal Centers for Disease Control and Prevention (CDC) grant in order to establish this plan and promote an awareness of arthritis in Connecticut.

The acronym A.C.T.I.O.N. – Arthritis Can be Triumphed Over In our Neighborhoods, was selected to emphasize the positive outcomes that can be achieved when empowering community partnerships and supporting efforts in local communities and agencies. However, maintaining statewide leadership to develop coordinated partnerships and to facilitate consistent approaches is also critical for the success of this Plan. Neighborhoods, local communities and grass root efforts need to be engaged into partnerships with local agencies

(e.g., local public health agencies, clinics, providers) and existing community infrastructure (e.g., faith communities, primary care physicians).

The DPH is the lead agency in this statewide arthritis action plan entitled, *The Connecticut State Arthritis A.C.T.I.O.N. Plan: A Public Health Strategy (CAAP)*. The primary partner is the Arthritis Foundation, Southern New England Chapter. The Arthritis Advisory Work Group (AAWG) is the steering committee established to guide the implementation process.

STEPS TAKEN TO DEVELOP CAAP

The Arthritis Advisory Work Group (AAWG) was formed in December 2000 in order to take an advisory and leadership role for arthritis initiatives in the State. The workgroup formed a vision, outline and agenda for the first statewide Arthritis Forum and this Plan. This group consisted of twenty-five key statewide stakeholders and was first convened in the Judiciary Room of the State Capitol on December 13, 2000. The Arthritis Forum was held on February 26, 2001 at the Connecticut Hospital Association. Approximately 100 people attended. Participants are listed in Appendix B.

At the Arthritis Forum, fifteen small workgroups developed strategies and recommended priorities through a nominal group process technique. Professionals were trained and volunteered to facilitate the group process. Outcomes and priorities were presented and reviewed by the forum participants before the close of the forum. See Appendix D.

A draft of this Plan was written and circulated to over 60 reviewers (listed on pages iii and iv and in Appendices A and B). Reviewers provided feedback in a variety of ways such as e-mail, telephone, regular mail, fax, or in person. Available reviewers convened to discuss the CAAP draft on April 17, 2001 at the Arthritis Foundation, Southern New England Chapter. Comments were clarified and incorporated into this plan. As additional data analyses were completed, the results were included in this Plan. For instance, the August 2001 released 2000 Behavioral Risk Factor Surveillance System (BRFSS) was incorporated into pertinent sections of this Plan. As data analyses are released the information will be incorporated into initiatives and activities. This Plan was also submitted to the CDC for review and comments as a deliverable to the grant awarded to the Connecticut Department of Public Health entitled, Reducing the Burden of Arthritis and Other Rheumatic Conditions. The Connecticut Department of Public Health then completed an internal review process for this Plan.

STRATEGIC FRAMEWORK

VISION AND MISSION

The vision of this Arthritis A.C.T.I.O.N. Plan is to collaboratively develop and disseminate a consistent statewide initiative that will increase the awareness of arthritis as a public health concern and ultimately reduce the burden. Engaging professional and community partnerships can best realize the aim of this plan. This Plan is intended to be the beginning of coordinated arthritis initiatives and the shaping of community action. This Plan is a written five-year vision. It is intended to establish arthritis initiatives in existing infrastructure(s). It is intended to facilitate the implementation of prevention interventions.

The mission of this Arthritis A.C.T.I.O.N. Plan is to increase the quality of life and to reduce the burden of arthritis in Connecticut via a public health approach. The emphasis is on prevention intervention measures. Decision-making must be data driven and science-based. Population disparities will be addressed. Social equity will be sought. No one organization can effectively address arthritis, so the focus on partnerships is key. Priorities must be based on needs, identified target populations and available resources.

GOAL:

The ultimate goal of this document is to reduce the burden of arthritis and to increase the quality of life of persons with arthritis who live in Connecticut. These goals are population-based and are intended to promote healthy communities with healthy people.

OBJECTIVES:

- ❑ To ensure that systems and public health and environmental policies are in place to facilitate population-based modifiable risk factor reduction.
- ❑ To ensure mechanisms for accurate and consistent provider and patient educational resources in order to promote awareness, education and prevention intervention measures.
- ❑ To conduct multi-level, culturally and linguistically appropriate arthritis awareness campaigns across the age continuum that target identified high-risk populations.
- ❑ To ensure appropriate and reasonable surveillance methodologies for tracking population-based data for Connecticut that over time is comparable to itself and to the national Behavioral Risk Factor Surveillance System (BRFSS) database.
- ❑ To ensure mechanisms for process and outcome evaluation measures that will yield information for the promotion and development of partnerships/networking, integration of best practices in to the health care delivery systems, improved environmental systems and health care policies and an increase in quality of life measures.

ACTION FRAMEWORK

The Action framework for *The Connecticut State Arthritis A.C.T.I.O.N. Plan: A Public Health Strategy* is a multifaceted public health approach. As previously outlined four major foci areas will be addressed.

SURVEILLANCE AND EPIDEMIOLOGY

Surveillance and epidemiology provide the systematic collection and analysis of meaningful information that provides evidence for recommendations and priorities.

Surveillance is the ongoing, systematic methodologies for collection, analyzing and dissemination data/information. A surveillance pyramid starting with a base of community health surveys to hospital discharge data will frame the initiatives, methodologies and outcomes. For the CAAP, the BRFSS is the primary source of ongoing collection surveillance data. Internal and external comparisons can be analyzed in order to trend best practices.

Epidemiology is the study of the distribution and determinants of arthritis-related activities in specified populations. A population-based public health approach focuses on communities and not individuals. The CAAP focuses on community population-based initiatives.

COMMUNICATION AND OUTREACH

Communication and outreach definitions applied to this plan are as follows:

Communication is the effective exchange of information using informal, formal and various media approaches in order to increase awareness, knowledge and beliefs necessary for the appropriate management of arthritis and will lead to an increase in the quality of life of persons affected with arthritis. It is written, oral, and verbal. Communication provides a common point of reference. It can be structured or non-structured. Examples of effective structured communication in this Plan include the utilization of the Nominal Group Techniques for the Arthritis Forum, written educational materials, and components of a social marketing campaign. Examples of non-structured communication include networking, initial steps in partnership building and brainstorming.

Outreach is the effective ways in which the community is engaged and become aware of the arthritis public health issues and the modifiable and non-modifiable risk factors. Outreach implies a dynamic action and motivation to inspire improvement in health behaviors.

PROGRAMS AND EDUCATION

Programs and education involve applying the assessment data and translating the information into data driven initiatives. Programs are included in the implementation phase of the CAAP. It is important to stress that this Plan promotes more than a categorical approach to programs and education. The CAAP intends to extend programs into the policy of local and state infrastructure in order to establish sustainability within communities. Programs and education are critical mechanisms for integrating strategies and building a foundation for the three levels of prevention. Programs and education need to be data-driven and involve communication, evaluation and partnerships. It is through awareness and education that behavior modification and policy changes can occur.

POLICY, SYSTEMS AND SUSTAINABILITY

Policy, systems and sustainability are key components of this Plan because they integrate activities into the infrastructure of communities. These elements provide structure, guidance, leadership, and recognition that arthritis is a public health priority. When communities perceive arthritis to be an important concern, they become empowered to build arthritis capacity. Policy is the integration of arthritis-related issues into existing and established infrastructures that are supported by an authorizing and credible source. Enforcement may be implied in certain policies. Systems are the consistent and coordinated vehicles for implementing, monitoring or trending arthritis-related strategies. Sustainability is the ongoing maintenance and growth of these initiatives. It implies fiscal and resource support. The four major focal areas of this Plan will be integrated into one fluid and consistent approach that will demonstrate process and outcome measures and foster continued improvement in systems and arthritis-related policies for Connecticut.

EVALUATION AND OUTCOME MEASURES

Evaluation is a systematic way to improve and account for public health actions by involving procedures that are useful, feasible, ethical and accurate. It is the process of monitoring and measuring process and outcome measures. The purpose of evaluation is to improve the health care delivery system related to arthritis and to improve the quality of life outcome measures and reduce the burden of arthritis.

This framework yields information that guides ongoing priority setting and improved initiatives and activities. The object of evaluation is to organize public health action including, but not limited to, community mobilization efforts, surveillance systems, policy development, social marketing campaign, educational services and benchmark process measures. Evaluation efforts will be integrated into all aspects of this action plan implementation because it assigns value and credibility to arthritis-related initiatives and allows objective judgments to be made. The six-step public health program evaluation model will be implemented as appropriate.

SURVEILLANCE AND EPIDEMIOLOGY

GOAL:

The general goal of surveillance and epidemiology strategies is to obtain accurate and reliable data in order to identify knowledge, gaps, barriers, strengths and weaknesses; as well as trends related to arthritis in Connecticut. This information will be used for decision-making, priority setting and ongoing assessment/evaluation activities.

OBJECTIVES AND STRATEGIES:

OBJECTIVE 1:

To improve statewide arthritis surveillance systems and activities.

EXAMPLES OF STRATEGIES:

- ❑ Implement the arthritis and quality of life BRFSS modules on an annual basis.
- ❑ Ensure the consistent and standard use of data terms as appropriate.
- ❑ Facilitate the sharing of pertinent information related to arthritis with the various Connecticut databases (e.g., occupational, health, insurance).
- ❑ Implement data-driven arthritis activities.

OBJECTIVE 2:

To interpret data to trend and compare state and national best practices.

EXAMPLES OF STRATEGIES:

- ❑ Obtain data/information in order to establish state-specific baseline data for HP 2010 arthritis-related objectives. Potential data sources may include the following: The Connecticut Department of Public Health (DPH), Connecticut Hospital Discharge Abstract and Billing Database from 1993 to present; the DPH Long-Term Care data which provides information regarding admitting and secondary diagnoses; DPH, Children with Special Health Care Needs Registry – a Connecticut database tracking children’s diagnoses; Yale University’s Physical Activity database.

- ❑ Ensure the accurate and timely analysis, interpretation and dissemination of arthritis data and information as appropriate.
- ❑ Analyze and compare BRFSS state-specific data that describes the arthritis burden.
- ❑ Compare Connecticut arthritis and quality of life BRFSS modules with the other states that also implemented these surveys and with other relevant national data sources as appropriate (e.g., National Health Interview Survey (NHIS)).
- ❑ Share information with partners in order to establish priorities and evaluate progress.
- ❑ Ensure programs, social marketing campaigns and other initiatives are data-driven.
- ❑ Develop and implement ongoing evaluation plans, with intermediate checkpoints.

OBJECTIVE 3:

To use data and analysis as part of the evaluation plan in order to monitor progress and to identify areas of improvement.

EXAMPLES OF STRATEGIES:

- ❑ Implement ongoing mechanism of assessment and evaluation to promote total quality improvement models and best practices.

EVALUATION AND OUTCOME MEASURES

Quantitative, qualitative and process evaluation outcomes will be measured as appropriate.

QUANTITATIVE

Quantitative outcome measures include the following:

- ❑ Analysis of national and state specific arthritis data.
 - ❑ Analysis of Connecticut specific hospital discharge data.
 - ❑ Analysis of other data sources.
 - ❑ Valid comparisons to internal and external benchmarks.
 - ❑ Evidenced-based best practice data.
 - ❑ Results of local surveys.
 - ❑ Demographic results of focus groups related.
-

QUALITATIVE

Qualitative measures include:

- ❑ Perception and interpretation of data and information by target populations.
- ❑ Perception and interpretation of data and information by the following:
- ❑ Professional (e.g., public health, health care, insurers,) recommendations.
- ❑ Opinions and comments from people with arthritis and their families
- ❑ General public support indicated by responses from social marketing campaigns.
- ❑ Decision-makers and policy makers support indicated by resource allocation, ordinances, regulations, mandates and legislative activities.
- ❑ Results of opinion polls and focus groups.

PROCESS

Process Measures include:

- ❑ Implementation of state specific arthritis and quality of life BRFSS modules.
- ❑ Access methodologies and utilization of national and state specific arthritis data (e.g., includes confidentiality, who has access, how data is accessed and analyzed).
- ❑ Development and implementation of a state-specific coordinated arthritis surveillance plan.
- ❑ Identification of state-specific indicators for HP 2010 Objectives based on HP 2010 Objectives and other pertinent data sources.
- ❑ How information is shared.
- ❑ What is done with the information obtained and how it is utilized.

SURVEILLANCE DATA SOURCES

BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)

The BRFSS is a cross-sectional randomized telephone survey currently involving 52 reporting areas in the United States. Trained personnel conduct state-specific surveys annually. The information is confidential. The purpose of the survey is to provide information about our Nation's health status and health behaviors. A consistent methodology and weighted analysis of the data allow for comparability. The information is used to create annual and periodic reports, fact sheets, press releases, or other publications, to educate the public, professional health community and policy makers about the prevalence of modifiable behavioral risk factors and the benefits of preventive health screening practices. The survey questionnaire includes five core sections: fixed core; two rotating cores; optional modules; emerging core; state-added questions. The first BRFSS was conducted in 1984. There were 15 participating states. In 1990 participation increased to 45 states. Today all states, the District of Columbia and Puerto Rico participate in the system. The Virgin Islands and Guam

participate by conducting point-in-time surveys.⁴⁸ Connecticut first participated in the BRFSS in 1990 and implemented the optional arthritis module in 2000.

The Connecticut BRFSS conducted in 2000, interviewed 3,915 adults. Males represented 39 percent of the sample and females represented 61 percent. The sample was 80 percent white, 9 percent Hispanic, 6 percent black, and 3 percent other race/ethnicity. Sixty-two percent of the respondents were 25 to 54 years of age. Seventeen percent of the respondents were aged 65 and older. Data were weighted to the age, race and sex distribution of the 2000 Connecticut population and race-specific rates were age-adjusted to the 2000 Connecticut population. The arthritis module was implemented for the first time in Connecticut with the 2000 BRFSS.

NATIONAL HEALTH INTERVIEW SURVEY (NHIS)

The NHIS is a continuing nationwide, civilian, non-institutionalized population survey conducted in households. Each week a probability sample of households are interviewed by trained personnel of the U.S. Bureau of the Census to obtain information about the health and other characteristics of each member of the sample household. The data are collected in the 50 States and the District of Columbia. Data have been collected continuously since 1957 and are generally released on a calendar year basis. The purpose of the survey is to provide general health statistics on the Nation's population. During a year, the sample is composed of 36,000 to 47,000 households, including 92,000 to 125,000 persons depending on the year. Information is obtained on the number of restricted-activity days, bed days, work or school loss days and all physician visits occurring during the two prior to the week of the interview. Data are also obtained about acute and chronic medical conditions. Codes are abstracted from the Medical Coding Manual and Short Index, a modified version of the International Classification of Diseases. Data are obtained on all hospitalizations during the prior 12 months, including length of stay and whether surgery was performed.⁴⁹

CONNECTICUT HOSPITAL DISCHARGE ABSTRACT AND BILLING DATABASE

The Connecticut Hospital Discharge and Billing Database is a coordinated longitudinal database for acute care hospitals that are members of the Connecticut Hospital Association. Hospitals report ICD9-CM Classification Codes for discharges. ICD9-CM codes are abstracted from trained medical record coders at each participating hospital. Approximately thirty acute care hospitals in Connecticut participate. This represents almost all of the hospitals. Connecticut hospital discharge and billing data is available from 1993-1998. These data were especially useful for investigating the utilization of total knee procedures by race and diagnostic procedures.

⁴⁸ <http://www2cdc.gov/nccdphp/brfss>

⁴⁹ National Center for Health Statistics <http://www.cdc.gov/nchs/products/catalogs/subject/nhis.htm>

OTHER SOURCES OF DATA

Other sources of data include the development and implementation of local assessment and evaluation surveys and information from focus groups. A statewide arthritis forum was conducted in February 2000. Using nominal group technique, participants developed a list of twenty-one prioritized recommendations. The outcome data from these other sources of data are included in this Plan. Many other potential data sources are being explored for surveillance, assessment and evaluation purposes.

PREVENTION

Prevention is a key component to this Plan. Strategies will be implemented in the four major focal areas. The short-term goal is to implement and document outcomes of secondary and tertiary prevention intervention initiatives. The long-term goal is to stress the integration of primary prevention measures in education and health care delivery systems. Primary prevention interventions will be implemented in conjunction with other prevention strategies. However, because most primary prevention strategies require longitudinal data to document outcome measures they will not be emphasized in this Plan.

GOALS AND OBJECTIVES:

- ❑ To promote awareness and increase recognition of arthritis as a public health issue.
- ❑ To increase knowledge among people at risk for arthritis concerning the importance of the three prevention level initiatives.
- ❑ To facilitate consistent and accessible provider resources for the purpose of increasing awareness of arthritis.
- ❑ To facilitate the increased dissemination and utilization of arthritis evidenced-based self-management programs.
- ❑ To achieve appropriate arthritis-related prevention objectives from Healthy People 2010.
- ❑ To translate scientific data into prevention programs and initiatives.

TARGET POPULATIONS

Based on the data, state assessment and the literature, the Connecticut target populations include the following:

- ❑ Women aged 45 to 65 years old (e.g., baby boomers), since 60 percent of persons affected by arthritis and because there is a predicted 2020 epidemic targeting baby boomers.
- ❑ Elders (65 years of age or older) since one out of two persons in this age group are affected.
- ❑ Special populations include: African American since they are at higher risk for arthritis related disability; Hispanic or Latinos since they are the fastest growing minority population in Connecticut; poor, low socio-economic status based on published studies; less than a high school education based on published studies.

RISK FACTORS

NON-MODIFIABLE RISK FACTORS:

Non-modifiable risk factors are risk factors that are part of a person's genetic make-up or a condition of living. Therefore, they are not targeted. Examples of non-modifiable risk factors are gender, age, and genetic predisposition. These risk factors are related to arthritis as follows:

- ❑ Gender - more women (60 %) than men are affected.
- ❑ Age is associated with increase risk of arthritis. One out of two persons aged 65 years of age and older is affected with arthritis.
- ❑ Genetic predisposition. Certain genes are known to be associated with a higher risk of some types of arthritis.

MODIFIABLE RISK FACTORS:

Modifiable risk factors are items that are documented by data to have a negative effect on health and are changeable. They involve individual, cultural or population-based behaviors and daily habits that affect general health and quality of life. Examples of modifiable risk factors for arthritis are as follows:

- ❑ Physical inactivity
- ❑ Obesity and weight management
- ❑ Low socioeconomic status and less than a high school education
- ❑ Joint injuries including sports and occupational/work-related injuries
- ❑ Lack of information/education about arthritis
- ❑ Infections

PRIMARY PREVENTION STRATEGIES

Examples of primary prevention strategies that promote education and awareness include the following:

- ❑ School and athletic youth initiatives collaborating with teachers and coaches in order to incorporate health messages and joint protection into the academic curriculum, and sporting activities.
- ❑ Implement intergenerational outreach strategies targeting female baby boomers (40-65 years of age). Partners may include professional women's organizations, elder day care

centers, child day care centers, faith communities, commercial grocery and department stores, public libraries (often the most frequented municipal building), and the workplace.

- ❑ Integrate educational messages and social marketing campaign into existing mechanisms such as report cards, bulletins, newsletters, coupon mailers, public service announcements and state licensure renewals.
- ❑ Develop continuing professional education that augments and enhances mandatory licensure requirements such as academic institutions targeting continuing education, training and allied health professionals, and continuing physician and non-physician education.
- ❑ Develop culturally sensitive and linguistically appropriate social marketing campaigns.
- ❑ Conduct assessments in the work sites, wellness programs and occupational health providers in order to identify needs, gaps, barriers and a list of priority programs.

SECONDARY PREVENTION STRATEGIES

Examples of secondary prevention strategies that promote education and awareness include the following:

- ❑ Encourage and educate health care providers to include an arthritis evaluation and assessment in routine physical exams, especially for persons over 45 years of age.
- ❑ Reinforce with the public and physician/patient dyad the importance of knowing the type of arthritis that is diagnosed and compliance with a mutually designed treatment plan.
- ❑ Develop creative models and programs such as implementing a comprehensive health assessment to include arthritis risk assessment for women who enter shelters.
- ❑ To ensure access and availability to appropriate medical treatment.
- ❑ Determine barriers and gaps in access such as transportation, insurance coverage, hours of operation, language, childcare, etc via focus groups, perception surveys, and surveillance data.
- ❑ Implement and evaluate change/outcomes.
- ❑ Provide accurate and consistent education about integrated medical approaches for arthritis case management therapies.
- ❑ Develop multimedia bilingual educational materials and distribute via a variety of appropriate outreach mechanisms. Track effectiveness.
- ❑ Network/partner with professionals and providers to ensure consistency.

TERTIARY PREVENTION STRATEGIES

Examples of tertiary prevention strategies that promote education and awareness include the following:

- ❑ To promote the evidenced-based Arthritis Foundation Self-Management Course and other existing self-management programs. Based on the evidence of effectiveness, market and evaluate effectiveness and utilization in Connecticut.
- ❑ Disseminate arthritis prevention strategies via physician and non-physician providers across the health care continuum.
- ❑ Partner with other chronic health promotion activities such as the State of Connecticut Department of Public Health Commissioner’s initiatives (e.g., House Calls, Door to Door, annual Women’s Health Summit), Connecticut Department of Public Health, Bureau of Community Health, Health Education and Intervention Chronic Disease Programs (e.g., Cardiovascular Health, Obesity and Physical Activity, WISEWOMAN, Diabetes).
- ❑ Partner with other community agencies, programs and initiatives such as Local Public Health Agencies (especially those with CDC federally funded Connecticut Department of Public Health chronic disease contracts), senior advocacy agencies and groups (e.g., Senior Centers, Area Agencies on Aging and the Connecticut Commission on Aging), Health Maintenance Organizations and other health systems managed care group practices (e.g., acute care community hospitals, rehabilitation facilities, outpatient clinics, visiting nurses, parish nurses and home health agencies), meals on wheels, Info-Line, and alternative and integrated medical delivery systems (e.g., Chiropractors and Hartford Hospital Department of Integrated Medicine).
- ❑ Ensure that educational initiatives are age and linguistically appropriate, culturally sensitive, and at an appropriate “grade level” for targeted identified populations.
- ❑ Facilitate access to appropriate medical and surgical treatment by partnering with providers, transportation services and health care delivery systems.

PRIORITY ACTIVITIES

Priority activities for the CAAP include the following:

- ❑ Develop partnerships
- ❑ Disseminate this CAAP Plan statewide (e.g., arthritis advisory workgroup, local public health agencies, public libraries, providers)
- ❑ Develop, implement and evaluate effectiveness of Social Marketing Awareness Campaigns

- ❑ Facilitate the development and implementation of consistent provider education initiatives
- ❑ Facilitate increased utilization of self-management programs (e.g., FAST Model)
- ❑ Promote arthritis-related initiatives that dovetail the Connecticut Department of Public Health Commissioner's priority initiatives
- ❑ Promote exercise and nutrition initiatives based on best practices
- ❑ Facilitate the development of best practice models that can be easily replicated in communities

EVALUATION AND OUTCOME MEASURES

- ❑ Quantitative measures include number of participants/attendees, number of programs offered, record of geographic locations and sites for initiatives, number of provider referrals, demographic information, and numbers of the types of participating facilities and/or work sites.
- ❑ Qualitative measures include perception of value, ease of access and benefit, description of cultural or religious beliefs that influence choices and health behaviors, and readiness indexes/scales.
- ❑ Process evaluation outcome measures include effectiveness and collaboration in how outcomes were reached. Lessons learned and communication mechanisms are also included in process evaluation.

COMMUNICATION AND OUTREACH

COMMUNICATION AND OUTREACH

Increasing awareness about arthritis in order to engage participants is one of the major foci of the CAAP. Target populations include people at risk, people with arthritis and their families and health professionals. These target populations need to be more aware of the evidenced-based effective preventive strategies that are available to help reduce the burden of arthritis. Consistent wide-reaching messages, social marketing campaigns, building partnerships and creative outreach activities are important mechanisms for achieving these initiatives.

GOALS:

There are three overall goals of communication and outreach initiatives. They are as follows:

- ❑ To ensure the development, utilization and dissemination of structured health communication messages and health education materials that are appropriate for the audience.
- ❑ To reach three broad audiences via multi-level social marketing initiatives, with respect to target populations previously cited in this document:
- ❑ To work with partners and chronic disease linkages on these initiatives in order to: increase market penetration and outreach; promote consistent messages and best practices; facilitate the best utilization of resources.

OBJECTIVES & STRATEGIES:

OBJECTIVE 1:

Increase awareness of primary prevention strategies for osteoarthritis for people at risk.

EXAMPLES OF STRATEGIES:

- ❑ Increase awareness and importance of reaching and/or maintaining a healthy weight. Share the Framingham study demonstrating that obesity is a risk factor for developing knee osteoarthritis.
- ❑ Incorporate joint protection information in exercise classes and training programs for coaches.

OBJECTIVE 2:

Promote awareness about the importance of arthritis secondary prevention, specifically early diagnosis and treatment of chronic joint symptoms and other symptoms of arthritis.

EXAMPLES OF STRATEGIES:

- ❑ Implement and evaluate the “Share Each Moment” social marketing campaign. Establish electronic, phone and written communication mechanisms in order to best evaluate outcomes.
- ❑ Provide primary care physicians and providers with educational brochures and resources in order to promote provider/patient discussion and to provide credible patient education materials.

OBJECTIVE 3:

Promote an awareness of the importance of the evidenced-based Arthritis Self Help Course (ASHC) and to market its availability.

EXAMPLES OF STRATEGIES:

- ❑ Use existing community-wide mechanisms (e.g., newspapers, cable bulletin boards, newsletters, church bulletins) in order to increase awareness and promote the Arthritis Self-Care Course.
- ❑ Recruit ASHC leaders and provide them with adequate professional development and support so that they can conduct effective ASHC trainings. Demonstrate the value and personal rewards for participating in this initiative.

OBJECTIVE 4:

Facilitate awareness concerning the impact that arthritis-related disabilities have on activities of daily living.

EXAMPLES OF STRATEGIES:

- ❑ Explore disability data especially related to the workforce.
- ❑ Facilitate mechanisms and initiatives that delay the onset of chronic joint pain and symptoms.

OBJECTIVE 5:

To explore outreach and access issues especially concerning arthritis-related disabilities and limitation in activities of daily living.

EXAMPLE OF A STRATEGY:

- ❑ Assess transportation and disability support measures for the work force.

OBJECTIVE 6:

To promote an increased awareness of coping mechanisms and resources in the proportion of adults with arthritis (aged 18 year and older) who experience personal or emotional problems. (HP2010, 2.4 developmental objective).

EXAMPLE OF A STRATEGY:

- ❑ Identify mental health supports that are accessible and utilized by people with disabling arthritis.

OBJECTIVE 7:

To promote awareness for the need to increase the proportion of adults who see a health care provider for their chronic joint symptoms (HP2010 Developmental Objective 2.7).

EXAMPLES OF STRATEGIES:

- ❑ Work closely with the CDC and National Arthritis Foundation to develop, disseminate and evaluate consistent messages in order to reduce the burden of arthritis. Examples of these activities include the following: newspaper advertisements; web site and 1-800 number; coupon mailers; newsletters; display arthritis banner across from State Capitol for arthritis month; radio advertisements and/or public service announcements.
- ❑ Provide appropriate educational material at the local community level.
- ❑ Facilitate the use of outreach workers that are appropriately trained, reflective of the community demographics and aware of community issues. Also to include creative train-the-trainer programs for outreach workers such as: beauty salons; coaches and team captains; Visiting Nurse health home aides; bus drivers; parish nurses; media

writers and radio announcers; girl scout/boy scout leaders; senior volunteers who have arthritis.

- ❑ Facilitate the use of arthritis inserts in a variety of settings and existing systems such as: pay check stuffers; newsletters; church bulletins; grocery bag flyers.
- ❑ Increase awareness of modifiable risk factors such as weight management and physical activity between linkages with chronic disease programs.
- ❑ Conduct multi-level social marketing campaigns to include: self-management or “Know your type” campaigns; awareness of early diagnosis and treatment; modifiable risk factors such as reaching and/or maintaining a healthy weight and engaging in regular physical activity.

COMMUNICATION STRATEGIES FOR PEOPLE WITH ARTHRITIS AND THEIR FAMILIES

- ❑ Use existing networks, facilities, doctor’s offices, clinics and senior centers to reach target populations.
- ❑ Use creative support and resource communication mechanisms such as: tell a friend; surveys on web sites or connected with social marketing campaigns; telephone buddy systems; transportation providers/venues; use of cable and radio; inserts sited above.
- ❑ Increase the percentage of persons who are affected with arthritis who are aware and who participate in an evidenced-based self-care management program. [The Healthy People 2010 estimates that less than 1percent of the target population participate in the Arthritis Self-Help Course (ASHC).]
- ❑ Assess providers’ (e.g., physicians, physician extenders, allied health professionals) readiness to recommend self-management programs to their patients/clients.
- ❑ Explore subscriber benefits/incentives that can be implemented by insurance companies.
- ❑ Explore the feasibility of establishing the ASHC as a community college non-credit offering.
- ❑ Use existing networks to disseminate information that includes a variety of treatment approaches to include both the medical model and alternative therapies as appropriate.
- ❑ Improve non-physician provider education, communication, outreach and referral networks.
- ❑ Facilitate the use of resource materials developed by the Arthritis Foundation to support the non-physician professionals’ role in the referral and education of clients.
- ❑ Utilize professional organization newsletters to promote awareness of arthritis messages and services.
- ❑ Use existing networks (e.g., conferences, networks, and newsletters) to reach complementary and alternative medicine providers.

- ❑ Conduct outreach to primary care, internal medicine, rheumatologists and orthopedic physicians and provide resources by using mechanisms such as the following: direct mail; professional society newsletters/journals; exhibits; existing networks.
- ❑ Develop and utilize existing National Arthritis Foundation advertisements and resources.
- ❑ Disseminate prevention messages stressing awareness and early detection.
- ❑ Conduct outreach in priority communities and as many communities as resources permit.
- ❑ Partner with local public health, providers and senior centers to increase awareness in the general population.
- ❑ Partner with non-traditional grass root groups, faith communities and community businesses to include prevention messages into existing communication materials. Examples include the following: church bulletins; business advertisements; grocery store flyers; outreach workers' activities.
- ❑ Recruit spokespersons who are celebrities and/or those who are of similar ethnic and demographic background for targeted outreach audience.

EVALUATION AND OUTCOME MEASURES:

QUANTITATIVE OUTCOME MEASURES:

Quantitative outcome measures will be included in the evaluation of communication and outreach activities. Examples include the following: web hit counts; analysis of survey instruments and evaluation tools that will be implemented; counts of calls to Arthritis Foundation 1- 800 number; change in the number of active partnerships and linkages with other chronic diseases (compared to pre-activity baseline); and BRFSS Quality of Life and Arthritis Module results.

QUALITATIVE OUTCOME MEASURES:

Qualitative outcome measures will be included in the evaluation of communication and outreach activities. Examples include the following: people at risk in the general population's perception of effectiveness of Social Marketing Campaigns; non-physician provider's perception of the value of educational conferences and resource materials related to arthritis awareness; physician's perception of effectiveness at improving awareness with strategies outlined in this plan; conduct periodic statewide forums involving key partners and affected persons. Focus groups are another method for obtaining qualitative outcome measures. Arthritis focus groups target special populations to identify awareness with such issues as: available resources; coping mechanisms and resources if experiencing personal or emotional problems; awareness of the importance of early diagnosis and treatment; and awareness of the type of arthritis if they are affected.

PROCESS OUTCOME MEASURES:

Process outcome measures will be included in the evaluation of communication and outreach activities. Examples include the following: how the social marketing campaigns and outreach activities were developed and implemented; development and implementation of survey instruments and evaluation tools; partnerships (e.g., type of partners, geographic locations, Geographic Information Systems (GIS)); and linkages and activity with other chronic diseases (compared to pre-activity baseline).

PROGRAMS AND EDUCATION

GOALS:

There are two fundamental goals for programs and education. They are as follows:

- ❑ To cultivate statewide partnerships in order to facilitate the development and delivery of credible, consistent and science-based arthritis education and program initiatives.
- ❑ The goal of program and education initiatives is to reduce the burden of arthritis and improve the quality of life of persons with arthritis in Connecticut via primary, secondary and tertiary intervention measures.

OBJECTIVES & STRATEGIES:

The objectives for programs and education are collaborative interventions and include the Healthy People 2010 Objectives, *The National Arthritis Action Plan: A Public Health Strategy* and unique issues to Connecticut. They address the following issues/concerns:

OBJECTIVE 1:

To promote an increase in the mean number of days without severe pain among adults who have chronic joint symptoms (HP2010, 2.1).

EXAMPLES OF STRATEGIES:

- ❑ Educate the general public and populations at risk about the importance of early detection and knowing the type of arthritis for appropriate treatment options.
- ❑ Collaborate with community partners and agencies to promote mechanisms (e.g., access to programs, transportation, communication with providers and patients), programs (e.g., PACE and other science-based initiatives) and resources (e.g., information about correct cane usage, appropriate treatment options) in order to reduce pain and limitations with daily activities.
- ❑ Explore with providers (e.g., physicians, physical therapists, pharmacists, alternative care) and other experts appropriate pain amelioration techniques and share information with providers and general public.
- ❑ Promote self-management by providing information, audiocassette programs, class schedules and other resources to providers and affected persons about self-care management. Include quantitative, qualitative and process evaluation mechanisms.

OBJECTIVE 2:

To increase participation in the evidenced-based self-care management program (ASHC) for persons in Connecticut who are affected with arthritis.⁵⁰

EXAMPLES OF STRATEGIES:

- ❑ Collaborate with partners at the community level (e.g., PEPER Foundation, Parish Nurses, AmeriCares) to reach target populations (e.g., medically underserved with low socioeconomic status, lower reading level with OA) in order to implement more evidenced-based self-care management programs. (It is estimated to be less than 1 percent participate in the Arthritis Foundation’s Self-Help Course).
- ❑ Link evidenced-based Arthritis Self-Help Course (ASHC) to existing community based exercise programs.
- ❑ Adapt program and educational designs to a variety of settings such as clinics, health care providers’ offices, work sites and academia.
- ❑ Partner with community colleges and AHEC (Area Health Education Center) to explore implementing the ASHC as a non-credit continuing education offering.
- ❑ Collaborate with first line providers (e.g., home health agencies) who see clients in their home environment and support efforts and mechanisms needed to reduce limitations in daily living.
- ❑ Increase the number of trained ASHC & Pain Cycle trainers in Connecticut.
- ❑ Collaborate with Connecticut Commission on Aging and other appropriate senior advocate agencies in order to facilitate “house-calls” and other interactive educational programs at Senior Centers throughout the state.

OBJECTIVE 3:

To encourage a reduction in the proportion of adults with chronic joint symptoms who experience a limitation in activity due to arthritis (HP 2010: 2.2).

⁵⁰ HP2010 sites that nationally less than 1 percent of the population participates in the Arthritis Self-Help Course (ASHC). The Arthritis Foundation, Southern New England Chapter, documents that in 2000 less than 30 people in Connecticut participated in ASHC.

EXAMPLES OF STRATEGIES:

- ❑ Explore creative programming in order to engage participants and maintain interest and behavior changes (e.g., Tai Chi, Silver Sneakers, P.A.C.E., work site wellness programs).
- ❑ Facilitate information, dissemination and utilization of self-care management programs as previously described.
- ❑ Collaborate with work sites, senior centers, meals on wheels (e.g., menu with information) and other key partners to disseminate information about prevention.
- ❑ Facilitate access, information and increased utilization about support services and programs for young and middle-age adults with arthritis (e.g., online chats and resources, phone intervention centers, faith communities, professional groups).
- ❑ Facilitate the dissemination of information that removes myths, barriers and stigmas concerning utilization of psychosocial support services and acknowledge depression and anger as normal responses to loss.

OBJECTIVE 4:

To promote a reduction in the proportion of all adults with chronic joint symptoms, who have difficulty in performing two or more personal care activities, thereby preserving independence (HP 2010: 2.3).

EXAMPLE OF A STRATEGY:

- ❑ Utilize a variety of delivery mechanisms to implement programs (e.g., faith communities, work sites, linkages with other chronic disease programs, pharmaceutical companies, intergenerational programs, home bound). These mechanisms may include the following: local Cable TV stations; written materials with audio guides; media such as radio, TV, newsprint, special interest stories, banners, coupon mailers; didactic/lecture; self study; meals on wheels place mats with arthritis messages directed to homebound; WISEWOMAN; Internet.

OBJECTIVE 5:

To encourage the reduction of the proportion of adults, aged 18 year and older with arthritis, who seek help in coping if they experience personal or emotional problems (HP 2010 Developmental Objective 2.4).

EXAMPLES OF STRATEGIES:

- ❑ Promote scheduling programs and activities at convenient times to participants (e.g., after work, during break times at the work place, communities of special populations, long-term care facilities, homebound).
- ❑ Facilitate access by addressing such issues as transportation, handicap accessibility, adult and child care issues.
- ❑ Encourage that instructors and program leaders be adequately trained and reflect the ethnic and demographic background of participants.
- ❑ Explore incorporating evidence-based sports injury prevention initiatives into coach training programs and physical education programs.

OBJECTIVE 6:

To facilitate an increase in the proportion of persons with arthritis who have had effective, evidenced-based arthritis education as an integral part of their condition (HP 2010 Developmental Objective 2.8).

EXAMPLES OF STRATEGIES:

- ❑ Incorporate educational content of programs with other chronic disease linkages and the priority initiatives for the Connecticut’s Department of Public Health’s Commissioner as appropriate. These initiatives may include the following: obesity and 5-A-Day Program; bilingual arthritis educational fact sheet for WISEWOMAN; educational materials; cardiovascular health program; physical activity initiatives; urban outreach.
- ❑ Explore incentives and creative programs to improve nutritional and physical status (e.g., vending machines, competitive town weight loss programs, marathons,). Include community-based initiatives, intergenerational component, schools, and coaches.

OBJECTIVE 7:

To promote a reduction in the proportion of adults with arthritis who engage in no leisure-time activity (HP2010 Objective 22-1).

EXAMPLES OF STRATEGIES:

- ❑ Safe exercising, insurers who support and promote prevention programs such as Silver Sneakers and other key partners identified.
- ❑ Work closely with the Connecticut Department of Public Health Obesity and Physical Activity Coordinator to develop linkages and determine motivational factors and programs to implement that promote population-based changes, and environmental and policy changes.
- ❑ Increase partnerships to include health clubs and insurers.

OBJECTIVE 8:

To promote an increase in the proportion of adults with arthritis who engage in regular (preferably daily) in moderate physical activity for at least 30 minutes per day (HP 2010 Objective 22-2).

EXAMPLES OF STRATEGIES:

- ❑ Partner closely with Connecticut Department of Public Health Obesity initiatives. Participate on Advisory Group and Five-Year Statewide Action Plan.
- ❑ Partner with above to promote and implement evidenced-based strategies.
- ❑ Promote population-based strategies.
- ❑ Promote population-based creative, cost-effective evidence-based strategies.

OBJECTIVE 9:

To promote an increase in the proportion of adults who engage in vigorous physical activity that promotes the development and maintenance of cardio-respiratory fitness three or more days per week for twenty minutes or more per occasion (HP2010 Objective 22-3).

EXAMPLES OF STRATEGIES:

- ❑ Partner with Rhode Island counterparts and implement National Arthritis Foundation grant to conduct an education program for this target population.

- ❑ Explore incorporating in social marketing initiatives (e.g., provide brochures in doctor’s offices in attractive and appealing holders).
- ❑ Partner with professionals and affected people to determine needs and ensure resources.

OBJECTIVE 10:

To promote an increase in the proportion of adults who perform physical activities that enhance and maintain muscular strength and endurance (HP2010 Objective 22-4).

EXAMPLES OF STRATEGIES:

- ❑ Develop population-based models that can be implemented in targeted communities and replicated if effective. Share successes, lessons learned and recommendations with partners and linkages with other chronic disease programs.
- ❑ Promote partnerships and initiatives that share resources and can be implemented utilizing existing resources.
- ❑ Facilitate behavior changes and motivation by promoting system changes, policies and incentives (e.g., work sites, insurers, health clubs,).

OBJECTIVE 11:

To promote an increase in the proportion of adults who perform physical activities that enhance and maintain flexibility (HP2010 Objective 22-5).

EXAMPLES OF STRATEGIES:

- ❑ Explore the feasibility of intergenerational models, hence changing family cultures, attitudes and behaviors regarding exercise. Evaluate efforts, process and outcomes.
- ❑ Promote work site incentives and policies supporting physical activity and wellness.
- ❑ Facilitate physician partners to encourage patients to increase physical activity and reach and/or maintain healthy weight. Data suggest patients are more apt to listen to physicians.

- ❑ Implement in conjunction with “referral models” that encourage physicians to refer patients to nutritionists, group programs, support groups, personal trainers, etc.

OBJECTIVE 12:

To promote an increase in the proportion of adults who are at a healthy weight (HP2010 Objective 19-1).

EXAMPLES OF STRATEGIES:

- ❑ Partner with 5-A-Day and Obesity initiatives in the State of Connecticut Department of Public Health.
- ❑ Work with health professionals and nutritionists to teach clients about their ideal weight and how to achieve and/or maintain it.
- ❑ Work with parish nurses on weight management programs.
- ❑ Include in Social Marketing Campaigns the value and impact of a ten-pound weight loss in regards to osteoarthritis.

OBJECTIVE 13:

To promote a reduction in the proportion of adults who are obese (HP2010 19-2).

EXAMPLE OF STRATEGY:

- ❑ Decrease obesity with secondary and tertiary prevention measures by providing more educational opportunities for self-care and behavior modification (e.g., increase the number of Arthritis Self-Help Courses offered, and increase participation).

OBJECTIVE 14:

To facilitate an increase in the level of knowledge of allied health professionals and other physician extenders, through educational conferences and mechanisms, in order to promote the delivery of accurate messages regarding arthritis.

EXAMPLES OF STRATEGIES:

- ❑ Partner with the Rhode Island counterparts to implement a National Arthritis Foundation grant award to implement education programs for non-physician professionals.
- ❑ Promote networking and sharing via a variety of media and/or meetings (e.g., quarterly networking meetings, professional newsletter inserts, list serves, radio spots, etc.).

OBJECTIVE 15:

To facilitate physician and provider patient educational materials that will promote knowing the type of arthritis that a patient has and will detail appropriate treatment options based on different types of arthritis.

EXAMPLE OF STRATEGIES:

- ❑ Communicate with physicians via professional groups and assist with patient education by recommending appropriate office brochures, materials, etc. Foster openness and sharing of expertise.
- ❑ Develop a Resource/Referral model in internal medicine physician offices by working closely with physician office staff and establishing resource/network initiative. This initiative would enable staff to assist patients in the most effective approaches for dealing with patient issues, questions and concerns. This model would also address many chronic conditions, healthy choices and risk factors.

OBJECTIVE 16:

To facilitate the education and partnership of policy-makers, decision-makers and third party payers concerning priority arthritis issues.

EXAMPLE OF A STRATEGY:

- ❑ Partner with local, state and national agencies, decision-makers and policy-makers in order to share updated information, data and issues concerning reducing the burden of arthritis and other rheumatic conditions.

EVALUATION AND OUTCOME MEASURES

QUALITATIVE OUTCOME MEASURES

Qualitative outcome measures include the following: results of evaluation instruments administered after educational program offerings that capture participants' perception issues such as value of program, etc; results of evaluation instruments and focus groups that target the public perception concerning such program issues as: barriers, gaps, needs, effectiveness, strengths and weaknesses.

QUALITATIVE OUTCOME MEASURES

Quantitative outcome measures include the following: number, types and locations of arthritis-related educational programs offered; documentation of qualified and trained staff; number of attendees; documentation of the number of 1- 800 Arthritis Foundation calls that were generated related to program activities; documentation of the number of DPH web site hits related to arthritis education initiatives; log of the number and types of educational materials that were distributed; number and distribution list of those receiving and or requesting the CAAP.

PROCESS OUTCOME MEASURES

Process outcome measures include the following: how programs are developed; how programs are implemented; how effectively programs and initiatives are advertised (outcome related to attendance and recruitment of target populations); how effective programs are perceived (e.g., patients receiving consistent messages from providers, patients' increased understanding of the type of arthritis they have); description of the mechanisms used; lessons learned from interactions; documentation of the steps involved in the project, program or activity being evaluated; description of how the target populations were identified and reached.

POLICIES, SYSTEMS AND SUSTAINABILITY

Policy, systems and sustainability efforts are critical to the promulgation and integration of forthcoming arthritis initiatives into the existing infrastructure. Success in these areas depends on partnership, commitments, leaderships, resources and participation.

GOALS:

There are five main goals in establishing policies, systems and sustaining this plan. They are as follows:

- ❑ To develop and promote the integration of comprehensive prevention initiatives into policies, systems and existing infrastructures.
- ❑ To engage support and a call to action from special interest groups, decision-makers, and policy-makers as partners in arthritis-related initiatives.
- ❑ To establish arthritis as a major public health initiative in Connecticut by incorporating the arthritis-related Healthy People 2010 Objectives into the Public Health infrastructure; creating awareness of arthritis as a public health issue; building arthritis capacity and competency into the public health infrastructure; and building state interagency alliances to address arthritis issues.
- ❑ To secure resources for arthritis-related initiatives, targeting those at highest risk.
- ❑ To promote environmental changes that will facilitate program initiatives.

OBJECTIVES & STRATEGIES:

OBJECTIVE 1:

Explore with employers, employment rates among adults with arthritis in the working-age population in order to improve job retention efforts (based on the HP 2010 Objectives 2.5).

EXAMPLE OF STRATEGIES:

- ❑ Participate in work force analysis survey being developed by State of Connecticut Department of Public Health colleagues.
- ❑ Explore the information and application of existing databases related to CAAP priorities.
- ❑ Explore partnerships with occupational health and employee health providers.
- ❑ Explore if there are any relationships between disability and workforce data.

OBJECTIVE 2:

Explore evidence for racial disparities with the rate of total knee replacement procedures using the Connecticut OPPE Hospital Discharge database analysis. If these disparities are confirmed by the data, then to decrease and/or eliminate them (based on HP2010 Developmental Objective 2.6).

EXAMPLE OF A STRATEGY:

- ❑ Continue to work with epidemiologists in the Policy, Planning and Evaluation Division of the State of Connecticut Department of Public Health. Conduct Multivariate analysis on data set and report on findings.

OBJECTIVE 3:

Collaborate with Department of Public Health colleagues who are the program contact persons for the Obesity and Cardiovascular Health Programs in order to promote statewide environmental changes (e.g., walking trails) that will reduce the related risks associated with obesity and physical inactivity.

EXAMPLE OF A STRATEGY:

- ❑ Continue to explore overlaps, linkages and synergy with other chronic disease programs (e.g., work with Cardiovascular Health on walking and exercise programs).

OBJECTIVE 4:

Partner to explore funding resources, opportunities and synergistic program initiatives.

EXAMPLE OF STRATEGIES:

- ❑ Continue to closely partner with the Southern New England Arthritis Foundation Chapter concerning grant opportunities.
- ❑ Facilitate the integration of programs and activities into communities. Foster self-sustaining initiatives.

OBJECTIVE 5:

To distribute this ACTION Plan throughout the State, in order to facilitate communication and provide easy access to key constituents and the community at large.

EXAMPLE OF STRATEGIES:

- Distribute Plan at statewide forum with key constituencies identified throughout this Plan.
- Ensure CAAP is electronically available from State of Connecticut Web site.
- Provide a copy of this ACTION Plan statewide to public libraries so that it can be circulated throughout local communities.
- Develop and evaluate distribution approaches. Include feedback from readers.

OBJECTIVE 6:

Provide information that will educate policy makers.

EXAMPLE OF STRATEGIES:

- Develop and distribute educational fact sheets to key decision-makers.
- Prepare and educate people with arthritis who are in the community to attend and present information to policy makers.
- Provide educational materials and information to promote awareness on the local and state levels.

OBJECTIVE 7:

Initiate programs, policies and systems that promote an increase in the quality of life, facilitate a decrease in pain and promote optimal independence for persons living with arthritis.

EXAMPLES OF STRATEGIES:

- Recruit a master trainer for the Arthritis Self-Help Course (ASHC)
- Identify and establish partnerships with pilot communities for the FAST model
- Recruit partners for hosting ASHC

- ❑ Recruit ASCH leaders
- ❑ Conduct ASCH trainings for course leaders
- ❑ Implement ASCH
- ❑ Facilitate the establishment of ASCH into the community infrastructure

OBJECTIVE 8:

Improve surveillance systems and to apply information for the implementation of data driven and evidenced-based activities.

EXAMPLES OF STRATEGIES:

- ❑ Continue to obtain available resources in order to conduct and analyze at a minimum the BRFSS arthritis, physical activities, and quality of life modules.
- ❑ Explore other surveillance systems and existing databases that will provide meaningful information concerning arthritis activities.
- ❑ Conduct focus groups as appropriate for assessment and evaluation information.
- ❑ Develop, administer, analyze and share findings from survey instruments as appropriate.
- ❑ Continue to trend the Connecticut Hospital Discharge Abstract and Billing Database.
- ❑ Explore other data sources in order to obtain information about worksites, physical activity, financial data, disability, pain, obesity and weight management, self-management.

OBJECTIVE 9:

Promote endorsement of this plan and its initiatives by credible professional organizations (e.g., orthopedic physicians, rheumatologists, physical therapists, health educators).

EXAMPLES OF STRATEGIES:

- ❑ Conduct non-physician provider education programs emphasizing multidisciplinary approaches, networking and referrals.
- ❑ Partner with other states both regionally and nationally in order to obtain synergy in program activities (e.g., self-management, educational programs, surveillance).

- ❑ Circulate and/or distribute the CAAP to rheumatologists and orthopedic physicians.
- ❑ Provide access to the CAAP electronically (e.g., web site).
- ❑ Provide a CAAP to all State public libraries so that it is easily available for circulation.
- ❑ Provide resources for ongoing professional and client education using a variety of genres.

OBJECTIVE 10:

Actively participate as a national partner with groups such as:

EXAMPLES OF NATIONAL PARTNERSHIPS:

- ❑ The Centers for Disease Control and Prevention Arthritis Grantees
- ❑ The Association of State and Territorial Health Officials' Arthritis Council
- ❑ The Arthritis Foundation, National Office and local chapters
- ❑ The American College of Rheumatology
- ❑ The American Academy of Orthopedic Surgeons
- ❑ Regional and State Public Health Agencies
- ❑ The National Institute of Arthritis, Musculoskeletal and Skin Disorders
- ❑ Connecticut Senior Centers
- ❑ Connecticut Local Public Health Departments and Districts
- ❑ Academic institutions such as community colleges, universities, and Area Health Education Centers (AHEC)
- ❑ Traditional and non-traditional providers (e.g., physicians, physical therapists, nutritionists, alternative therapy providers, occupational therapists, nurses, chiropractors, social workers, exercise instructors)
- ❑ Facilitate communication, feedback, networking and sharing among partners.

POLICY STRATEGIES

Policy strategies are activities that become part of the infrastructure, promote system changes and are endorsed by both leaders and constituents. There is considerable overlap in the proposed policy strategies because the reinforcement of activities is an important element in policy changes. In addition, an integrated approach will reinforce community-based ownership and sustainability of initiatives. Policy strategies include efforts to improve or establish policy initiatives in the following areas: environmental changes which foster behavior change (e.g., lighted and safe walking trails to facilitate physical activity); physical activity incentives in the workplaces; community ordinances and laws; state and federal laws and resource allocation; integration of programs and initiatives into existing community

infrastructure in order to promote policy changes; work site policies about wellness programs and employee incentives; reimbursement issues; health insurance company incentives and benefits to policyholders that promote health, wellness and prevention.

SYSTEM STRATEGIES

System strategies focus on the integration of arthritis strategies into community, agency and statewide health care delivery systems and policies. These efforts are interrelated with effective and committed partnerships and awareness and educational strategies. Strategies include the following:

- ❑ Continue to develop and enhance partnership with the Arthritis Foundation both on the regional and national level.
- ❑ Implement the CAAP.
- ❑ Develop and integrate linkages within the State of Connecticut Department of Public Health, especially in regards to shared risk factors such as physical activity and nutrition/weight management.
- ❑ Develop relationships with providers in order to promote consistent messages to those affected with arthritis.
- ❑ Develop relationships and a presence on the community level in order to integrate initiatives into existing infrastructures.
- ❑ Educate lobbyist and policy makers.
- ❑ Explore third party reimbursement for reducing modifiable risk factors and engaging in prevention activities (e.g., Anthem Blue Cross and Blue Shield and MedSpan Silver Sneaker initiative).

SUSTAINABILITY STRATEGIES

Sustainability strategies are mostly concerned with financial resources, business partnerships administrative support and the integration of program mission and goals into other existing infrastructures. These strategies will weave initiatives into the strategic plans of communities, agencies, providers and other statewide programs. These strategies may include the following:

- ❑ Centers for Disease Control and Prevention continuing funding application for reducing the burden of arthritis and other rheumatic conditions in Connecticut.
- ❑ Procurement of other grant funds.
- ❑ Better utilization of existing resources.

- ❑ Improvement of resource management based on models for quality and efficiency.
- ❑ Local community gift-giving campaigns.
- ❑ Procurement and allocation of corporate and business donations.
- ❑ Integration with other Connecticut Department of Public Health Programs.
- ❑ Small local business participation and support.
- ❑ Engaging larger corporations to incorporate and offer incentives for wellness programs.
- ❑ Student internships and placements in communities and local agencies concerning arthritis-related initiatives.
- ❑ Acknowledge and advertise participation and outcomes.

EVALUATION AND OUTCOME MEASURES

Evaluation is an integral component of the CAAP. Assessment, incremental and post-initiative evaluation measures will be implemented. Quantitative, qualitative and process measures will be the three evaluation methods used for the CAAP.

QUANTITATIVE:

Examples of quantitative evaluation measures include the following:

- ❑ Amount of fiscal allocations and professional resources dedicated to arthritis activities.
- ❑ Number of partners and work sites with wellness programs that support arthritis prevention.
- ❑ Number of sports-related programs that promote sports injury prevention.
- ❑ Number of women's health initiatives that include arthritis as major women's health problem.
- ❑ Number of arthritis-related initiatives that are included in public health programs and statewide education programs.
- ❑ Number of insurance plans that promote arthritis-related prevention or self care management initiatives for subscribers.
- ❑ Findings and analysis of outcome data.
- ❑ Scientific reports.
- ❑ BRFSS data analysis including CDC standard tables 1 and 2.
- ❑ Evidenced-based outcome data and best practices.

- ❑ Non-evidenced-based outcome information.
- ❑ Number of participating FAST model sites with data comparing attendance and outcomes.
- ❑ Partnership outcomes (e.g., number and amount of new grants, outreach activities,).

QUALITATIVE:

Examples of qualitative evaluation measures include the following:

- ❑ Description of the process of how arthritis became recognized as a public health priority in Connecticut.
- ❑ Description of the perception of the decision-makers, policy-makers, key stakeholders and special interest groups concerning the importance of arthritis as a public health issue.
- ❑ Methods and measures taken to identify or verify demographic, educational, geographic, and/or socioeconomic disparities (e.g., racial disparity with total knee replacements) related to arthritis.
- ❑ Level of interaction and description of linkages with other chronic disease programs with shared modifiable risk factors.
- ❑ Description of the developmental process leading to environmental policy changes (e.g., number of walking paths).
- ❑ Policy changes on local and state level (e.g., town ordinances, and state insurers' reimbursement policies).
- ❑ List of lessons learned with recommendations, limitations and commentary.
- ❑ Partners' relationships, communication styles and effectiveness of working together.

PROCESS:

Process evaluation measures include *how* effectively the aforementioned strategies were implemented.

IMPLEMENTATION

The implementation of the first *State of Connecticut Arthritis ACTION Plan: A Public Health Strategy* is a critical first step in establishing arthritis as a major public health initiative. A call to action, transposing a written document into a living plan will heighten awareness, bring partners together, reduce the burden of arthritis and improve the quality of life for persons with arthritis in Connecticut.

GOALS:

The goal of implementation is to disseminate this five-year written plan throughout the state in order to increase awareness, to emphasize arthritis as a public health issue, to engage more partners, and to ultimately reduce the burden of arthritis in Connecticut. The objectives of this implementation phase include the following:

OBJECTIVES:

- To widely disseminate at least 1000 copies of this plan throughout Connecticut.
- To establish an implementation timetable with key partners based on the time line provided in Appendix I
- To maintain the Arthritis Advisory Group in order to oversee that the implementation phases of this plan are achieved. (See Appendix I).

IMPLEMENTATION STRATEGIES

The implementation strategies for disseminating the CAAP include the following:

- Distribute the CAAP to at least the following:
 - Arthritis Advisory Group
 - Statewide public libraries
 - Local public health departments
 - Area Agencies on Aging (5)
 - Area Health Education Centers (AHEC)
 - Major professional agencies previously cited
 - State College and University Libraries
 - Community Health Center
 - Participants of Arthritis Forum
 - Board and Committee Members of the Arthritis Foundation
 - Connecticut Department of Public Health web site

- ❑ To disseminate in conjunction to a statewide multi-level social marketing campaign.
- ❑ To encourage partners to promote via formal and informal networks.
- ❑ To disseminate with national partners such as CDC grantees.

EVALUATION AND OUTCOME MEASURES

QUANTITATIVE:

Quantitative evaluation measures include the following:

- ❑ Number of plans disseminated.
- ❑ Number of plans that were disseminated to targeted agencies/locations.
- ❑ Number of Partners.

QUALITATIVE:

Qualitative evaluation measures include the following:

- ❑ Perception of effectiveness by stakeholders.
- ❑ How well recipients received plan.

PROCESS:

Process evaluation measures include the following:

- ❑ Achievement of Timetable.
- ❑ Support by administrative agencies and partners.

EVALUATION

GOALS:

The evaluation goals are as follows:

- Develop and implement a public health based evaluation plan that will demonstrate the efficacy and cost-effectiveness of prevention measures and community strategies. Include the following elements:
 - Consumer perception of convenience, ease of access and value.
 - Provider perceptions of efficacy, ease of use, adequate resources and cost-effectiveness.
 - Qualitative and quantitative measures.
 - Process and partnership collaboration.
- Incorporate evaluation methodologies and strategies with the inception of program and inactive development.

OBJECTIVES:

Evaluation objectives include the following:

- To implement valid and reliable appropriate and culturally sensitive evaluation models.
- To collaborate with partners emphasizing the use of evaluation consistent tools, the importance of evaluation for all initiatives and process/implementation feedback.
- To obtain information for planning, development, models that can be replicated, and best practices.
- To document outcomes and progress of plan implementation.
- To demonstrate qualitative, quantitative and process outcome measures.

NEXT STEPS

CHALLENGES TO OVERCOME

- ❑ Obtaining and developing ongoing systematic surveillance systems that will yield state specific data.
- ❑ Exploring budget options and proposals to fund surveillance system, programs and other initiatives outlined in this Plan.
- ❑ Overcoming financial issues concerning adequate funding for resources, prevention implementation, provider reimbursement, social marketing campaigns and treatment plans.
- ❑ Engaging high-risk populations.
- ❑ Increasing awareness, education and behavior changes concerning arthritis prevention initiatives, especially since a focus on healthy behaviors is an oxymoron and a paradigm shift in American culture and life style patterns.
- ❑ Motivating communities to improve health habits, reach or maintain recommended weight based on Body Mass Index (BMI), and exercise and strength train on a regular basis.
- ❑ Collaborating with other chronic disease initiatives in order to promote consistent messages especially concerning shared risk factors such as physical activity and healthy weight management. Significant barriers for these collaborations are categorical funding and minimal financial initiatives promoting partnerships and coalitions.
- ❑ Establishing partnerships with third party payers and exploring reimbursement issues.
- ❑ Continuing to share and communication information with partners.
- ❑ Continuing to strive for excellence, best practices and model development.
- ❑ Continuing to support research efforts as appropriate.

Appendix A
ARTHRITIS ADVISORY WORK GROUP STEERING COMMITTEE

Co-Chairs
Andrea Lombard Poirot
Susan M. Nesci

Tammi Bongoll
Joanne Cannon
Liana Fraenkel, M.D.
Sarah Gauger
Paula Haney
Judy King
Signian McGeary
Barbara M. O'Connell

Keith S. Overland, O.D.
William J. Perugini
Lisa Preiss
Amalia Molly Punzo, M.D.
Gary St. Amand
Karen D. Stone
Cynthia Swift
John Waterman, M.D.

Appendix B
OTHER COMMUNITY & PROFESSIONAL REVIEWERS
(NOT PREVIOUSLY ACKNOWLEDGED)

Cindy Adams
Linda Beaulieu
Monica Belyea
Suzette Benn
Laura Barrera
Tammy Bongoll
Lou Carta
Patricia Checko
Gary Cohen, M.D.
Ted Collins, M.D.

Sam Crowley
Louise DeChesser Fredricks
Deborah Desir, M.D.
Sharon Dubois Hall
Ann Elwell
Frank Garrentano, M.D.
Walter Ialacci
Kathy Johnson, M.D.
Karen Manzella
Rebecca Martinique

Mildred Ross
Baker Salsbury
Catherine Sheehan
Theresa Smith
Eileen Storey, M.D.
Pat Toce
Jan Roy Zaccheo
Lawrence Zemel, M.D.

APPENDIX C
ARTHRITIS FOUNDATION

SOUTHERN NEW ENGLAND OFFICE STAFF

Angela Aresco
Lucy Frederick
Karen Manzella
Rebecca Martinique
Susan Nesci
Debbie Poudrier

ARTHRITIS VOLUNTEERS

Janice Baginski
Rose Byrom
Mary Caruso
Sadie Cassarino
Paul Cloutier
Janet Harrigan
Bob Hunter
Lottie Johnson
Barbara Kline
Mary LaDuca
Irene McGourty
Betsy McGuire
Lorraine McNamara
Millie O'Toole
Barbara Patla
Marilyn Pease
Janina Pinto
Mavis Riner
Robert Scrivano
Ethel Surdel
Elizabeth Walls
Rose Young

APPENDIX D
PARTICIPANTS OF THE FIRST STATEWIDE ARTHRITIS FORUM
HELD AT THE CONNECTICUT HOSPITAL ASSOCIATION
FEBRUARY 26, 2001

Robin Abourizk	Eila Flemming	Rita O'Neil
Mary Adams	Raymond Flynn	Keith Overland
Kathleen Anderson	Liana Fraenkel	Brenda Pamelie Hennon
Maritza Angulo	John Fassinelli	Richard Payette
Jacki Baebato	Lucy Fredrick	Perry Rozalind
Cindy Barry	Janet Gallugi	Bill Perugini
Linda Beaulieu	Sarah Gauger	Debbie Plaude
Janice Beginski	David Guthrie	Debra Plourd
Monica Belyea	Paula Haney	Andrea Lombard Poirot
Nancy Berger	Jeanette Heinrich	Marion Pollack
Marilyn Blackmore	Lucy Hernandez	Debbie Poudrier
Tammy Bongoll	Susan Hoover	Amalia Molly Punzo
Barbara Borbas	Lottie Johnson	Michael Purcaro
Carol Burns	Barbara Keenan	Barbara Quigley
Sally Caffarelli	Michele Kelvey Albert	Natalie Rawls
Joanne Cannon	Judy King	Gena Reni
Donna Caplin	Alison King	Carmen Reyes
Judi Caraveti	Kerensa Knowles	Mary Lynne Riley
Lou Carta	Lynne Kumnick	Mildred Ross
Janice Catrone	Susan Lamour	Shirley Roack
Patricia Checko	Mary Beth Lawless	Baker Salisbury
Joe Cigglioni	Janet Leonard	Penny Savoie
Gayle Cole	Tonya Lowery St. John	Margaret Schoen
Rhonda Collins	Sheila MacGregor	Joan Sevigny
Elizabeth Consorte	Jeanette MacKenzie	Cathy Sheehan
Janice Conway	Jill Maeder	Theresa Smith
Jane Cooper	Ann Maltoli	Gary St. Amand
Sheila Coutant	Karen Manzella	Peg Stakl
Louise DeChesser	Dolores Maria	Cynthia Swift
Fredricks	Joe Marino	Judy Telesmanick
Mary DeLisle	Rebecca Martinique	Thomas Tashania
Deborah Desir	Sollee McCoy	Allison Treadwell
Nancy Dickman	Signian McGeary	Joanne Turecek
Elaine Doherty	Betsey McGuire	Jay Van Schelt
Sharon Dubois Hall	Beverly Melo	Carolyn Vanacore
Aileen Dupen	Susan Nesci	Gertrude Vermande
Jason Epp	Eileen O'Brien	John Waterman
Yvonne Fahy	Barbara O'Connell	Karin Widenmeyer
Patty Faila	Claire Okon	Jan Zaccheo
Beverly Fargnoli	Stephen Okon	

REGISTER EARLY

APPENDIX D

CT Arthritis Forum
Free -.Seating is Limited

REGISTER EARLY BY MAIL, E-MAIL, FAX, OR PHONE. PLEASE PRINT

Your name _____

Title _____

Affiliation _____

Street _____

Town _____ State _____ Zip _____

Work Phone _____

Fax _____

E-mail _____

DIRECTIONS To
Connecticut Hospital Association (CHA)
 110 Barnes Road
 Wallingford, CT
 (203) 265-7611



Connecticut Arthritis Forum

Monday, February 26, 2001

9:00 am - 4:00 pm

Connecticut Hospital Association,
Wallingford, CT

Professional Affiliation: (Please check one)

- Health Professional ---- Exercise Professional
- Person with Arthritis ---- Aging Network
- Health Educator ---- Nutritionist
- Policy maker ---- Insurance/HMO
- Alternative Care ---- Women's Health
- Other -----

You will be participating in ONE Group* for Small Group Work Sessions. Please indicate your First (1), Second (2) and Third (3) Choices. (*Described on inside center of this brochure). ----- Surveillance & Evaluation

- Communication & Outreach
- Programs & Education
- Policy, Systems & Sustainability

Please return by February 16, 2001 to:

State of Connecticut
 Department of Public Health
 Arthritis Program MS# II HEI
 410 Capitol Avenue
 PO Box 340308
 Hartford, CT. 06134-0308
 Phone: (860) 509 -7802
 Fax: (860) 509 -7854
 E-mail: andrea.poirot@po.state.ct.us

From I-91 North: (from the New Haven area) Take Exit 15. At the end of the ramp, take a LEFT onto 68 WEST. Proceed 1.8 miles. At the 7th traffic light, take a RIGHT onto Barnes Industrial Park Road North. At the traffic light, take a LEFT onto Barnes Road. Take first RIGHT into CHA driveway.

From I-91 South: (from the Hartford area) Take Exit 15. Turn RIGHT onto Rte. 68 WEST. Proceed 1.8 miles. At the 6th traffic light, take a RIGHT onto Barnes Industrial Park Road North. At the next traffic light, take a LEFT onto Barnes Road. Take first RIGHT into CHA driveway.

From Wilbur Cross Parkway (Rt. 15) Northbound:
 Take Exit 66. At the end of ramp, take a LEFT onto Rt. 5 South. Proceed 1/4 mile. At the 4th traffic light, go up a short hill and take a LEFT onto 68 EAST. At the first traffic light, take a LEFT onto North Main Street Extension. Take first RIGHT onto Barnes Road. CHA is the 2nd building on the LEFT.

From Wilbur Cross Highway (Rt. 15) Southbound:
 Take Exit 66. Turn LEFT onto RT 5 SOUTH. Proceed 1/4 mile. At the 5th traffic light, turn LEFT up a short hill. At the next traffic light, take a LEFT onto RT 68 EAST. At the traffic light, turn LEFT onto North Main Street Extension. Take RIGHT onto Barnes Rd. CHA is the 2nd building on the LEFT.

From 1-84:
 Take Exit 27 (Rt. 691) East to the Wilbur Cross Highway (RT 15) SOUTHBOUND. Take Exit 66 and follow directions above for Wilbur Cross Highway Southbound.

Parking-Handicapped:
Handicapped parking is available.

Participate in the Development of the First

Seating is limited.
There is no charge for this event.
Pre-registration is required.

Contact the State of Connecticut
Department of Public Health
(860)509-7802

Email:
andrea.poirot@po.state.ct.us
Visit our website @

APPENDIX D
CONNECTICUT ARTHRITIS FORUM
MONDAY, FEBRUARY 26, 2001 CONNECTICUT HOSPITAL ASSOCIATION

8:00	Registration & Light Breakfast Welcome & Introductions (Membership Room) <i>Norma Gyle, RN, MS</i> <i>Deputy Commissioner</i> <i>CT Department of Public Health</i> <i>Paula Haney, RPT,</i> <i>Chair, Chapter Board of Governors</i> <i>Arthritis Foundation</i>	12:00	Networking & LUNCH (provided)
9:00	What is Arthritis and Why it is a Public Health Concern? (Membership Room) <i>Liana Fraenkel</i> <i>Assistant Professor of Medicine</i> <i>Yale University</i>	1:00	Small Group Reports & Guiding Principles for Session 3
9:20	The Connecticut State Arthritis Action Plan (CAAP) & Healthy People 2010 Objectives (Membership Room) <i>Andrea Lombard Poirot, BSN, MPH</i> <i>Arthritis Program Coordinator</i> <i>CT Department of Public Health</i> <i>Sue Nesci, MS, MA, CHES</i> <i>Program Director</i> <i>Arthritis Foundation</i>	1:30	Small Group Work Session 3: Recommend Strategies, Initiatives and Priorities
	Guiding Principles for Session I (Full assembly, Membership room) Health & Stretch Break Small Group Work Session 1: Identify Existing Services Small Group Reports and Guiding Principles for Session 2 Small Group Work Session 2: Identify Gaps, Barriers & Opportunities	2:30	Afternoon Health Break
		2:45	Small Group Reports, Discussion & Summations (Full Assembly, Membership Room)
		3:45	What's Next & Evaluation
		4:00	Adjourn *Small Work Group Choices (Indicate Choice(s) on Registration Form)
			<ol style="list-style-type: none"> 1. Surveillance & Evaluation: This group will discuss the implementation of surveillance and outcome measures to include data sources, methods, analysis & evaluation. 2. Communication & Outreach: This group will discuss the development and implementation of initiatives that promote early detection and awareness to include use of media educational materials, educational campaigns, ads and a plan to disseminate the CT Arthritis Action Plan (CAAP). 3. Programs & Education: This group will discuss the implementation of evidenced-based education programs that address primary, secondary and tertiary prevention for specific target populations, risk factors, practice settings and worksites. 4. Policies, Systems & Sustainability This group will discuss the development and implementation of policy and system changes, and needed resources.

WHY ATTEND?**BACKGROUND:**

- The State Health Department has received a CDC grant to establish a Connecticut Arthritis Action Plan
- The purpose of the plan is to reduce the burden of arthritis and other rheumatic conditions in CT

PURPOSE OF FORUM:

- To bring together key stakeholders & leaders
- To facilitate partnerships & collaborations
- To identify barriers, gaps & opportunities
- To recommend strategies & priorities for the Connecticut Arthritis Action Plan (CAAP)

ARTHRITIS PUBUC HEALTH IMPACT:

- One out of six people affected
- Leading cause of disability
- One half of those 65 & older affected
- Leading women's health problem
- Primary, secondary & tertiary prevention measures available to reduce the cost and burden are not being applied
- There are many opportunities to expand and improve our current efforts to address prevention measures and reduce gaps & barriers

WHO NEEDS TO ATTEND:

- Academic Allied Health Professors
- Aging Groups, Geriatric Specialists/Agencies
- Alternative Medicine Providers
- Exercise Professionals
- Health Educators
- Health Professionals & Providers
- Insurance Providers & HMOs
- Local Public Health Professionals
- Nutritionists
- Occupational & Worker Comp Professionals
- Parish Nurses & Home Health Care Providers
- People with Arthritis & Related Conditions
- Pharmacists
- Policy Makers
- Social Service Professionals
- Women's Health Agencies/Groups

SHARE YOUR EXPERTISE TO HELP DEVELOP A COMPREHENSIVE, STATEWIDE ARTHRITIS ACTION PLAN

APPENDIX D

SUMMARY OF RECOMMENDATIONS FROM THE FIRST CONNECTICUT STATEWIDE ARTHRITIS FORUM

SURVEILLANCE & EVALUATION

- Top Three Recommendations
 1. Identify population with major risk factors for which interventions will be targeted.
 2. Define arthritis (one consistent definition).
 3. Develop partnerships to access available data and identify people to create these partnerships.

COMMUNICATION & OUTREACH #1

- Top Three Recommendations.
 1. Partnering with target populations & organizations (e.g., sr ctrs,).
 2. Legislation to increase reimbursement for prevention programs.
 3. Multilingual public awareness announcements.

COMMUNICATION & OUTREACH #2

- Top Three Recommendations
 1. Mass media campaign (e.g., TV, print, radio, Internet).
 2. Promote partnerships between agencies and organizations in order to coordinate efforts.
 3. Increase interdisciplinary funding for outreach workers.

Policy, Systems & Sustainability

- Top Three Recommendations
 1. Advance broad-based education of risk factors across the population.
 2. Increase awareness including early intervention among patients and primary care providers.
 3. Collaboration with other chronic disease associations to decrease risk factors.

PROGRAM & EDUCATION #1

- Top Three Recommendations
 1. Educational materials at community sites
 2. Coordination of information among healthcare providers
 3. Use existing networks to disseminate information to healthcare professionals

PROGRAMS & EDUCATION #2

- Top Three Recommendations
 1. Aggressive marketing (multilingual).
Increase information in MD offices via newly diagnosed to follow-up including MD prescriptions for exercise programs. Secondary School Education (early age prevention like PE, PTA, Health Ed).

PROGRAM & EDUCATION # 3

- Top Three Recommendations
 1. More patient education.
 2. Use newspapers, TV news, cable to distribute.
 3. Increase referrals for PT/OT services.

APPENDIX D
ARTHRITIS FORUM HELD FEB 26, 2001
ANALYSIS OF EVALUATION FORM DATA

Total approx. # of participants:	90 (approx.)
Total # of evaluations submitted:	55

Program Design

(PD1) I had sufficient opportunity to express my opinions:

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	0	2	7	45	4.8	5.0

(PD2) I feel that my input and perspectives were heard:

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	0	2	11	41	4.7	5.0

(PD3) Essential priority areas related to Arthritis and Other Rheumatic Conditions were addressed

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	2	6	21	23	4.3	5.0

(PD4) The time allotted for the small work group activities was adequate

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	3	0	22	29	4.4	5.0

(PD5) This forum allowed me an opportunity to have input into the first Connecticut Arthritis Action Plan

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	0	4	12	38	4.6	5.0

(PD6) The format of this forum (use of group process) was a good use of my time

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	0	4	15	35	4.6	5.0

(PD7) I gained new information through this forum:

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	1	4	19	30	4.4	5.0

Program Content

(PC1) The forum was well organized:

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
1	1	3	15	35	4.5	5.0

(PC2) The content of the forum was relevant and beneficial:

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	0	2	23	30	4.5	5.0

(PC3) The objectives as stated (in the brochure) were met:

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	1	3	23	27	4.4	5.0

(PC4) I left with a clear understanding of the outcomes of the forum:

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	0	8	15	31	4.4	5.0

Number of people who answered “YES” to being affected with Arthritis or another rheumatic condition.....22 out of 55

The length of time [in years].....8.2 years

Number of people who answered “YES” to professionally working Directly or indirectly with arthritis issues.....25 years

The average length of time [in years].....10.5 years

Facility and Logistics

(FL1) The pre-registration process was clear and hassle-free:

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	0	8	15	28	4.4	5.0

(FL2) The on-site registration was smooth and well organized:

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
3	2	18	16	13	3.7	3.0

(FL3) The facility was in convenient location:

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	0	8	17	29	4.4	5.0

(FL4) The facility was easy to access:

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	0	5	18	31	4.5	5.0

(FL5) Directions to the facility were clear:

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
2	6	8	8	30	4.1	5.0

(FL6) Parking was available and convenient:

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	0	3	11	39	4.7	5.0

(FL7) The meeting rooms were comfortable:

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	0	4	15	35	4.6	5.0

(FL8) The food was nutritious and satisfying

Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Average Answer	Mode
0	0	0	8	46	4.9	5.0

Number of participants who filled out and submitted an evaluation	Number of participants who left comments on Their evaluation form
55 / 60 %	22/55 (40%)

APPENDIX F
CONNECTICUT EDUCATION REFERENCE GROUPS (ERGs)
1996
 (From Highest to Lowest Income/Education)

ERG = A

Avon	New Canaan	Simsbury	Wilton
Darien	Redding	Weston	Woodbridge
Easton	Ridgefield	Westport	

ERG = B

Bethel	Glastonbury	Marlborough	South Windsor
Brookfield	Granby	Monroe	Trumbull
Cheshire	Greenwich	New Fairfield	West Hartford
Fairfield	Guildord	Newtown	
Farmington	Madison	Orange	

ERG = C

Andover	East Granby	Mansfield	Sherman
Barkhamsted	Ellington	Middlebury	Somers
Bethany	Essex	Middlefield	Southbury
Bethlehem	Goshen	Morris	Suffield
Bolton	Haddam	New Hartford	Warren
Bozrah	Harwinton	Old Lyme	Westbrook
Burlington	Hebron	Oxford	Willington
Canton	Killingworth	Pomfret	Woodbury
Cornwall	Ledyard	Preston	Woodstock
Deep River	Litchfield	Salem	
Durham	Lyme	Salisbury	

ERG = D

Berlin	Cromwell	N. Branford	Southington
Branford	East Hampton	North Haven	Tolland
Bridgewater	East Lyme	Old Saybrook	Washington
Clinton	Hamden	Rocky Hill	Watertown
Colchester	Newington	Roxbury	Wethersfield
Columbia	New Milford	Shelton	Windsor

APPENDIX F
CONNECTICUT EDUCATION REFERENCE GROUPS (ERGs)
1996

ERG = E

Ashford	Colebrook	Hartland	Portland
Beacon Falls	Coventry	Kent	Prospect
Brooklyn	Eastford	Lebanon	Scotland
Canaan	East Haddam	Lisbon	Sharon
Canterbury	Franklin	Norfolk	Union
Chester	Hampton	N. Stonington	

ERG = F

Bloomfield	Milford	Stonington	Wallingford
Enfield	Montville	Stratford	Waterford
Groton	Naugatuck	Torrington	Windsor Locks
Manchester	Seymour	Vernon	Wolcott

ERG = G

Chaplin	North Canaan	Sprague	Thompson
East Haven	Plainfield	Stafford	Voluntown
East Windsor	Plainville	Sterling	Winchester
Griswold	Plymouth	Thomaston	

ERG = H

Ansonia	E. Hartford	Middletown	Putnam
Bristol	Killingly	Norwalk	Stamford
Danbury	Meriden	Norwich	West Haven
Derby			

ERG = I

Bridgeport	New Britain	New London	Windham
Hartford	New Haven	Waterbury	

APPENDIX G
CONNECTICUT ARTHRITIS* ACTION PLAN SURVEY

**Throughout this document refer to as Arthritis and Other Rheumatic Conditions*

BACKGROUND:

The State of Connecticut Department of Public Health (Bureau of Community Health, Health Education and Intervention Division) and the Arthritis Foundation, Connecticut Chapter are leading a statewide partnership and initiative to develop and implement the Connecticut Arthritis Action Plan. These activities are made possible by the Centers for Disease Control and Prevention (CDC) establishment grant. *Arthritis affects one in six people and one in two people sixty-five years and older. It is estimated that 476,000 people or 14.2percent of the people in Connecticut have arthritis.* Since there is no established method for keeping track of people with arthritis, it is difficult to plan and set priorities for the Connecticut Arthritis Action Plan. Therefore, it is important to collect information from many sources. You have been identified as a key stakeholder in developing and implementing the state plan.

Your opinion is important.

DIRECTIONS:

Over the next 15 minutes, please read and complete this survey. Please return at the end of this Arthritis Forum at the registration table.

THANK YOU FOR YOUR TIME!

1. A major focus of the Connecticut Arthritis Action Plan is to establish a scientific base of knowledge and information on the prevention of arthritis and related disability. Please indicate your opinion on the following **25 statements by marking an “X”** in the appropriate box.

STATEMENT In Connecticut we need to.....	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Unsure
1. Establish a statewide arthritis surveillance system.						
2. Ensure consistent and standard use of data terms.						
3. Increase awareness of clinical treatments for arthritis.						
4. Identify modifiable risk factors to reduce arthritis.						
5. Identify modifiable risk factors to reduce disabilities.						
6. Evaluate cost effectiveness of interventions.						

STATEMENT In Connecticut we need to.....	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Unsure
7. Estimate the cost of arthritis in the general population.						
8. Increase public awareness and education programs.						
9. Facilitate provider education.						
10. Promote more consistent treatment and care.						
11. Promote partnerships and networking for arthritis.						
12. Work with other chronic disease prevention programs.						
13. Promote early diagnosis.						
14. Provide information about different treatment options.						
15. Support research efforts.						
16. Create opportunities for students in health-related disciplines.						

STATEMENT In Connecticut we need to.....	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Unsure
17. Develop and disseminate primary prevention measures.						
18. Develop and disseminate secondary prevention measures.						
19. Develop and disseminate tertiary prevention measures.						
20. Communicate information to public.						
21. Communicate information to health care providers.						
22. Provide resources for health care providers and the general public.						
23. Modify health care systems to better meet needs.						
24. Build arthritis into the public health infrastructure.						
25. Target efforts to those at greatest risk of arthritis.						

2. There are many *Healthy People 2010* Objectives that directly relate to arthritis and other rheumatic conditions. Please read the following **22 statements and mark an “X”** in the column that best indicates your agreement with the following statements.

STATEMENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Unsure
1. Obesity is a risk factor for chronic illnesses.						
2. Physical inactivity is a risk factor for illness.						
3. Physical Education must be taught in schools.						
4. Pain is a major issue with disabilities.						
5. Disability decreases employment rates.						
6. There are racial differences and disparities with knee replacements.						
7. Many people with arthritis do not see a health care provider.						
8. Arthritis is an old person's disease.						
9. Arthritis is a normal part of aging.						
10. Health promotion programs are important.						
11. It is important to reduce nonfatal unintentional injuries.						
12. There needs to be more public health programs related to arthritis and prevention.						
13. There needs to be more physical activity classes in schools.						

STATEMENT	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Unsure
14. There needs to be more physical activity classes for the elderly.						
15. It is important to identify multiple sources to sustain and expand support for statewide arthritis efforts.						
16. Overexertion is an employment risk factor for developing arthritis.						
17. Repetitive motion is a work place risk factor for developing arthritis.						
18. People with arthritis need help coping.						
19. People with arthritis suffer a loss with an increase in physical limitations.						
20. Most people do not know what kind of arthritis they have.						
21. Most doctors teach their patients about their arthritis.						
22. Most patients understand what their doctors teach about their arthritis.						

3. The definition of ARTHRITIS includes over one hundred conditions. Please **rank the conditions or types of arthritis** that you think are of the greatest importance as a public health approach for reducing the burden of arthritis and other rheumatic conditions. (One (1) is the most important; four (4) is the least important).

- Rheumatoid arthritis
- Osteoarthritis
- Fibromyalgia
- Juvenile arthritis
- Other _____
- _____ Check if you do not feel comfortable answering this question

4. Please rank (1-7, 1 is the highest priority) what you view as the *priorities* for addressing the following *modifiable risk factors* for reducing the burden of arthritis in Connecticut.

- Repetitive motion and work-related injuries
- Sports injuries
- Obesity and weight management
- Physical activity
- Late diagnosis
- Lack of self-care management
- Other _____
- _____ Check if you do not feel comfortable answering this question

5. Please rank (1-5, 1 is the highest priority) what you view as the *priority target populations* in Connecticut for reducing the burden of arthritis.

- Children
- Women 45 – 64 years old
- Elders ≥ 65 years old
- Underserved and disparate populations
- Other _____
- _____ Check if you do not feel comfortable answering this question

OPTIONAL: (but very helpful information)

Age: € <18 € 18-39 € 40-55 € 56 -64 € ≥65

Gender: € Female € Male

Race/Ethnicity €Caucasian €African American €Hispanic €Asian €Other

Are you living with arthritis or a rheumatic condition. € YES € NO € Unsure

Check which best describes your occupation:

- € Health Care Provider € Social Service Provider € Health Educator
- € Nutritionist € Physical Therapist € Homemaker

- | | | |
|--|--|---------------------------------------|
| <input type="checkbox"/> Alternative medicine provider | <input type="checkbox"/> Physical Fitness Professional | <input type="checkbox"/> Student |
| <input type="checkbox"/> Insurance Industry Provider | <input type="checkbox"/> Retired | <input type="checkbox"/> Pharmacist |
| <input type="checkbox"/> Marketing Professional | <input type="checkbox"/> Politician | <input type="checkbox"/> Policy maker |
| <input type="checkbox"/> Disabled (from arthritis) | <input type="checkbox"/> Business Professional | <input type="checkbox"/> Unemployed |

Name: _____

Agency/Workplace: _____

I would like to be contacted on how I can get involved in the Connecticut Arthritis Action Plan.

Contact Information:

Thank you for your time and completeness with this important survey!

APPENDIX G

THE CONNECTICUT ACTION PLAN SURVEY TOOL RESULTS

Background/Need:

Arthritis affects one in five adults (approximately 500,000 people) in Connecticut and is the leading cause of disability in the nation. The Connecticut Department of Public Health is the lead organization for preparing the first statewide arthritis action plan. Identifying partners, establishing an advisory work group, gathering information and understanding the public perception of arthritis in Connecticut were important first steps in this process.

A survey instrument was identified as being a useful tool for gathering initial information while establishing partners. This tool was intended to be a catalyst for focusing discussions, for establishing a frame of reference from participants and setting priorities.

Methodology:

A survey tool was developed using information primarily from *the National Arthritis Action Plan: A Public Health Strategy* and the in *Healthy People 2010*. A five point Likart scale was included for all questions except yes/no (are you affected with arthritis) and priority ranking questions.

The tool was developed and piloted with the Advisory Group at the first meeting in December 2000. Twenty-five survey instruments were distributed as a pilot to people identified as possible members to a newly established Arthritis Advisory work group. Most people were professionals currently interested or dedicated to work related to arthritis. A SASE envelope was included. Sixteen people elected to participate as members; 16 surveys were completed and returned. No revisions to the survey instrument were offered.

Internal Connecticut Department of Public Health offered revisions to the tool for readability and ease of use. These format changes were included. No content changes were made to the document. The survey instrument was revised for usability and readability.

The revised survey instrument was then distributed at the first Statewide Arthritis Forum held on February 24, 2001 at the end of a full day meeting. Participants were composed of professional and community persons affected with arthritis. The forum adjourned prior to the advertised schedule. Therefore, ample time was allotted for completion of this survey tool. Surveys were collected before participants left. Completion of the tool was optional. Participants were also given the option to return the completed survey by mail or fax. Approximately 100 surveys were distributed and 43 surveys were completed and returned.

The survey results were entered into the Statistical Package for the Social Services (SPSS) software. Initial frequency analysis of the two data subsets demonstrated similar results. Therefore, since there was a relatively small number of surveys, and since content was not altered, all 59 surveys were analyzed as one database. Descriptive analysis was conducted.

Results:

Sixteen people elected to participate as members of the Arthritis Advisory Work Group: 100percent of these people (16/16) returned and completed this survey instrument.

Ninety-two people attended the First Statewide Arthritis Forum: 47 percent (43/92) completed and returned this survey instrument. Forty-one surveys were completed and collected prior to leaving the forum. Two surveys were completed and returned by mail.

Establish a statewide arthritis surveillance system: 93 percent of the respondents (55/59) either strongly agreed (28) or agreed (27) that this was important.

Ensure consistent and standard use of data terms: 97 percent of the respondents (57/59) either strongly agreed (25) or agreed (32) that this was important.

Increase awareness of clinical treatments for arthritis: 100 percent of the respondents (58/58) either strongly agreed (58) or agreed (17) that this was important.

Identify modifiable risk factors to reduce arthritis: 98 percent of the respondents (58/59) either strongly agreed (41) or agreed (17) that this was important

Identify modifiable risk factors to reduce disabilities: 98 percent of the respondents (58/59) either strongly agreed (46) or agreed (12) that this was important

Evaluate cost effectiveness of interventions: 98 percent of the respondents (57/58) either strongly agreed (47) or agreed (10) that this was important

Evaluate cost effectiveness of interventions: 97 percent of the respondents (56/58) either strongly agreed (27) or agreed (29) that this was important

Estimate the cost of arthritis in the general population: 81 percent of the respondents (56/58) either strongly agreed (19) or agreed (29) that this was important

Increase public awareness and education programs: 100 percent of the respondents (58/58) either strongly agreed (49) or agreed (9) that this was important

Facilitate provider education: 97 percent of the respondents (56/58) either strongly agreed (36) or agreed (20) that this was important

Promote more consistent treatment and care: 98 percent of the respondents (58/59) either strongly agreed (39) or agreed (19) that this was important

Promote partnerships and networking for arthritis: 97 percent of the respondents (57/59) either strongly agreed (36) or agreed (21) that this was important

Work with other chronic disease prevention programs: 93 percent of the respondents (55/59) either strongly agreed (27) or agreed (28) with this statement

Promote earlier diagnosis: 97 percent of the respondents (57/59) either strongly agreed (37) or agreed (20) that this was important

Provide information about different treatment options: 100 percent of the respondents (58/58) either strongly agreed (34) or agreed (24) that this was important

Support research efforts: 95 percent of the respondents (54/57) either strongly agreed (30) or agreed (24) with this statement

Create opportunities for health-related students: 83 percent of the respondents (48/58) either strongly agreed (17) or agreed (31) with this statement

Develop and disseminate primary prevention measures: 95 percent of the respondents (56/59) either strongly agreed (30) or agreed (26) with this statement

Develop and disseminate secondary prevention measures: 90 percent of the respondents (52/59) either strongly agreed (24) or agreed (28) with this statement

Develop and disseminate tertiary prevention measures: 81 percent of the respondents (48/59) either strongly agreed (21) or agreed (27) that this was important. Two respondents either disagreed or strongly disagreed about this issue.

Communicate information to public: 100 percent of the respondents (58/58) either strongly agreed (40) or agreed (18) with this statement

Communicate information to providers: 98 percent of the respondents (57/58) either strongly agreed (46) or agreed (11) with this statement

Provide resources for providers and public: 100 percent of the respondents (58/58) either strongly agreed (40) or agreed (18) with this statement

Modify health care systems to better meet needs: 95 percent of the respondents (58/58) either strongly agreed (34) or agreed (21) with this statement

Build arthritis into the public health infrastructure: 95 percent of the respondents (56/59) either strongly agreed (37) or agreed (19) with this statement

Target efforts to those at greatest risk of arthritis: 92 percent of the respondents (54/59) either strongly agreed (31) or agreed (23) with this statement

Obesity is a risk factor for chronic illnesses: 97 percent of the respondents (57/59) either strongly agreed (42) or agreed (15) with this statement

Physical inactivity is a risk factor for illness: 98 percent of the respondents (58/59) either strongly agreed (43) or agreed (15) with this statement

Physical Education must occur in schools: 95 percent of the respondents (56/59) either strongly agreed (36) or agreed (20) with this statement

Pain is a major issue with disabilities: 100 percent of the respondents (59/59) either strongly agreed (36) or agreed (23) with this statement

Disability decreases employment rates: 93 percent of the respondents (55/59) either strongly agreed (33) or agreed (22) with this statement

There are racial differences and disparities with knee replacements: 59 percent of the respondents (34/58) either strongly agreed (16) or agreed (18) with this statement

Many people with arthritis do not see a Health care provider: 83 percent of the respondents (49/59) either strongly agreed (23) or agreed (26) with this statement

Arthritis is an old person's disease: 86 percent of the respondents (51/59) either *strongly disagreed* (33) or *disagreed* (18) that this was a true statement

Arthritis is a normal part of aging: 75 percent of the respondents (44/59) either *strongly disagreed* (15) or *disagreed* (29) that this was a true statement

Health promotion programs are important: 98 percent of the respondents (58/59) either strongly agreed (37) or agreed (21) with this statement

It is important to reduce nonfatal unintentional injuries: 97 percent of the respondents (57/59) either strongly agreed (23) or agreed (34) with this statement

There need to be more public health programs related to arthritis and prevention: 92 percent of the respondents (45/59) either strongly agreed (21) or agreed (24) with this statement

There need to be more physical activity classes in schools: 92 percent of the respondents (54/59) either strongly agreed (33) or agreed (21) with this statement

There need to be more physical activity classes for the elderly: 97 percent of the respondents (57/59) either strongly agreed (33) or agreed (21) with this statement

It is important to identify multiple sources to sustain and expand support for statewide arthritis efforts: 98 percent of the respondents (56/58) either strongly agreed (34) or agreed (23) with this statement

Overexertion is an employment risk factor: 73 percent of the respondents (43/59) either strongly agreed (12) or agreed (31) with this statement

Repetitive motion is a work place risk factor: 85 percent of the respondents (50/59) either strongly agreed (19) or agreed (35) with this statement.

People with arthritis need help coping: 85 percent of the respondents (50/59) either strongly agreed (21) or agreed (29) with this statement

People with arthritis suffer a loss with an increase in physical limitations: 93 percent of the respondents (55/59) either strongly agreed (30) or agreed (25) that this was a true statement

Most people do not know what kind of arthritis they have: 81 percent of the respondents (48/59) either strongly agreed (19) or agreed (29) that this was a true statement

Most doctors teach their patients about their arthritis: 12 percent of the respondents (7/59) either strongly agreed (2) or agreed (5) that this was a true statement

Most patients understand what their doctors teach about their arthritis: 12 percent of the respondents (7/59) either strongly agreed (1) or agreed (6) with this statement

Most Prevalent response(s) for rank ordering arthritis by type:

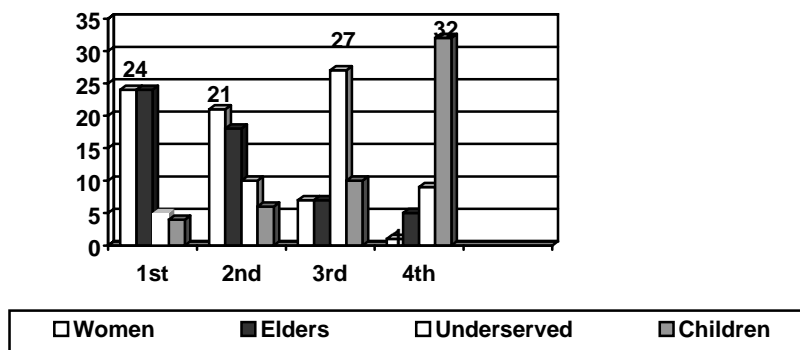
1 st (66 percent)	Osteoarthritis
2 nd (58 percent)	Rheumatoid arthritis
3 rd (39 percent)	Fibromyalgia
4 th (46 percent)	Fibromyalgia
4 th (42 percent)	Juvenile arthritis

10 percent of the respondents did not feel comfortable answering this question

1. Respondents' Perception of Priority Risk Factors that need to be addressed

Rated 1 st & 2 nd (74 percent)	Obesity and weight management
Rated 1 st & 2 nd (74 percent)	Physical activity
Rated 3 rd & 4 th (53 percent)	Repetitive motion and work-related injuries
Rated 3 rd to 5 th ((58 percent)	Late diagnosis
Rated 3 rd to 6 th * (76 percent)	Lack of self-care management
(*6 th ranking was the highest @ 29 percent)	
Rated 6 th (40 percent)	Sports injuries

Respondents' Ranking of Arthritis Priority Populations



Most Common Profile of the Respondents Competing this Survey:
(of the 93 percent of the respondents who completed this question.)

Caucasian (98 percent), female (84 percent), not living with arthritis (54 percent), aged 40-55 (38 percent).

Discussion of Results:

This perception survey provided information from respondents; however, it also served to reinforce information discussed at the meetings that they attended.

Increased awareness about arthritis, resources and treatment options were supported 100 percent by respondents as the most important issues to be addressed. Pain was also perceived to be a major issued with disabilities. Target populations were prioritized as women, elders, underserved then children. Areas of focus were obesity and weight management and physical activity. Early diagnosis and self care management ranked 3rd to 6th, indicating that the public and professionals need more education about the importance of these initiatives. Repetitive motion and work-related injuries ranked third as an area of importance related to arthritis. Sports injuries were perceived as being of least importance. The types of arthritis that perceived to be of the most prevalent were osteoarthritis, rheumatoid arthritis followed by fibromyalgia, and juvenile arthritis. However, more education and better information from physicians were perceived to be needed especially regarding arthritis type and treatment options. Only 12 percent of the respondents either agreed or strongly agreed that most patients understand what their doctors teach about their arthritis. 81 percent of the respondents either agreed or strongly agreed that most people know what kind of arthritis that they have.

Recommendations:

Strong ongoing Social Marketing initiatives need to continue to be a focus. On going communication mechanisms need to be integrated into current communication mechanisms and infrastructure. More information about the importance of early diagnosis and self-care management need to be stressed. These two areas were not perceived as priorities related to arthritis management. Pain and limitations related to disability appears to be a motivating factor

and a major concern. Public health programs are supported and viewed as a priority. Respondents are looking for health promotion initiatives, life enhancements and enrichment programs.

A major limitation of this survey was the lack of diversity of the respondents. More surveys need to be distributed and completed or focus groups need to be conducted targeting identified populations not reflected in this survey. Creative recruitment options are being explored such as the interface with other initiatives (PEPER Foundation, faith communities, etc.), include as part of a service being provided, offer a stipend for completing.

This survey instrument was a valuable initial step in gathering information. This perception survey instrument facilitated discussions, reinforced information and helped to focus priorities.

APPENDIX H
HEALTHY PEOPLE 2010 ARTHRITIS-RELATED OBJECTIVES
FOR THE NATION AND CONNECTICUT AS INDICATED
(Key Focus Area are indicated in last row of table in italics)

OBJECTIVE	2.1 (Developmental) Increase the mean number of days without severe pain among adults who have chronic joint symptoms.
Target	Developmental Objective, Not available
Baseline	Developmental Objective, Not available
Special Populations	Developmental Objective, Not available
Data Sources (Potential)	Behavioral Risk Factor Surveillance System (BRFSS), CDC, NCCDPHP; National Health Interview Survey (NHIS), CDC, NCHS
Comments	<ul style="list-style-type: none"> ◆ Public health researchers measure days without severe pain by asking: “During the past 30 days, for about how many days did pain make it hard for you to do your usual activities, such as self-care, work or recreation?” ◆ <i>Pain is the most important symptom among persons with arthritis</i>, resulting in widespread use of conventional prescription and nonprescription medications, surgical interventions, and alternative medical treatments. ◆ A measure of pain-free days provides a pertinent and understandable performance-based approach to tracking this key health-related quality of life (HRQOL) determinant for people with arthritis. ◆ Increasing days without severe pain is a feasible target, given the more widespread use of available interventions (medical, educational, exercise, nutrition) that are likely to affect this measure.
Key Focus Areas Related to CAAP	<i>PROGRAMS & EDUCATION-GENERAL, SURVEILLANCE & EVALUATION</i>

APPENDIX H
HEALTHY PEOPLE 2010 ARTHRITIS-RELATED OBJECTIVES
FOR THE NATION AND CONNECTICUT AS INDICATED
(Key Focus Area are indicated in last row of table in italics)

OBJECTIVE	2.2 Reduce the proportion of adults with chronic joint symptoms who experience a limitation in activity due to arthritis.		
Target	21 percent (%)		
Baseline	27 percent (%) of adults aged 18 years and older with chronic joint symptoms experienced a limitation in activity due to arthritis in 1997.		
Special Populations		National	Connecticut
	Black or African American	32%	32%
	Hispanic or Latino	28%	59%
	Female	31%	33%
	Poor	36%	55%
	Less than high school	34%	50%
Data Sources	National Health Interview Survey (NHIS), CDC, NCHS; National Health and Nutrition Examination Survey (NHANES), CDC, NCHS		
Comments	<ul style="list-style-type: none"> ◆ Public health researchers measure days without severe pain by asking: “During the past 30 days, for about how many days did pain make it hard for you to do your usual activities, such as self-care, work or recreation?” ◆ <i>Pain is the most important symptom among persons with arthritis</i>, resulting in widespread use of conventional prescription and nonprescription medications, surgical interventions, and alternative medical treatments. ◆ A measure of pain-free days provides a pertinent and understandable performance-based approach to tracking this key health-related quality of life (HRQOL) determinant for people with arthritis. ◆ Increasing days without severe pain is a feasible target, given the more widespread use of available interventions (medical, educational, exercise, nutrition) that are likely to affect this measure. 		
Key Focus Areas Related to CAAP	Programs & Education-General, Surveillance & Evaluation		

APPENDIX H
HEALTHY PEOPLE 2010 ARTHRITIS-RELATED OBJECTIVES
FOR THE NATION AND CONNECTICUT AS INDICATED
(Key Focus Area are indicated in last row of table in italics)

OBJECTIVE	2.3 Reduce the proportion of all adults with chronic joint symptoms who have difficulty in performing two or more personal care activities, thereby preserving independence.																		
Target	1.4 percent (%)																		
Baseline	2.0 percent (%) of adults aged 18 years and older with chronic joint symptoms experienced difficulty performing two or more personal care activities in 1997																		
Special Populations	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 20%; text-align: center;">National</th> <th style="width: 20%; text-align: center;">Connecticut</th> </tr> </thead> <tbody> <tr> <td>Black or African American</td> <td style="text-align: center;">3.6%</td> <td style="text-align: center;">No data available at this time</td> </tr> <tr> <td>Hispanic or Latino</td> <td style="text-align: center;">3.5%</td> <td></td> </tr> <tr> <td>Female</td> <td style="text-align: center;">2.2%</td> <td></td> </tr> <tr> <td>Poor</td> <td style="text-align: center;">5.4%</td> <td></td> </tr> <tr> <td>Less than high school</td> <td style="text-align: center;">3.4%</td> <td></td> </tr> </tbody> </table>		National	Connecticut	Black or African American	3.6%	No data available at this time	Hispanic or Latino	3.5%		Female	2.2%		Poor	5.4%		Less than high school	3.4%	
		National	Connecticut																
Black or African American	3.6%	No data available at this time																	
Hispanic or Latino	3.5%																		
Female	2.2%																		
Poor	5.4%																		
Less than high school	3.4%																		
Data Sources	National Health Interview Survey (NHIS), CDC, NCHS																		
Comments	<ul style="list-style-type: none"> ◆ Activity limitation occurs frequently among persons with arthritis and is an important functional element that can compromise independence. ◆ Activity limitation affects 27 percent (%) of all persons who have arthritis, making it the number one cause of activity limitations in the United States. ◆ <i>As the leading cause of disability, arthritis is a leading cause of disability in performing personal care activities and thereby a leading cause of loss of independence.</i> ◆ Therefore, maintaining independence, especially in personal care, is important for persons with arthritis. 																		
Key Focus Areas Related to CAAP	Programs & Education-General; Surveillance & Evaluation																		

APPENDIX H HEALTHY PEOPLE 2010 ARTHRITIS-RELATED OBJECTIVES FOR THE NATION AND CONNECTICUT AS INDICATED <i>(Key Focus Area are indicated in last row of table in italics)</i>	
OBJECTIVE	2.4 (Developmental) Increase the proportion of adults, aged 18 year and older with arthritis, who seek help in coping if they experience personal or emotional problems.
Target	Developmental Objective, Not available
Baseline	Developmental Objective, Not available
Special Populations	Developmental Objective, Not available
Data Sources (Potential)	National Health Interview Survey (NHIS), CDC, NCHS; Behavioral Risk Factor Surveillance System (BRFSS), CDC, NCCDPHP
Comments	<ul style="list-style-type: none"> ◆ Coping difficulties, depression, anxiety, and low self-efficacy are recognized as major personal and emotional problems among persons with arthritis. ◆ These problems are especially frequent among persons with physical pain. ◆ Because arthritis is a leading cause of chronic pain, monitoring these mental health outcomes can help assess the success of applied interventions.
Focus Areas Related to CAAP	<i>COMMUNICATIONS & OUTREACH, PROGRAMS & EDUCATION-GENERAL, SURVEILLANCE & EVALUATION</i>

APPENDIX H
HEALTHY PEOPLE 2010 ARTHRITIS-RELATED OBJECTIVES
FOR THE NATION AND CONNECTICUT AS INDICATED
(Key Focus Area are indicated in last row of table in italics)

OBJECTIVE	2.5 Increase the employment rate among adults with arthritis in the working-age population.	
Target	78 percent (%)	
Baseline	67 percent (%) of adults aged 18 to 64 years with arthritis were employed in the past week in 1997	
Special Populations	National	Connecticut
	Black or African American	52%
	Hispanic or Latino	60%
	Female	60%
	Poor	39%
	Less than high school	47%
	No data available at this time	
Data Sources	National Health Interview Survey (NHIS), CDC, NCHS	
Comments	<ul style="list-style-type: none"> ◆ Labor force participation rates...for persons with arthritis...are far below the employment rates for all persons of work age. ◆ A part of this low rate may be increased through early diagnosis and appropriate management, improved self-management, and improved job retention efforts. ◆ Raising this low rate will help foster independence for affected persons and reduce the demands on families and society. ◆ Reducing demands on families and society is particularly important as demographic changes lead to fewer workers for each non-worker. 	
Key Focus Areas Related to CAAP	Programs & Education-General, Policies, Systems & Sustainability, Surveillance & Evaluation	

APPENDIX H
HEALTHY PEOPLE 2010 ARTHRITIS-RELATED OBJECTIVES
FOR THE NATION AND CONNECTICUT AS INDICATED
(Key Focus Area are indicated in last row of table in italics)

OBJECTIVE	2.6 (Developmental) Eliminate racial disparities in the rate of total knee replacements.
Target	Developmental Objective, Not available
Baseline	Developmental Objective, Not available
Special Populations	Developmental Objective, Not available
Data Sources (Potential)	Medicare data, HCFA; National Hospital Discharge Survey (NHDS). CDC, NCHS; Hospital Cost and Utilization Project (CHUP), AHRQ
Comments	<ul style="list-style-type: none"> ◆ Studies have shown that African-Americans have much lower rates of total knee replacement than whites, even when adjusted for age, gender, and insurance coverage. ◆ The reasons for this difference are unclear, but the effect is that many persons are not getting needed interventions to reduce pain and disability.
Key Focus Areas Related to CAAP	Programs & Education, Policies, Systems & Sustainability, Surveillance & Evaluation

APPENDIX H
HEALTHY PEOPLE 2010 ARTHRITIS-RELATED OBJECTIVES
FOR THE NATION AND CONNECTICUT AS INDICATED
(Key Focus Area are indicated in last row of table in italics)

OBJECTIVE	2.7 (Developmental) Increase the proportion of adults who have seen a health care provider for their chronic joint symptoms.
Target	Developmental Objective, Not available
Baseline	Developmental Objective, Not available
Special Populations	Developmental Objective, Not available
Data Sources (Potential)	National Health Interview Survey (NHIS) CDC, NCHS
Comments	<ul style="list-style-type: none"> ◆ Studies...have shown that 16 percent of adults aged 18 years and older have not seen a doctor for their arthritis. ◆ Increasing the percentage of persons who seek a diagnosis and treatment from a health care provider for their chronic joint symptoms is an objective amenable to public awareness campaigns to counter the myths that arthritis is a normal part of aging and nothing can be done for it. ◆ This objective is especially important for the working-aged populations, the upper age limits of which is likely to rise as the overall populations ages through the 2030s.
Key Focus Areas Related to CAAP	Communications & Outreach, Policies, Systems & Sustainability, Surveillance & Evaluation

APPENDIX H
HEALTHY PEOPLE 2010 ARTHRITIS-RELATED OBJECTIVES
FOR THE NATION AND CONNECTICUT AS INDICATED
(Key Focus Area are indicated in last row of table in italics)

OBJECTIVE	2.8 (Developmental) Increase the proportion of persons with arthritis who have had effective, evidence-based arthritis education as an integral part of their condition.
Target	Developmental Objective, Not available
Baseline	Developmental Objective, Not available
Special Populations	Developmental Objective, Not available
Data Sources (Potential)	National Health Interview Survey (NHIS), CDC, NCHS; Behavioral Risk Factor Surveillance System (BRFSS), CDC, NCCDPHP
Comments	<ul style="list-style-type: none"> ◆ Existing evidence-based education interventions, such as the <i>Arthritis Foundation's Self-Help Course</i>...reach less than 1 percent (%) of the population with arthritis. ◆ Expanding the dissemination of the benefits of interventions currently available offers the opportunity of quickly improving the health of all persons with arthritis and reducing the impact of arthritis nationally. ◆ Education efforts should be provided in a culturally and linguistically competent manner.
Key Focus Areas Related to CAAP	Programs & Education; Policies, Systems & Sustainability; Surveillance & Evaluation

APPENDIX H
HEALTHY PEOPLE 2010 ARTHRITIS-RELATED OBJECTIVES
FOR THE NATION AND CONNECTICUT AS INDICATED
(Key Focus Area are indicated in last row of table in italics)

OBJECTIVE	22-1 Reduce the proportion of adults who engage in no leisure-time physical activity.
Target	20 percent (%)
Baseline	43 percent (%) of adults aged 18 years and older with arthritis engaged in no leisure-time physical activity in 1997.
Data Sources	National Health Interview Survey (NHIS) CDC, NCHS
Key Focus Areas Related to CAAP	<i>Communications & Outreach; Programs & Education (Physical Activity Risk Factor); Surveillance & Evaluation</i>
OBJECTIVE	22-2 Increase the proportion of adults who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day.
Target	30 percent (%)
Baseline	15 percent (%)
Data Sources	National Health Interview Survey (NHIS) CDC, NCHS
Comments	While moderate physical activity for at least 30 minutes is preferable, intermittent physical activity also increases caloric expenditure and may be important for those who cannot fit 30 minutes of sustained activity in their daily schedule.... Starting out slowly and gradually. Increasing the frequency and duration of physical activity is the key to successful behavior change.
Key Focus Areas Related to CAAP	<i>Communications & Outreach; Programs & Education (Physical Activity Risk Factor); Surveillance & Evaluation</i>

APPENDIX H
HEALTHY PEOPLE 2010 ARTHRITIS-RELATED OBJECTIVES
FOR THE NATION AND CONNECTICUT AS INDICATED
(Key Focus Area are indicated in last row of table in italics)

OBJECTIVE	22-3 Increase the proportion of adults who engage in vigorous physical activity that promotes the development and maintenance of cardio-respiratory fitness 3 or more days per week for 20 or more minutes per occasion.
Target	30 percent (%)
Baseline	21 percent (%) of adults aged 18 years and older with arthritis.
Data Sources	National Health Interview Survey (NHIS), CDC, NCHS
Key Focus Areas Related to CAAP	Communications & Outreach; Programs & Education (Physical Activity Risk Factor); Surveillance & Evaluation
OBJECTIVE	22-4 Increase the proportion of adults who perform physical activities that enhance and maintain muscular strength and endurance.
Target	30 percent (%)
Baseline	19 percent (%)
Data Sources	National Health Interview Survey (NHIS), CDC, NCHS
Comments	◆ Strengthening activities, while important for all age groups, are particularly important for older adults. Examples of these activities include weight training, resistance activities (using elastic bands or dumbbells....)
Key Focus Areas Related to CAAP	Communications & Outreach; Programs & Education (Physical Activity Risk Factor); Surveillance & Evaluation

APPENDIX H
HEALTHY PEOPLE 2010 ARTHRITIS-RELATED OBJECTIVES
FOR THE NATION AND CONNECTICUT AS INDICATED
(Key Focus Area are indicated in last row of table in italics)

OBJECTIVE	22-5 Increase the proportion of adults who perform physical activities that enhance and maintain flexibility
Target	40 percent (%)
Baseline	30 percent (%) general population (arthritis-specific data awaiting analysis)
Data Sources	National Health Interview Survey (NHIS), CDC, NCHS
Comments	Lack of joint flexibility may adversely affect quality of life and will lead to eventual disability. Activities such as static stretching or T'ai Chi Chuan routines, which consist of slow, graceful movements with low impact, have great promise for maintaining flexibility and can be appropriate for adults of any age. Increasing public awareness of all these potential benefits-and developing and making quality programs available and accessible-may encourage the pursuit of activities that promote muscular strength/endurance and flexibility.
Key Focus Areas Related to CAAP	Communications & Outreach; Programs & Education (Physical Activity Risk Factor); Surveillance & Evaluation
OBJECTIVE	19-1 Increase the proportion of adults who are at a healthy weight.
Target	60 percent (%)
Baseline	36 percent (%)
Data Sources	National Health Interview Survey (NHANES), CDC, NCHS
Key Focus Areas Related to CAAP	Communications & Outreach; Programs & Education-Nutrition; Surveillance & Evaluation

APPENDIX H
HEALTHY PEOPLE 2010 ARTHRITIS-RELATED OBJECTIVES
FOR THE NATION AND CONNECTICUT AS INDICATED
(Key Focus Area are indicated in last row of table in italics)

OBJECTIVE	19-2 Reduce the proportion of adults who are obese.
Target	15 percent (%)
Baseline	30 percent (%)
Data Sources	National Health and Nutrition Examination Survey (NHANES), CDC, NCHS
Key Focus Areas Related to CAAP	Communications & Outreach; Programs & Education (Nutrition Risk Factor); Surveillance & Evaluation

**APPENDIX I
ARTHRITIS IMPLEMENTATION TIMELINE**

Four Major Foci Areas	Year 1 Strategies	Year 2 Strategies	Year 3 Strategies	Year 4 Strategies	Year 5 Strategies
<p>Surveillance and Epidemiology</p>	<ul style="list-style-type: none"> • BRFSS arthritis and quality of life modules • CT Hospital discharge data, especially re: total knee replacements • Establish systematic surveillance methodologies and definitions • Analyze and implement priorities based on data • Release and share information from data as appropriate. • Work closely with insurers and other established databases and tracking systems. • Author and disseminate Surveillance Summary. 	<ul style="list-style-type: none"> • Compare and share results. Develop a surveillance plan that includes the frequency of conducting these BRFSS modules and querying the hospital discharge database. • Work closely with state and national partners in order to best utilize existing database, implement consistent definitions and methodologies for ongoing comparisons. • Develop model for database management strategies based on priorities. • Trend data, outcomes and share information with decision-makers and policy makers. • Identify trends with results of external data sources. Do various databases yield similar information? 	<ul style="list-style-type: none"> • Expand surveillance plan as appropriate. • Trend and analyze local, state and national comparisons as appropriate. • Use a TQM/CQI models in order to promote excellence and best practices. • Implement database management strategies. • Advertise and acknowledge successes and areas of excellence. • Identify areas that need improvement and share with partners appropriately. • Review goals and objectives of 5-year Action Plan in relation to data. Is the plan still data driven or do priorities need to be revised based on the data. 	<ul style="list-style-type: none"> • Replicate surveillance methodologies and analysis. Continue to work closely with state and national partners. • Use information from data to pursue appropriate resources for identified priorities. • Conduct BRFSS arthritis and quality of life modules. • Continue to implement TQM/CQI model and data approaches. 	<ul style="list-style-type: none"> • Evaluate effectiveness of surveillance and epidemiologic strategies. • Revise strategies and plan as appropriate. • Share outcomes and information as appropriate. • Replicate successes. • Present models and process with local and national venues as appropriate (e.g., conferences, poster sessions, journal articles).

Four Major Foci Areas	Year 1 Strategies	Year 2 Strategies	Year 3 Strategies	Year 4 Strategies	Year 5 Strategies
<p>Communication and Outreach</p>	<ul style="list-style-type: none"> • Disseminate final draft to identified statewide reviewers. Incorporate comments as appropriate. • Disseminate First State Arthritis ACTION Plan (CAAP), statewide, with partners and to CDC. • Develop and implement CT DPH Arthritis web site • Develop and implement a multi-level Social Marketing Campaign (support in part by additional grant funding) • Evaluate social marketing initiatives and different media used (e.g., newsprint, radio, web site, written material, banner, coupons). • Promote modifiable risk factor reduction (e.g., physical activity and weight management). • Partner with providers, persons affected and others as appropriate to facilitate grass root buy-in 	<ul style="list-style-type: none"> • Explore partners for developing and implementing creative outreach models and mechanisms (e.g., beauty salons, outreach worker certification program, train-the-trainer programs, meals on wheels,). • Explore, develop and facilitate outreach mechanisms via existing infrastructures, outreach workers and CT DPH Commissioner’s initiatives • Explore on-going vehicles to keep initiatives and communication open such as annual forum, focus groups, newsletters, etc... 	<ul style="list-style-type: none"> • Develop and implement outreach and communication models. • Facilitate communication and outreach statewide. • Work with local, regional and national partners to foster efficient use of resources, productive and shared use of best communication tools. • Establish outreach mechanisms that can be implemented without additional resources (e.g., train-the trainers, enhance existing services). 	<ul style="list-style-type: none"> • Replicate communication and outreach models. • Evaluate effectiveness. • Share with local, regional and national partners as appropriate. 	<ul style="list-style-type: none"> • Implement ongoing plans, strategies and initiatives based on funding, resources and data driven priorities.

Four Major Foci Areas	Year 1 Strategies	Year 2 Strategies	Year 3 Strategies	Year 4 Strategies	Year 5 Strategies
Education and Programs	<ul style="list-style-type: none"> Partner with Rhode Island counter-parts to develop a non-physician provider education program (supported by additional grant funding) Conduct a conference and facilitate the implementation of the Arthritis Foundation program “Walk with Ease” supported in part by additional grant funding. Promote and support educational programs and initiatives as appropriate (e.g., Arthritis Foundation, Silver Sneakers, Cardiovascular Health, Obesity and weight management, PEPPER foundation, SNAP,...) 	<ul style="list-style-type: none"> Explore models and programs that will reach target populations and are age and culturally appropriate. Prioritize activities and initiatives based on data, needs, focus groups, plausibility, and public perception. Promote consistent provider education. Assess resource materials that will support consistent messages and treatment plans based on diagnosis. Develop or facilitate utilization of appropriate resource materials. Promote Self-Care Management Initiatives Provider/client educational materials Develop WISEWOMAN bilingual educational material Promote national, local and regional Arthritis Foundation Programs and other accredited wellness programs. 	<ul style="list-style-type: none"> Develop turn key and tool boxes for educational purposes. Disseminate tool boxes and models in order to improve educational efforts and reach. (Pilot programs with select groups such as VNAs, Parish nurses, doctor offices, schools of allied health). Evaluate effectiveness of educational strategies and retention. Evaluate BRFSS indicator of persons who know type of arthritis. Facilitate and promote continuing education mechanisms. 	<ul style="list-style-type: none"> Reassess priority populations and appropriateness of educational tools. Evaluate if appropriate and targeted populations are being reached. Conduct focus groups. Evaluate effectiveness of marketing initiatives related to attendance, geographic distribution and BRFSS results. Redefine priorities based on evaluation outcomes. 	<ul style="list-style-type: none"> “Institutionalize” educational programs as appropriate. Review and evaluate five-year plan. Develop continuation plan.

Four Major Foci Areas	Year 1 Strategies	Year 2 Strategies	Year 3 Strategies	Year 4 Strategies	Year 5 Strategies
<p>Systems, Policies and Sustainability</p>	<ul style="list-style-type: none"> • Develop materials for the purpose of educating policy and decision-makers • Work closely with the CDC for the purpose of educating decision-makers and setting priority policies. • Arthritis Coordinator to join Arthritis Foundation Board Membership. • Continue to position constituents for grant funding. Facilitate or write applications as appropriate. • Implement work plan for CDC federal funding • Write CFA for CDC • Continue to establish Advisory Group, review membership, goals and leadership initiatives. Set priorities based on 5-year plan. • Continue to develop linkages with other chronic diseases • Establish active membership with ASTCDPD 	<ul style="list-style-type: none"> • Work closely with the CDC for the purpose of educating decision-makers and setting priority policies. • Increase arthritis coordinator position to FTE • Continue to position constituents for grant funding. Facilitate or write applications as appropriate. • Continue to establish Advisory Group, review membership, goals and leadership initiatives. Set priorities based on 5-year plan and resources/ budget. • Continue to develop linkages with other chronic diseases • Continue to develop partners who have strengths in resource management, fiscal viability and are visionary. • Maintain active role with ASTCDPD • Get on agenda and network at professional meetings (e.g., orthopedics, PT, rheumatologists, etc...) • Strengthen leadership alliance and position between the Connecticut Department of Public Health and the Arthritis Foundation (e.g., Arthritis Coordinator on board). 	<ul style="list-style-type: none"> • Establish initiatives that can be sustained using existing resources. Advertise and share initiatives and outcomes. • Implement grant-related work plans. 	<ul style="list-style-type: none"> • Choose partners and position for implementation of environmental, policy and system changes as identified. • CFA with the CDC. 	<ul style="list-style-type: none"> • Revisit plan and strategies, evaluate effectiveness, revise plan and initiatives as appropriate.

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