

The State of Arthritis in Wisconsin

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ABSTRACT

Arthritis is the leading cause of disability and functional limitation in Wisconsin¹ and trails only heart disease as the leading cause of work disability. In 2001, the estimated prevalence of arthritis/chronic joint symptoms (CJS) among US adults was 33%, representing approximately 69.9 million adults. Wisconsin has established a statewide program to address this chronic condition. Prior to its inception, no state-based arthritis surveillance was available. The Wisconsin Behavioral Risk Factor Surveillance System (BRFSS) first included questions on chronic joint symptoms and doctor-diagnosed arthritis in 2000. That data provides a baseline to describe the burden of arthritis in Wisconsin. This report summarizes the prevalence of arthritis and its distribution among Wisconsin adults.

Proven public health interventions should be applied and new interventions developed to improve function, decrease pain, and delay disability among persons with arthritis, particularly those at highest risk for functional impairment and disability.

INTRODUCTION

With the aging US population, arthritis has become one of the most challenging and pressing public health problems.^{2,3} It is the leading cause of disability and functional limitation¹ and trails only heart disease as the leading cause of work disability. In 2001, the estimated prevalence of arthritis/chronic joint symptoms (CJS) among US adults was 33%, representing approximately 69.9 million adults.⁴ Nationally, the cost for medical care and lost productivity is an estimated \$60 billion annually.⁵ This is expected to reach \$100 billion by 2020.

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In Wisconsin, a number of facts magnify the arthritis problem. There is a high level of self-reported arthritis (34%), overweight and obesity (58%),^{6,7} and a high prevalence of sedentary lifestyle or irregular physical inactivity (51%).^{6,7} A significant percentage of the Wisconsin population is engaged in farming as its major occupation, which increases the risk of developing arthritis and disabilities associated with CJS.⁸ There is a shortage of arthritis self-management programs and rehabilitation hospitals as well as a shortage of properly trained professionals for arthritis treatment, care, and self-management programs.

The public health impact of arthritis may be measured in the following ways: the number of missed workdays, major activity limitation and disability due to arthritis; the mental and physical well being of individuals affected with arthritis; decreased physical activity due to pain, loss of range of motion, and fatigue; and health-related quality of life measures, e.g. days without severe pain; perception of general physical and mental health; and economic impact using pharmaceutical data, arthritis-related hospitalizations, and direct costs for surgical interventions like major joint replacements.

In 2001, the Centers for Disease Control and Prevention (CDC) awarded funds to the Wisconsin Department of Health and Family Services, Division of Public Health to establish a statewide arthritis program to reduce the burden of arthritis and other rheumatic conditions. The 2000 Wisconsin BRFSS provided baseline data to estimate the prevalence of arthritis in Wisconsin. This report summarizes the prevalence of arthritis by various characteristics and its distribution among Wisconsin adults.

METHODS

The Wisconsin BRFSS was used to measure the prevalence of arthritis in Wisconsin. The BRFSS is a series of state-based cross-sectional, random digit telephone surveys of non-institutionalized US adults 18 years or older that are conducted by state health departments

Table 1. Prevalence of Arthritis among Wisconsin adults by Selected Characteristics, Wisconsin BRFSS 2000

Characteristics	Arthritis (Physician Diagnosed / Chronic Joint Symptoms)		
	Percent* (95% CI)	Sample Size	Estimated Population
Total	33.4 (32-35.9)	975	1,322,925
Age			
18-34	12.9 (10-15.6)	101	169,655
35-54	34.7 (31.0-38.0)	381	457,749
55+ years	52.4 (49-56)	489	690,758
Gender			
Male	29 (26.0-31.0)	389	547,385
Female	38 (35.0-41.0)	586	775,541
Race			
White, Non-Hispanic	33.8 (31.6-35.8)	821	1,176,559
Black, Non-Hispanic	33.2 (25-41.3)	80	48,193
Hispanic	30.8 (16.9-44.7)	15	24,967
Other	38.6 (29-48.1)	52	64,447
Education			
Less than High School	52 (48.4-55.5)	520	686,719
High School	29.9 (26.5-33.1)	282	393,859
College Graduate or more	18.2 (15.5-20.8)	172	240,318
Income†			
<\$25,000	30.6 (27.2-33.9)	292	404,197
\$25,000-\$49,999	34.9 (31.6-38.3)	357	462,172
≥\$50,000	19.8 (17.1-22.4)	190	261,581
Employment Status			
Employed	49.7 (46.2-53.3)	503	657,721
Out of Work	3.1 (1.8-4.20)	30	40,294
Homemaker/ Student	11.4 (8.9-13.8)	106	150,640
Retired	29.8 (26.4-33.1)	266	393,532
Unable to Work	5.3 (3.9-6.7)	62	70,242
Health Insurance			
No Coverage	1.2 (0.5-1.9)	14	16,012
Coverage part of the year	7.4 (5.6-9.2)	73	96,717
Coverage all year	91.3 (89-93.2)	873	1,189,606

*Total may not add due to rounding

†A total of 197 respondents (7.3%) refused to state their income.

Source: 2000 Wisconsin Behavioral Risk Factor Surveillance System, Bureau of Health Information, Wisconsin Department of Health and Family Services.

and coordinated by the CDC.⁹⁻¹¹ It collects data about health behaviors and health-related conditions. A detailed description of survey methods is available elsewhere.¹²

In 2000, the BRFSS asked adult respondents in Wisconsin questions on CJS. Respondents were classified as having CJS if they answered “yes” to 2 questions: “In the past 12 months, have you had pain, aching, stiffness, or swelling in or around a joint?” and “Were these symptoms present on most days for at least a month?” Respondents were considered to have physician-diagnosed arthritis if they answered “yes” to the question, “Have you ever been told by a doctor that you have arthritis?” Respondents reporting either CJS or physician-diagnosed arthritis were classified as having arthritis or CJS. Respondents who did not know, were not sure, or refused to answer were classified as not having either condition. The total sample size for this survey was 2721, and data were weighted to reflect the state’s most recent adult population estimate. SAS Version 8.0 was used to calculate point estimates and 95% confidence intervals (CI).

RESULTS

In Wisconsin, arthritis affects 34% (95% CI=32.3-35.9) of adults, or approximately 1.3 million people. Based on the CDC case definition, 24.6% (896,000) of the adult population has been diagnosed with arthritis by a physician, 25.3% (943,000) have CJS, and 14.4% (520,000) have both physician-diagnosed arthritis and CJS. Among those who reported physician-diagnosed arthritis, 28% (approximately 252,000) said they have osteoarthritis; 15% reported having rheumatoid arthritis, and 22% said they have other forms of arthritis (Table 1). Among adults who were diagnosed by a physician for arthritis, 1 in 3 adults (34%) did not know the type of arthritis they have. Among those who did, 40% were being treated by a health care professional, compared to 20% of those who did not know the type of arthritis they have.

Arthritis prevalence did not differ substantially by geographic regions. Wisconsin is divided into 5 public health regions; the prevalence of arthritis was highest in the Northeastern (38.4%), Northern (38%), and Western (37%) regions (Figure 1).

Arthritis prevalence increased with age. In Wisconsin, 18% of adults in the 18-44 years age group have arthritis; for those between 45-64 years and 65 years or older the prevalence increased to 43% and 62%, respectively. The prevalence was higher among women than men, which was consistent across age

groups (Table 2). Approximately 39% of women and 37% of men had some form of arthritis. Fifty-nine percent of women experienced CJS compared to 42% of men, and 31% of women experienced activity limitations due to CJS.

Arthritis prevalence did not vary substantially by race. Estimated prevalence among non-Hispanic whites and non-Hispanic blacks was 39% and 33% respectively, while the estimated prevalence among Hispanics was 31%. In Wisconsin, about 25% of Non-Hispanic whites and blacks had physician-diagnosed arthritis compared to 11% of Hispanics adults.

Adults with lower household income and lower educational attainment were more likely to report arthritis than those with higher income and education levels. About 51% of adults with less than high school education had arthritis as compared to 32% of those with college or more than college education. Adults with less than high school education were twice as likely to report arthritis than those with more than college education. Only 50% of adults with arthritis reported being currently employed compared to 73% of adults without arthritis.

Arthritis prevalence rises with increase in body mass index (BMI). More in-depth information about that is provided elsewhere in this journal. An assessment of mental and physical conditions revealed that adults with arthritis were 3 times more likely to report fair or poor health status than the general population. Among those with arthritis, 24% rated their health status fair or poor compared to 7% of people without arthritis.

Arthritis or CJS not only leads to pain, discomfort and disability, but it also impacts the general health and health-related quality of life. Health perception reliably predicts loss of function, morbidity, and mortality. Unhealthy days are an estimate of the overall number of days during the previous 30 days when respondents felt that either their physical or mental health was not good. In Wisconsin, about 19% of adults with arthritis, compared to 12% of those without arthritis, perceived that on average their mental health was not good for more than 7 days in a month. Similarly, the mean number of days when mental health was not good was about 13 days for people with arthritis and 11 for those without arthritis (Table 2).

DISCUSSION

The findings in this report provide the first direct measurements of arthritis/CJS prevalence for Wisconsin. Self-reported symptoms are required to estimate prevalence of arthritis and degenerative joint conditions in

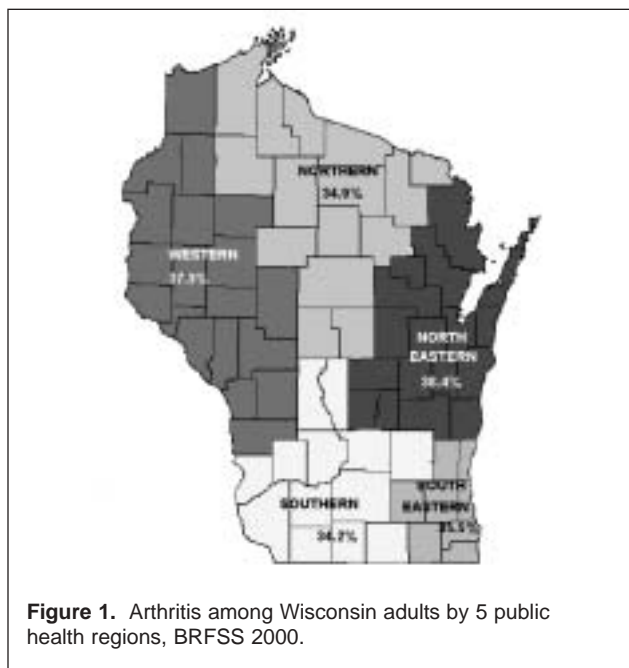


Figure 1. Arthritis among Wisconsin adults by 5 public health regions, BRFSS 2000.

the population because many persons with arthritis/CJS do not see a clinician for their symptoms, and their conditions remain undiagnosed.

With an aging population both in Wisconsin and the nation, proven public health interventions and new interventions should be developed to improve function, decrease pain, and delay disability among persons with arthritis, particularly those at highest risk for functional impairment and disability.

The findings from BRFSS analysis are subject to several limitations. First, the estimates used self-reported data that were not confirmed by a physician. Second, the sample is drawn from the civilian, non-institutionalized adult population and does not include military personnel. Third, BRFSS is a telephone survey and does not include persons who do not have telephone service. Fourth, the median response rate for 2000 was 51.4%; however, the distribution of demographic characteristics in the BRFSS sample was very similar to the distribution based on US census data (i.e., sex, age, and race data). Finally, whereas previous estimates might have underestimated arthritis/CJS prevalence, BRFSS might overestimate prevalence because it might include persons with injuries rather than arthritis as the cause of CJS.

Some promising strategies to delay and prevent the onset of degenerative joint diseases include weight control, occupational injury prevention, sports injury prevention, and Lyme disease control. However, little is known about the effectiveness of primary prevention

Table 2. Health Related Quality of Life, Smoking Behavior and Co-Morbid Conditions among Wisconsin Adults by Arthritis Status, Wisconsin BRFSS 2000

Characteristics	Arthritis/Chronic Joint Symptoms		No Arthritis/Chronic Joint Symptoms	
	Percent* (95% CI)	Estimated Population	Percent (95% CI)	Estimated Population
Total	33.4 (32-35.9)	1,322,925	66.1(64.1-68.1)	3,898,195
General Health				
Excellent/Very Good	40 (37-44.2)	534,179	63.6 (61.1-66.3)	1,63,8117
Good	35 (31.7-38.6)	460,306	29.3 (26.8-31.2)	75,3291
Fair/Poor	24 (20.9-27)	313,715	7.1(5.6—8.5)	18,2680
Mental Health Not Good				
1-7 days in a month	25.8 (22.8-28.8)	341,739	27.6 (25.2-30.1)	712,483
> 7 days in a month	18.8 (16.0-21.6)	249,369	12.3 (10.5-14.2)	318,048
Physical Health Not Good				
1-7 days in a month	25 (21.9-28.1)	331,769	26 (24.2-28.9)	683,795
> 7 days in a month	27 (23.8-30.2)	357,770	6.8 (5.3-8.1)	173,876
Smoking Status				
Current Smoker (Smoke Every Day)	19.34 (16.5-22.1)	255,811	17.5 (15.5-19.5)	449,693
Current (Smoke Some Days)	5.4 (3.7-7.1)	71,016	6.3 (4.9-7.7)	161,949
Former Smoker	35.8 (32.4-39.2)	473,833	22.5 (20.4-24.6)	578,579
Never Smoker	39.5 (36.1-42.8)	521,869	53.6 (51.0-56.3)	1,377,716
Co-morbid Conditions				
Diabetes	10.90 (8.6-13.2)	144,160	3.8 (2.7-4.3)	97,104
Asthma	14.27 (11.7-16.8)	188,737	8.6 (7.1-10.2)	222,544

*Total may not add to 100% due to rounding

Source: 2000 Wisconsin Behavioral Risk Factor Surveillance System, Bureau of Health Information, Wisconsin Department of Health and Family Services.

strategies as applied to broad population-based programming.

Secondary prevention promotes identification of arthritis in its earliest stages so prompt and appropriate management can begin. Early diagnosis and appropriate medical treatment and professional advice would help manage the disease and reduce its impact on the day-to-day life of affected individuals. Much progress has been made in the areas of medication and self-help strategies, making secondary prevention an effective avenue for public health programs. Medical professionals should encourage and educate individuals affected by arthritis about regular physical activity and weight loss, focusing on reducing or minimizing the effects of arthritis. These strategies include self-management, such as weight control and physical activity; patient education, such as arthritis self help courses; and surgical interventions such as joint replacements that remediate impairments and improve mobility and functioning. These strategies can reduce pain and disability, increase a person's sense of control, and improve the quality of life.

As an initiative to achieve these goals of prevention of early onset of arthritis and its management at the

population level, the Wisconsin Division of Public Health, the Arthritis Foundation, and other interested organizations formed the Wisconsin Arthritis Advisory Council¹³ in 1999. The Council is a statewide coalition of 50 stakeholders whose aims are to work together to increase arthritis awareness, and to implement programs, policies, and systems for arthritis prevention, management, and control among Wisconsin adults. The programs and policies target youth and adults with a specific focus on prevention of overweight, obesity, and workplace and sports injuries. Intervention efforts aimed at reducing risk factors, early diagnosis, and appropriate clinical care and self-management (e.g., physical activity, education, and maintaining appropriate weight) are the steps toward reducing the impact of arthritis and chronic joint symptoms in Wisconsin. Detailed information on medical updates on arthritis, treatment options self-help programs, and services in Wisconsin¹⁴ are available at www.arthritis.org.

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