

# **Prevalence of Doctor-Diagnosed Arthritis and Arthritis-Attributable Activity Limitation — United States, 2010–2012**

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## **Background**

- ❑ Arthritis is the most common cause of disability among U.S. adults and is particularly common among persons with multiple chronic conditions**
- ❑ In 2003, arthritis in the United States resulted in an estimated \$128 billion in medical-care costs and lost earnings**

## **Study Rationale**

- ❑ **To update previous U.S. estimates of the prevalence of doctor-diagnosed arthritis and arthritis-attributable activity limitation (AAAL)**
  - **Compare these estimates to our projected estimates**
- ❑ **Examine how arthritis and AAAL prevalence differs by different study characteristics**
  - **Focus on chronic conditions such as heart disease, diabetes, and obesity**

## **Study Population**

- ❑ National Health Interview Survey (NHIS) from 2010-2012**
- ❑ Annual, nationally representative, in-person interview that uses a complex multi-stage design**
- ❑ In each household identified, one adult was randomly selected**
- ❑ For all 3 years, sample size was  $N=94,696$  and final response rates were over 60%**

# Arthritis and AAAL Measurements

- ❑ **Arthritis was defined as having answered "yes" to "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?"**
- ❑ **AAAL was defined as a "yes" response to the question "Are you now limited in any way in any of your usual activities because of arthritis or joint symptoms?"**
- ❑ **Prevalence of AAAL was estimated for the overall adult U.S. population and for adults with arthritis.**

# Study Characteristics

- ❑ **Demographic and Anthropometric**
  - Age, sex, race, education, employment, and BMI (kg/m<sup>2</sup>)
- ❑ **Lifestyle Variables**
  - Physical Activity (min/week)
- ❑ **Medical History**
  - Health status, heart disease, diabetes disease

## **Statistical Analysis**

- ❑ All analyses were weighted**
  - Account for household nonresponse and oversampling of blacks, Hispanics, and Asians.**
  - Poststratification adjustments were subsequently also applied**
- ❑ Unadjusted prevalence estimates for arthritis and AAAL describe the absolute population burden.**
- ❑ Age-adjusted prevalence estimates describe relative population burden among various analytic subgroups.**
- ❑ For all comparisons, differences were considered statistically significant if the 95% confidence intervals of the age-adjusted estimates did not overlap.**

# Main Findings

- ❑ **52.5 million (22.7%) U.S. adults reported doctor-diagnosed arthritis**
  - **Almost half of all adults ages  $\geq 65$  years**
- ❑ **About half of persons with heart disease (49.0%) and diabetes (47.3%) had arthritis and less than a 1/3 of obese adults (31.2%) had arthritis**
- ❑ **22.7 million had AAAL (9.8% of the general population, or 43.2% of those with arthritis)**
- ❑ **More than a quarter of adults with heart disease (26.8%) or diabetes (25.7%) had AAAL, and more than 15% of obese adults had AAAL**

## **Other Findings (Arthritis Prevalence by Characteristics)**

- ❑ **Arthritis prevalence was significantly higher among:**
  - **Women (23.9%) than men (18.6%)**
  - **Whites (22.9%) and blacks (22.4%) compared with Hispanics (15.9%) and Asians (12.1%)**
  - **Those with less education**
  - **Inactive adults**
  - **Those who are unable to work or were disabled (29.0%) compared with those who were employed (20.9%)**
  - **Among those with fair or poor health (40.7%) compared with those reporting excellent/very good health (15.8%)**

## **Other Findings (AAAL Prevalence by Characteristics)**

- ❑ **AAAL prevalence among adults with arthritis was highest for:**
  - **Those who reported fair or poor health (71.8%)**
  - **Those who were unable to work or disabled (61.4%)**
  - **Physically inactive (56.5%) adults**
  - **Those with less than a high school diploma (55.4%)**
  - **Adults with heart disease (54.6%) or diabetes (54.4%)**

## Summary

- ❑ **During 2010–2012, an estimated 52.5 million (22.7%) of adults in the U.S. reported arthritis, and 22.7 million (9.8%) reported AAAL (43.2% of those with arthritis)**
- ❑ **The arthritis estimate is consistent with our projections of 67 million by 2030. For AAAL, the estimate exceeds the earlier projection of 22 million adults with AAAL by 2020.**
- ❑ **About half of all adults with heart disease or diabetes had arthritis, and more than a quarter of adults with either condition and arthritis had AAAL**
- ❑ **Almost one third of adults who were obese also had arthritis, and more than 15% of these adults had AAAL.**

# Limitations

- ❑ **Doctor-diagnosed arthritis was self-reported and not confirmed by a health-care professional**
  - **Case definition shown to be sufficient for surveillance**
- ❑ **A causal relationship between risk factors (i.e., obesity) and arthritis and AAAL could not be established**
  - **Obesity shown to increase risk of osteoarthritis and gout**
- ❑ **Social desirability bias**
  - **Underreporting of weight and over reporting of physical activity**
- ❑ **Selection bias (response rates ranged from 60.8%- 66.3%)**
  - **Application of sampling weights is expected to considerably reduce nonresponse bias.**

## Conclusions

- ❑ **Arthritis commonly occurs with obesity, heart disease and diabetes, and high prevalence of AAAL is found for adults with both arthritis and one of these chronic conditions**
- ❑ **Evidence-based self-management education and physical activity interventions can reduce pain and improve function, mood, and confidence to manage health**
- ❑ **Health-care providers and public health practitioners can address both arthritis and these other chronic conditions by prioritizing self-management education and physical activity as an effective way to improve health outcomes**

# Questions?

**Please go to the link below to learn more about this arthritis MMWR publication.**

**[http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6244a1.htm?s\\_cid=mm6244a1\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6244a1.htm?s_cid=mm6244a1_w)**