

Arthritis in Alaska 2003



A Report on the Burden of Arthritis

State of Alaska

Department of Health and Social Services
Division of Public Health, Section of Epidemiology

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Acknowledgments

We would like to thank the Arthritis Advisory Group for its work in developing the Alaska Arthritis and Osteoporosis Plan, which has guided the Arthritis Program's efforts thus far. Julie Bolen, Ph.D., and Michael Gay, M.S.Ed., from the Division of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention were valuable resources for unpublished information relevant to this report.

Purpose of Report

This report will examine the burden of arthritis among adults in Alaska. Arthritis prevalence and risk factors are presented, along with a description of the impact of arthritis on those who suffer from this condition. Data are provided in support of efforts to devise and implement effective public health strategies aimed at reducing the burden of arthritis in Alaska.

Executive Summary

Arthritis affects about 110,000 Alaskans or one in four adults. In the rest of the nation, arthritis affects another 43 million adults.¹ There are three key factors known to delay the onset and decrease the impact of arthritis: early diagnosis, maintaining a healthy weight and ongoing physical activity. This report will show that much work in reducing the arthritis burden in Alaska remains to be done. Some key findings:

- Those 110,000 Alaskan adults with arthritis come from every region of Alaska, every race, every social station and every age group.
- For every four Alaskan adults with arthritis diagnosed by a health care provider, another three have the chronic joint symptoms indicative of possible arthritis.
- Over half of Alaskans over the age of 64 have arthritis.
- Nearly one-third of Alaskans with arthritis suffer some limitation of their usual activities due to their arthritis.
- Those with arthritis describe their physical health as being poor about one week out of every month.
- Obese Alaskans are more likely to have arthritis (31 percent) than are normal weight Alaskans (23 percent).

Maintaining a healthy weight, engaging in physical activity and obtaining early diagnosis and treatment are all strategies that can help prevent the development and/or impact of arthritis. Public health strategies must address these three areas to lessen the burden of arthritis in Alaska.

Introduction: What is Arthritis?



There are over 100 different rheumatic diseases that are considered arthritis, including osteoarthritis, rheumatoid arthritis, fibromyalgia, lupus, juvenile arthritis, gout, bursitis, Lyme disease and carpal tunnel syndrome. Arthritis causes pain, stiffness, and, in some cases, swelling in and around joints. While these symptoms have a great impact on arthritis sufferers — lowering their ability to remain physically active, work and complete the basic tasks of daily life — arthritis has only recently been addressed as a public health problem. Historically, public health efforts in chronic disease have focused on the leading causes of death. Arthritis is generally a non-fatal disease; however, it is the nation's number one cause of disability, dramatically reducing the quality of life for 43 million Americans with doctor-diagnosed arthritis and an additional 23 million with possible arthritis.²

Methods

Data Sources

The data for this report come from the 2003 Alaska Behavioral Risk Factor Surveillance System (BRFSS) survey. The BRFSS is an annual, random-digit-dialed telephone survey of the civilian, non-institutional population aged 18 and older that is funded and overseen by the Centers for Disease Control and Prevention (CDC). The purpose of the BRFSS is to collect uniform, state-based data on preventive health practices and risk behaviors that are linked to chronic diseases, injuries and preventable infectious diseases in the U.S. population.³

In 2003, the BRFSS collected data from 2,665 Alaskan adults randomly selected using a stratified design so that statistically valid inferences can be made for residents in the five BRFSS-defined regions of Alaska. These regions are: (1) Anchorage and vicinity (including the Municipality of Anchorage and the Matanuska-Susitna Borough), (2) Gulf Coast (including Kenai, Kodiak, Valdez, Cordova and vicinity), (3) Southeast (including all of southeast Alaska), (4) Fairbanks and vicinity, and (5) Rural (including all other areas of Alaska). The raw data were adjusted to account for probability of selection and to correspond to the sex and age distribution of the adult population of Alaska.

Defining Arthritis

In this report, only those Alaskans who report having ever been diagnosed with arthritis are defined as having arthritis. This corresponds with the CDC's recent decision, reflected in data beginning in 2002, to narrow the surveillance definition of having arthritis to those with doctor-diagnosed arthritis, excluding those with joint symptoms who do not have a doctor's diagnosis. Respondents who answer "yes" to the following question are considered to have arthritis:

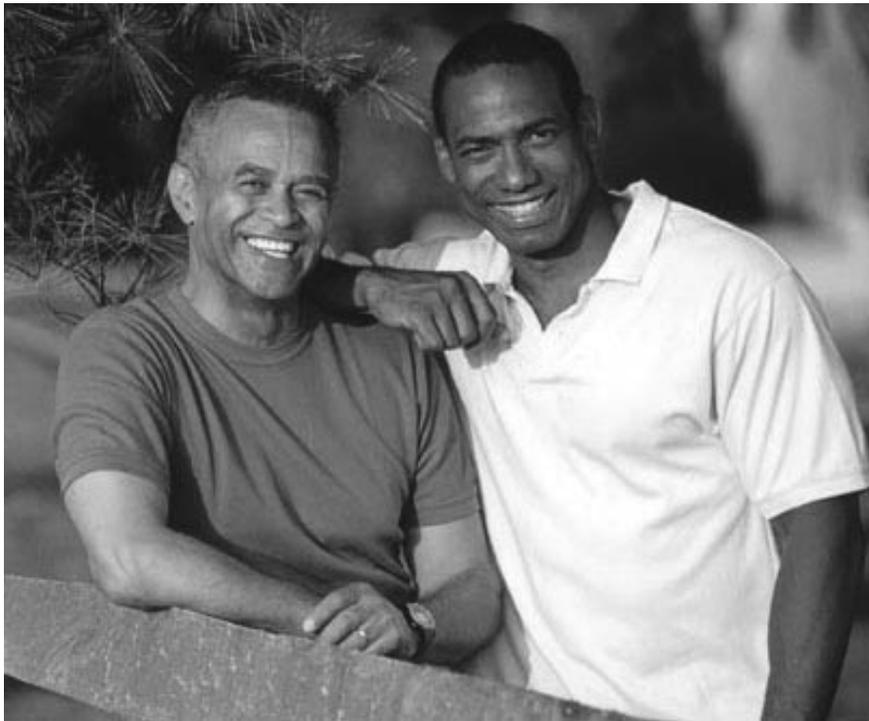
Have you ever been told by a doctor or other health professional that you have some form of arthritis, rheumatoid arthritis, gout, lupus or fibromyalgia?

Those without doctor-diagnosed arthritis but who report the presence of chronic joint symptoms are characterized as having "possible arthritis." To meet this definition, a respondent must answer "yes" to the following two questions:

- 1. The next questions refer to your joints. Please do not include the back or neck. During the past 30 days, have you had any symptoms of pain, aching or stiffness in or around a joint?*
- 2. Did your joint symptoms first begin more than three months ago?*

Data Analysis

With the exception of the overall and age-specific arthritis prevalence rates, all arthritis prevalence rates are adjusted to the 2000 U.S. standard population using 10-year age intervals (18–24, 25–34, 35–44, 45–54, 55–64, 65+). Ninety-five percent confidence intervals around all prevalence estimates were calculated using SPSS and SUDAAN software, and are represented on all graphs. Statistically significant differences are noted in the text.

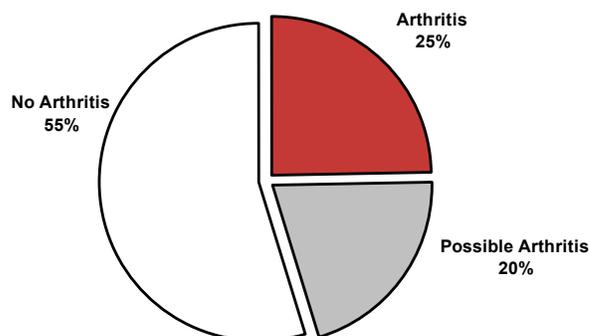


Results

Prevalence of Arthritis

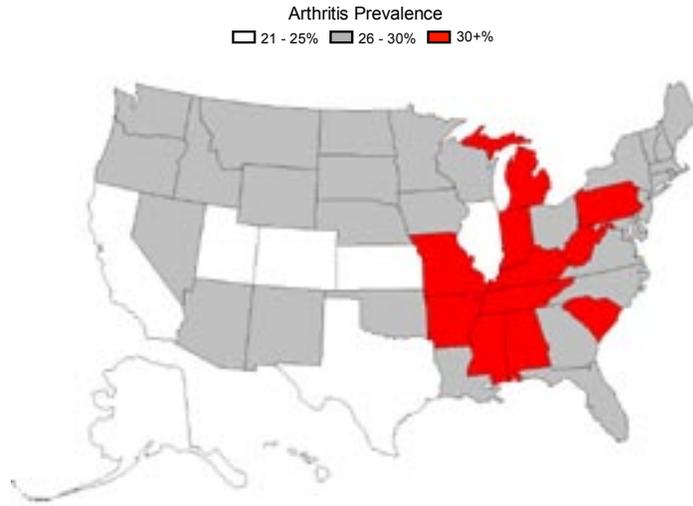
One in four respondents was classified as having arthritis in 2003. This represents over 110,000 adult Alaskans. An additional 20 percent of the adult population — or over 90,000 adults — were classified as having possible arthritis.

Figure 1. Prevalence of Arthritis and Possible Arthritis, Alaska BRFSS (2003)



The prevalence of arthritis in Alaska is low compared with most other states for which comparable data are available. In 2003, only six states reported a lower arthritis prevalence than did Alaska: Hawaii, California, Utah, District of Columbia, Illinois, and Texas.⁴ These state differences are not adjusted for differences in age structure. Given Alaska's relatively young population and the fact that arthritis prevalence increases with age, it is not surprising that most other states report higher prevalences of arthritis.

Figure 2. Crude Prevalence of Arthritis, by State, 2003 BRFSS



Who is at Risk?

Ultimately, all Alaskans are at risk of developing arthritis at some point in their lives. There are certain characteristics, however, that can be used to identify persons who are at elevated risk. These characteristics are loosely divided into modifiable and non-modifiable risk factors for arthritis.



Non-Modifiable Risk Factors

The following section depicts arthritis prevalence by a variety of demographic characteristics, some of which are established risk factors for arthritis.^{5,6,7} Of all the demographic characteristics examined — age, sex, race, region, income and education — none is more closely linked with the prevalence of arthritis than age. As seen in Figure 3, arthritis prevalence increases with age, from 6 percent among 18 to 24 year olds to 53 percent among those 65 and older. In contrast, the prevalence of possible arthritis increases until ages 45 to 54, and then declines in older age groups. This may be an indication that with advancing age, previously undiagnosed arthritis is more likely to be diagnosed by health care providers, in part because of more health care visits for other reasons. Because of the strong association between arthritis and age, subsequent comparisons of prevalence estimates have been age-adjusted to the 2000 U.S. standard population.

Figure 3. Prevalence (with 95% Confidence Levels) of Arthritis and Possible Arthritis, by Age Group, Alaska BRFSS (2003)

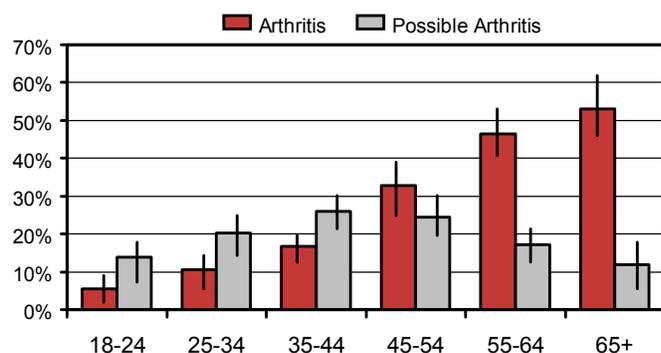
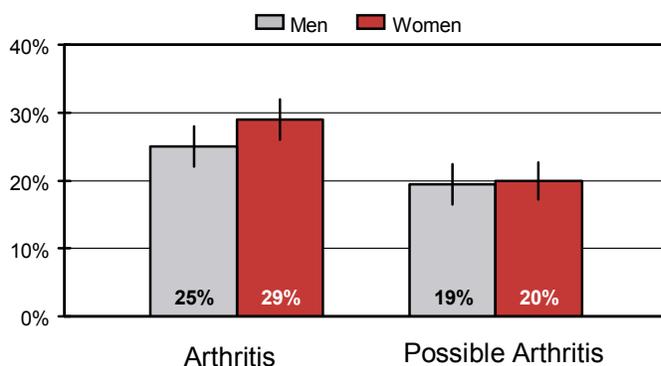


Figure 4 shows that, adjusted for age, women appear slightly more likely than men to have arthritis or possible arthritis. This difference, however, does not reach statistical significance.

Figure 4. Age-Adjusted Prevalence (with 95% Confidence Intervals) of Arthritis and Possible Arthritis, by Sex, Alaska BRFSS (2003)



Arthritis is experienced by all segments of the adult population in Alaska, and as Figures 5 and 6 show, age-adjusted rates of arthritis vary little by race or region of the state.

Figure 5. Age-Adjusted Prevalence (with 95% Confidence Intervals) of Arthritis and Possible Arthritis, by Race, Alaska BRFSS (2003)

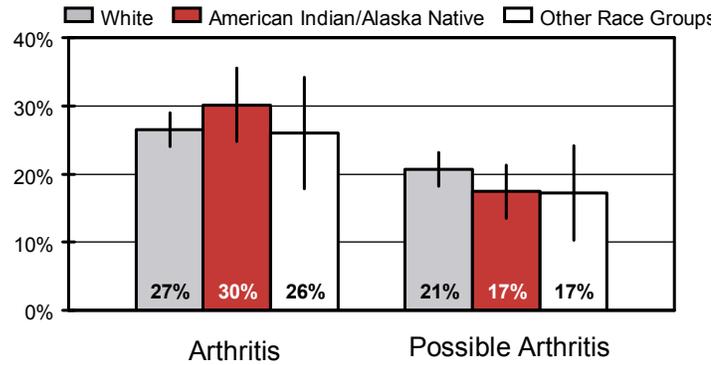
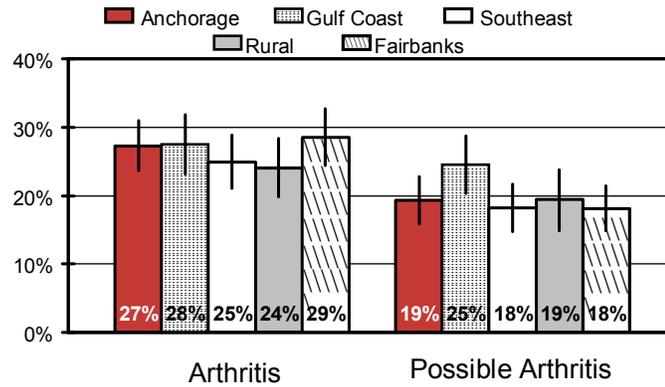


Figure 6. Age-Adjusted Prevalence (with 95% Confidence Intervals) of Arthritis and Possible Arthritis, By Region, Alaska BRFSS (2003)



Alaskans with an annual household income of less than \$15,000 are 1.6 times as likely to have arthritis (39 percent) as are those with incomes of \$75,000 or more (24 percent; Figure 7). Differences in possible arthritis by income level are not statistically significant. Likewise, the apparent difference in arthritis prevalence between those on either end of the education spectrum is not statistically significant (Figure 8).

Figure 7. Age-Adjusted Prevalence (with 95% Confidence Intervals) of Arthritis and Possible Arthritis, by Income Level, Alaska BRFSS (2003)

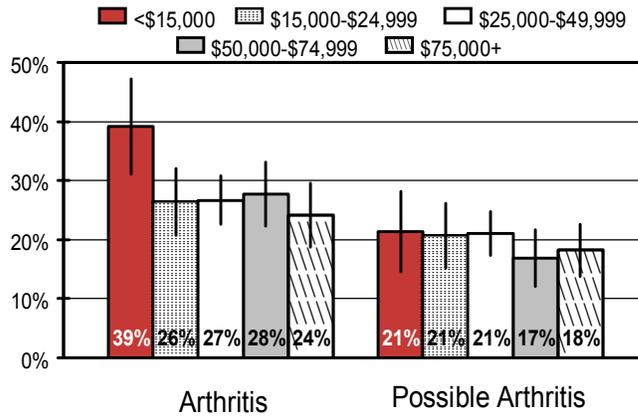
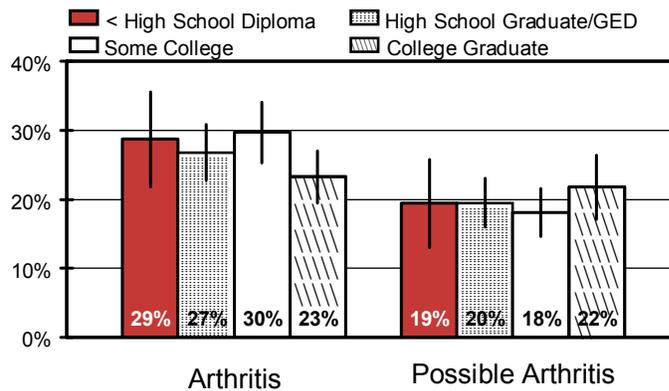


Figure 8. Age-Adjusted Prevalence (with 95% Confidence Intervals) of Arthritis and Possible Arthritis, by Education Level, Alaska BRFSS (2003)



Modifiable Risk Factors

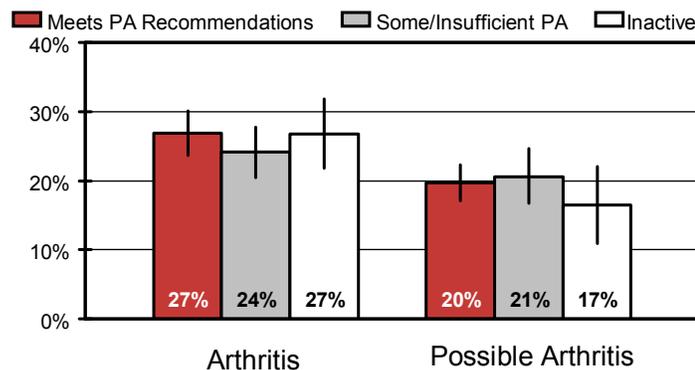
This report considers two modifiable risk factors for arthritis: physical inactivity and obesity. Physical activity has been demonstrated to reduce pain associated with arthritis.^{8,9} Unfortunately, individuals with arthritis tend to exercise less than the general population,¹⁰ perhaps due to the very symptoms of pain and stiffness that physical activity is meant to reduce. In this report, individuals are categorized using the following three activity levels, based on their leisure time physical activity:

1. **Physically Active** – engaging in moderate physical activity five days per week, at least 30 minutes per day, or engaging in vigorous physical activity three days per week, at least 20 minutes per day
2. **Some Physical Activity** – engaging in some physical activity, but less than the recommended amounts
3. **Physically Inactive** – engaging in no leisure time physical activity

In Alaska there appears to be little association between arthritis and physical activity.

As Figure 9 reveals, the age-adjusted prevalence of arthritis is equal (27 percent) in those who engage in physical activity at the recommended level and those who are completely inactive. Similarly, level of physical activity appears unrelated to possible arthritis.

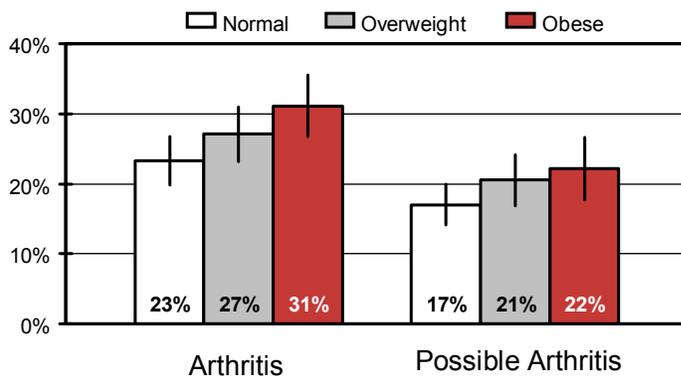
Figure 9. Age-Adjusted Prevalence (with 95% Confidence Intervals) of Arthritis and Possible Arthritis, by Physical Activity Level, Alaska BRFSS (2003)



One possible explanation for the apparent lack of association between physical activity and arthritis is that the message about physical activity being the “arthritis pain reliever” is beginning to reach Alaskans with arthritis. It may be that for every person with arthritis who *avoids* exercise because of previous bad experience or negative expectations, there is another Alaskan who *relies* on exercise to relieve joint pain. If this were the case, we would expect to find no difference in arthritis prevalence across levels of physical activity. It is also possible that individuals who are more interested in maintaining their health both exercise and visit their doctors more than those with less interest in their health, creating a correlation between reports of physical activity and any doctor-diagnosed condition. Further research is required to examine these hypotheses.

Obesity is a risk factor for the development and progression of certain types of osteoarthritis^{11,12} and is associated with joint pain. Obesity is commonly assessed using body mass index (BMI), which is calculated from a ratio of height to weight. A BMI of less than 25 indicates normal weight (inclusive of underweight), a BMI of greater than 25 but less than 30 indicates overweight, and a BMI of 30 or greater indicates obesity. Alaskans who are obese are marginally more likely to have arthritis than are those of normal weight (Figure 10). There is a similar trend for possible arthritis, but it is not statistically significant.

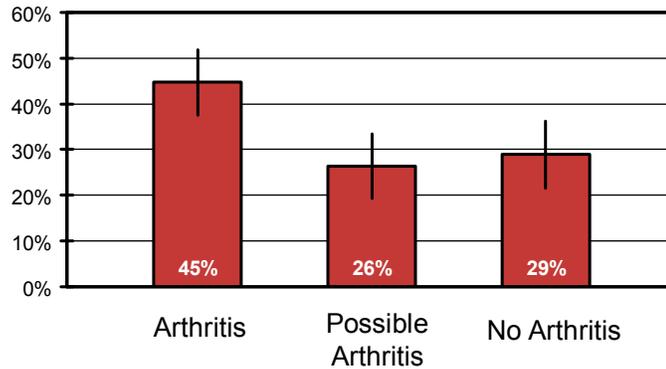
Figure 10. Age-Adjusted Prevalence (with 95% Confidence Intervals) of Arthritis and Possible Arthritis, by Weight Status, Alaska BRFSS (2003)



Health Status and Quality of Life

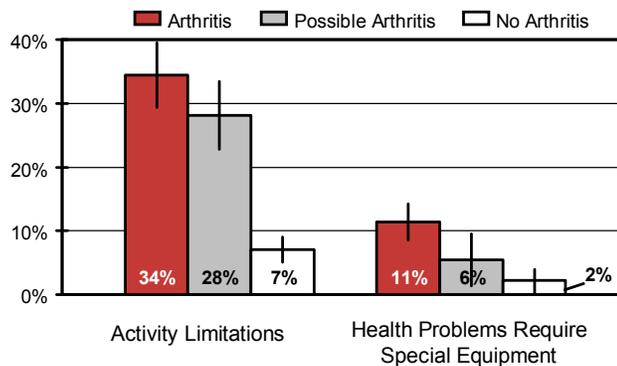
Arthritis has the potential to affect quality of life and perceived health status negatively. As depicted in Figure 11, those with arthritis are significantly more likely than those who do not have arthritis to characterize their health status as poor or only fair.

Figure 11. Age-Adjusted Prevalence (with 95% Confidence Intervals) of Fair/Poor Health Status, by Arthritis Status, Alaska BRFSS (2003)



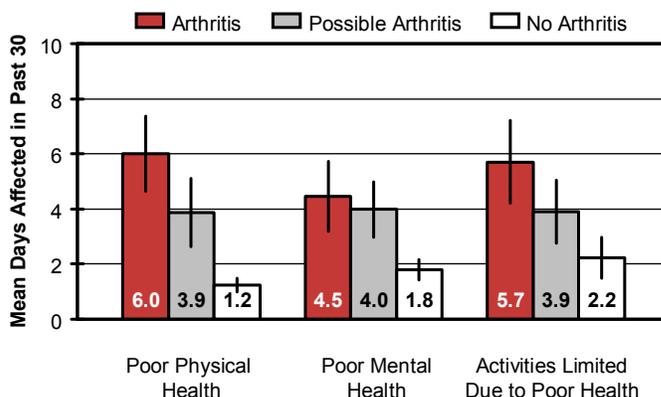
Corresponding to the association between arthritis and perceived health status is the relationship between arthritis and the perception that one’s activities have been limited. Alaskans with arthritis and possible arthritis are four to five times more likely than those without arthritis to report that they experience some limitation due to physical, mental or emotional problems (Figure 12). Those with arthritis are also five times more likely than those with no arthritis to say that they require the use of some specialized equipment, such as a wheelchair or cane.

Figure 12. Age-Adjusted Prevalence (with 95% Confidence Intervals) of Activity Limitations, by Arthritis Status, Alaska BRFSS (2003)



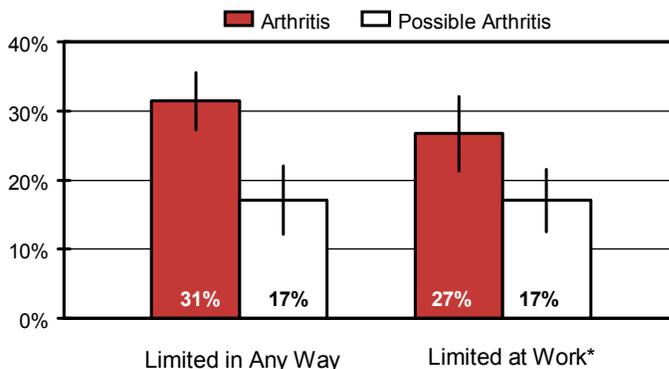
As shown in Figure 13, arthritis is also associated with the number of days of poor health experienced. Alaskans with arthritis and possible arthritis report having more days of poor physical and mental health compared to those who do not have arthritis. Compared to the two other groups, those with arthritis report more days when their regular activities were limited in some way due to poor physical or mental health.

Figure 13. Age-Adjusted Average Days (with 95% Confidence Intervals) Affected by Poor Health, by Arthritis Status, Alaska BRFSS (2003)



In addition, a significant proportion of Alaskans with arthritis report activity limitations specifically due to their arthritis. Thirty-one percent of those with arthritis report having to limit usual activities in some way because of arthritis or joint pain, and 27 percent of those with arthritis who are under the age of 65 and employed report that their arthritis limits their work activities (Figure 14). Those with possible arthritis report slightly fewer limitations than those with arthritis.

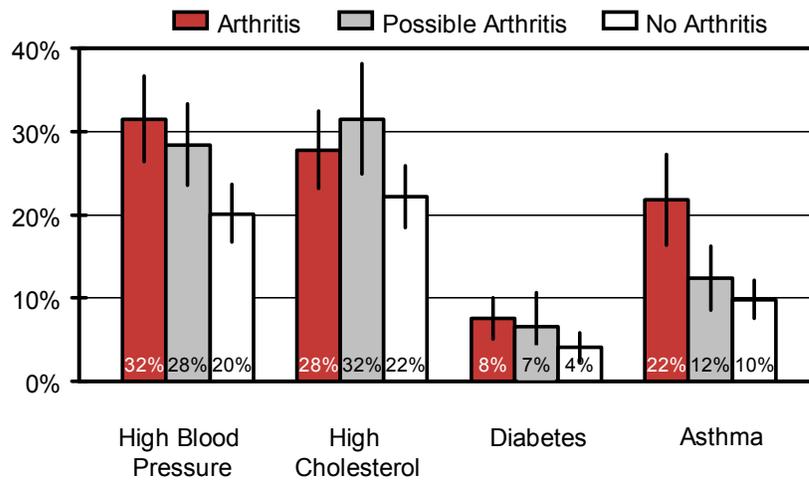
Figure 14. Age-Adjusted Prevalence (with 95% Confidence Intervals) of Arthritis Specific Limitations, by Arthritis Status, Alaska BFRSS (2003)



*<=64 and employed

Finally, those with arthritis and those with possible arthritis appear to suffer disproportionately from other chronic diseases. Figure 15 displays the age-adjusted rates of self-reported doctor-diagnosed high blood pressure, high cholesterol, diabetes and asthma by arthritis status. Alaskans with arthritis are about 50 percent more likely than those with no arthritis to report having been told by a health professional that they have high blood pressure. They are also more likely than both those with possible arthritis and those with no arthritis to report being diagnosed with asthma.

Figure 15. Age-Adjusted Prevalence (with 95% Confidence Intervals) of Co-Morbid Health Problems, by Arthritis Status, Alaska BRFSS (2003)



Limitations

The data used in this report are subject to some limitations. Data from the BRFSS exclude persons living in institutions, those on military bases and persons without a home telephone. Because of recent changes in the definition of arthritis, only a single year of data was available, and relatively few individuals were surveyed within some groups. This resulted in a lack of power to detect significant differences between certain groups.

Prevalence calculations are based on self-reported data and are not confirmed by a physician or medical record review. By limiting the definition of arthritis to those self-reporting a health care provider's diagnosis of arthritis, we specifically exclude those who do not obtain regular health care, some of whom likely have arthritis. In addition to giving us a less than complete picture of Alaskans with arthritis, this manner of measuring arthritis prevalence may result in artificial associations among risk factors. For example, some of the apparent association between arthritis and the other chronic diseases may be due to the fact that the presence of each is assessed by the respondent's report that they have ever been told by a health care professional that they have each condition. Individuals who do not access health care would therefore report not having any of the diseases, whether they in fact do or not. This by itself would result in an association among prevalences of all self-reported, doctor-diagnosed chronic diseases. However, the data in Figure 15 show that high blood pressure and high cholesterol in particular are more likely among individuals reporting *possible* arthritis — that is, recent joint symptoms but no doctor's diagnosis — compared to those with no arthritis. This suggests that the association between arthritis and these other chronic diseases is not solely due to a measurement artifact.

In addition, relying on self-reports of *ever* having been diagnosed with one of the many arthritis-related conditions may result in characterizing some individuals as having arthritis who no longer have the condition. This may lead to an overestimate of arthritis prevalence, and reduced chance of being able to find significant associations between arthritis and a variety of risk factors.

Conclusions and Recommendations

Analysis of the 2003 BRFSS data revealed that arthritis is a significant public health problem in Alaska. About 110,000 Alaskan adults are burdened with at least one of the 100 rheumatic diseases classified as arthritis, and an additional 90,000 have joint pain indicative of possible arthritis. Although arthritis is experienced throughout all segments of Alaskan society, obese adults and Alaskans over 65 years of age suffer from it disproportionately. In addition, the data presented in this report highlight the impact that arthritis has upon the quality of life of those who have been diagnosed with the condition.

Taken together, these findings suggest a need for a redoubling of public health efforts to reduce arthritis-related symptoms and limitations among those who already have arthritis, and to prevent individuals from developing the condition in the first place. The following strategies are recommended to address these needs.

Reduce Arthritis Symptoms and Activity Limitations

Because of the availability of treatments that reduce arthritis symptoms, it is crucial that those with arthritis get diagnosed as early as possible. A public education campaign on early signs and symptoms of arthritis and the importance of early diagnosis may be a critical first step toward this goal. A campaign targeting Alaskans age 65 and older and obese individuals may be most effective.

For those who have been diagnosed with arthritis, physical activity and weight reduction should be promoted. Media tools such as the “Physical Activity: The Arthritis Pain Reliever” campaign can be used to educate Alaskans with arthritis about the pain relief benefits of exercise. In addition, exercise programs with demonstrated effectiveness should be made available to Alaskans with arthritis. Two examples of such programs are the People with Arthritis Can Exercise (PACE) and the Arthritis Foundation Aquatics Program (AFAP).

Promising new drug treatments for arthritis are currently being developed. Alaskans with arthritis need to be educated on current information about newly available treatments, including potential benefits and risks of new drugs therapies. Such educational materials need to be developed in a manner consistent with the reading level and cultural background of the intended audiences.

Resources that help Alaskans manage the day-to-day realities of living with arthritis should be provided. For example, the Arthritis Self-Help Course (ASHC) is designed to have the arthritis sufferer play a more central role in developing and carrying out his or her arthritis management plan.

Prevent Arthritis When Possible

Although most cases of arthritis are not preventable, there are some steps individuals can take to reduce their chances of developing arthritis. Educating Alaskans on the following risk reduction strategies may help prevent some of the burden of arthritis in Alaska:

- Maintain a healthy weight, by balancing a good diet with regular, moderate exercise
- Eat a diet with plenty of calcium to reduce the chance of developing osteoporosis
- Try to avoid activities that repeatedly injure joints, and do not overuse a joint that is currently injured.

Community programs and policies that encourage an active, healthy lifestyle should be encouraged and supported. Remoteness and climate pose particular challenges toward reaching this goal in much of Alaska.



Arthritis Resources

The Web site for the State of Alaska Arthritis Program, www.epi.hss.state.ak.us/cd/arthritis.stm, contains links to many useful resources including a variety of arthritis fact sheets, the National Arthritis Action Plan and Alaska's Arthritis and Osteoporosis Plan. To receive additional information on this report or updated arthritis burden information contact the Alaska Arthritis Program at (907) 269-8000 or by email: Arthritis@health.state.ak.us. Contact the Arthritis Foundation ((800) 542-0295 or www.arthritis.org) for more general information on the programs listed above (e.g., PACE, AFAP). For information on specific interventions offered in your area contact the Washington/Alaska Chapter of the Arthritis Foundation at (800) 542-0295, or by email: info.wa@arthritis.org.



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State of Alaska Arthritis Program
www.epi.hss.state.ak.us/cd/arthritis.stm

State Department of Health and Social Services

www.hss.state.ak.us



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January 2005



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Commissioner

This publication was released by the Department of Health and Social Services, Division of Public Health, produced at a cost of \$1.35 per copy to inform and instruct the public. It was printed in Anchorage, Alaska.