MedFit CLASSROOM

Arthritis Fitness Specialist Course
Module 5:
Epidemiology

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EPIDEMIOLOGY

Epidemiology is defined as the study and analysis of the distribution (who, when, and where), patterns and determinants of health and disease conditions in defined populations. It is a cornerstone of public health, and shapes policy decisions and evidence-based practice by identifying risk factors for disease and targets for preventive healthcare.

The United States

“The CDC combined data from the National Health Interview Survey (NHIS) years 2013–2015 Sample…Overall, an estimated 22.7% (54.4 million) of adults had doctor-diagnosed arthritis, with significantly higher age-adjusted prevalence in women (23.5%) than in men (18.1%)” (Barbour KE, Helmick CG, Boring M, Brady TJ)

About 43.5% (23.7 million) of the 54.4 million adults with doctor-diagnosed arthritis have limitations in their usual activities due to their arthritis. This number is growing each year due to a myriad of external factors and sedentary lifestyles.

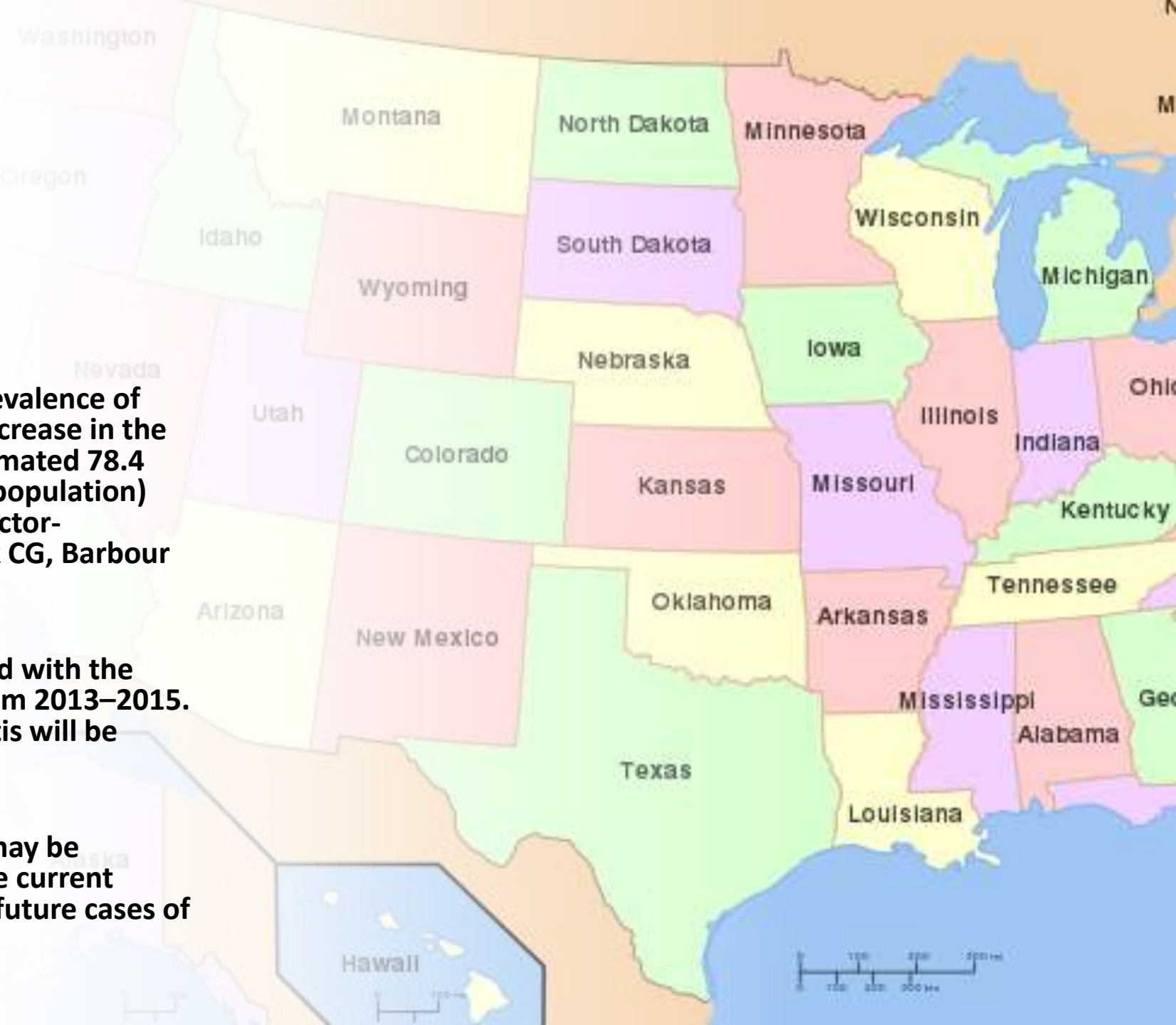
Arthritis can be a barrier to physical activity, and inactivity is associated with conditions such as cardiovascular disease, diabetes, obesity, and functional limitations.

The United States

With an aging of the US population, the prevalence of doctor-diagnosed arthritis is expected to increase in the coming decades. “By the year 2040, an estimated 78.4 million (25.9% of the projected total adult population) adults aged 18 years and older will have doctor-diagnosed arthritis” (Hootman JM, Helmick CG, Barbour KE, Theis KA, Boring MA).

This is a significant increase when compared with the 54.4 million adults who were diagnosed from 2013–2015. In addition, two-thirds of those with arthritis will be women.

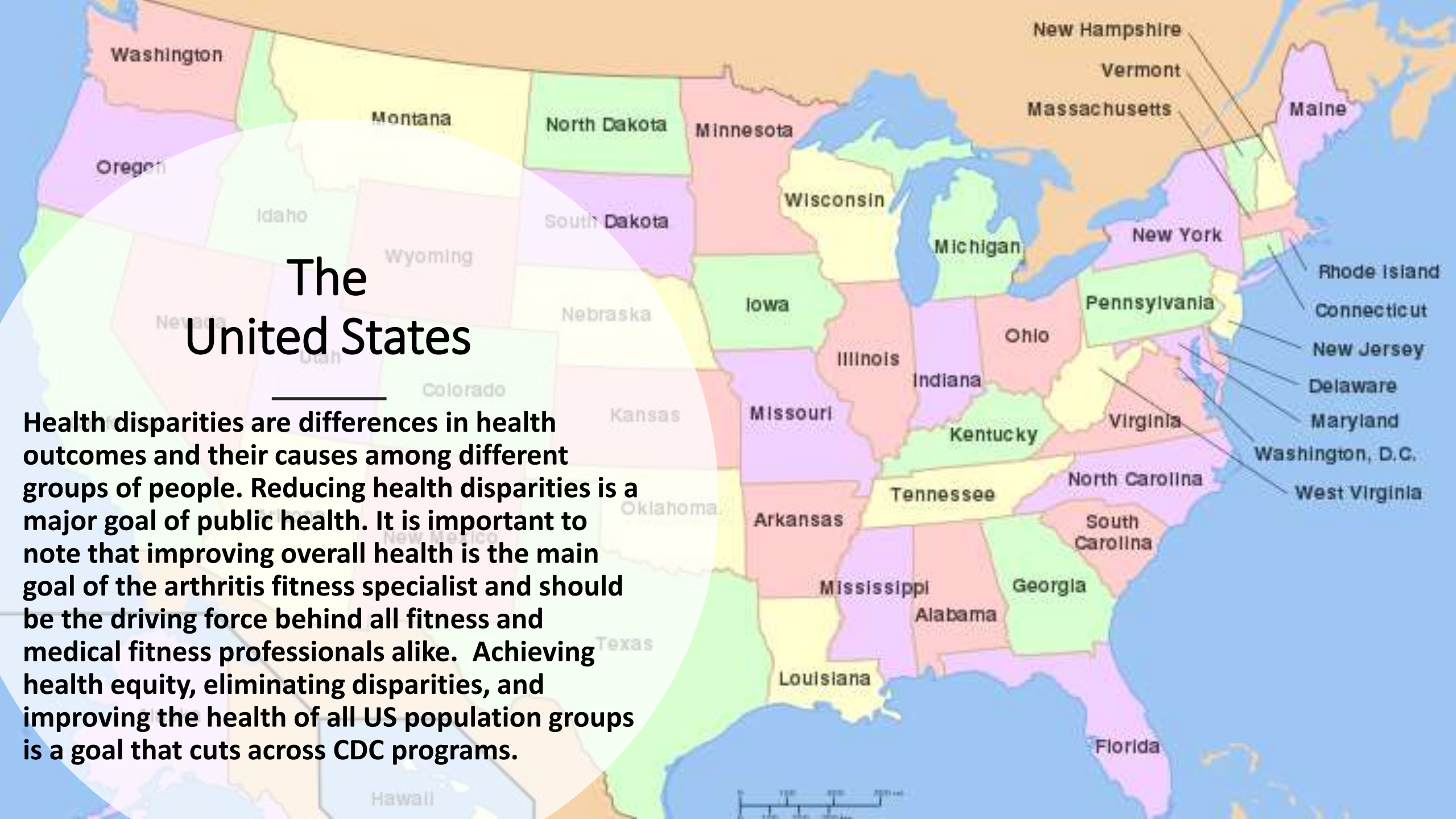
What is disturbing is that these estimates may be conservative, as they do not account for the current trends in obesity, which may contribute to future cases of osteoarthritis.



The United States

CDC's Arthritis Program analyzed BRFSS arthritis data for all 50 states, the District of Columbia, Puerto Rico, and Guam. According to the findings, arthritis is reported by at least 1 in 6 adults in every state. In the 15 states with the highest prevalence such as Louisiana, Arkansas, Mississippi, Alabama, Tennessee and Kentucky, arthritis affects up to 1 in 4 adults.

In every state, at least 1 in 3 adults with arthritis reports arthritis-attributable activity limitations. In some states, the prevalence is more than half of adults with arthritis.. In states with the highest prevalence, it occurs in more than 1 in 3 adults with arthritis. The estimated model-predicted prevalence of doctor-diagnosed arthritis among United States counties ranged from 11.2% to 42.7% in the 3,142 counties in 50 states and DC.



The United States

Health disparities are differences in health outcomes and their causes among different groups of people. Reducing health disparities is a major goal of public health. It is important to note that improving overall health is the main goal of the arthritis fitness specialist and should be the driving force behind all fitness and medical fitness professionals alike. Achieving health equity, eliminating disparities, and improving the health of all US population groups is a goal that cuts across CDC programs.

The United States

The following age-adjusted prevalence data are from the most recent, published analysis of racial/ethnic differences using three years (2013, 2014, 2015) of data from the *National Health Interview Survey,* a nationally representative annual health survey conducted by the CDC.

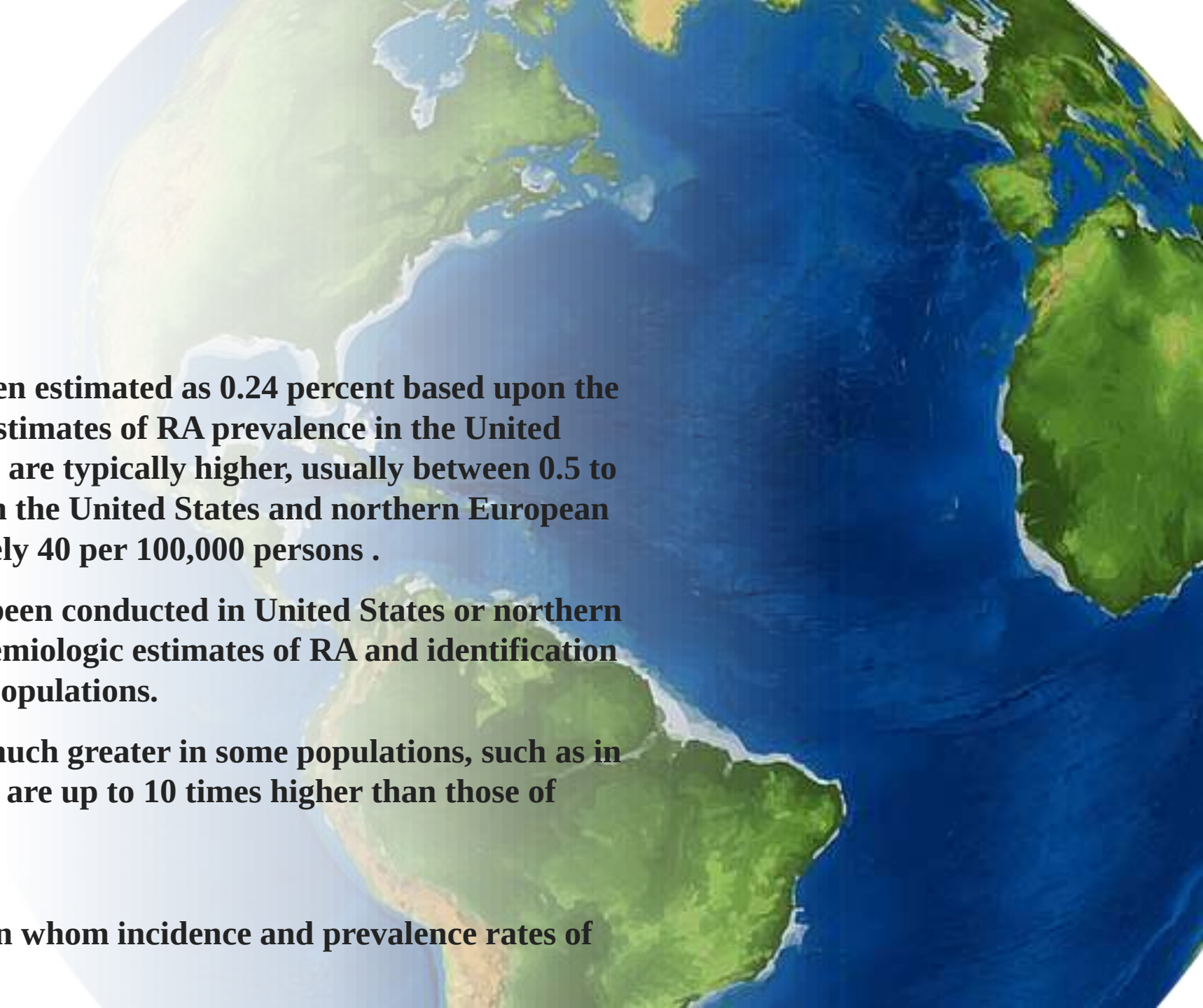
****White, non-Hispanic**
Doctor-diagnosed arthritis: 22.6%.
Arthritis-attributable activity limitations among adults: 40.1%.
****African American/Black, non-Hispanic**
Prevalence of arthritis: 22.2%.
Prevalence of activity limitations among adults: 48.6%.
****Hispanic/Latino**
Prevalence of arthritis: 15.4%.
Prevalence of activity limitations among adults: 44.3%.
****Asian, non-Hispanic**
Prevalence of arthritis: 11.8%.
Prevalence of activity limitations among adults: 37.6%.
****Multi Race, non-Hispanic**
Prevalence of arthritis: 25.2%.
Prevalence of activity limitations among adults: 50.5%.
****American Indian/Alaska Native**
Prevalence of arthritis: 24.4%.
Prevalence of activity limitations among adults: 51.6%.

The WORLD

“By new estimates,
1 in 3 people ages 18-64 have arthritis.”

-Jafarzadeh 2017

The WORLD



The worldwide prevalence of RA has been estimated as 0.24 percent based upon the Global Burden of Disease 2010 Study. Estimates of RA prevalence in the United States and northern European countries are typically higher, usually between 0.5 to 1 percent. The annual incidence of RA in the United States and northern European countries is estimated to be approximately 40 per 100,000 persons .

Most epidemiologic studies of RA have been conducted in United States or northern European populations. As a result, epidemiologic estimates of RA and identification of risk factors come largely from these populations.

The incidence and prevalence of RA is much greater in some populations, such as in the Pima Native Americans, where rates are up to 10 times higher than those of most population groups

In addition, RA tends to affect women, in whom incidence and prevalence rates of RA are twice as high as in men.

THE WHY

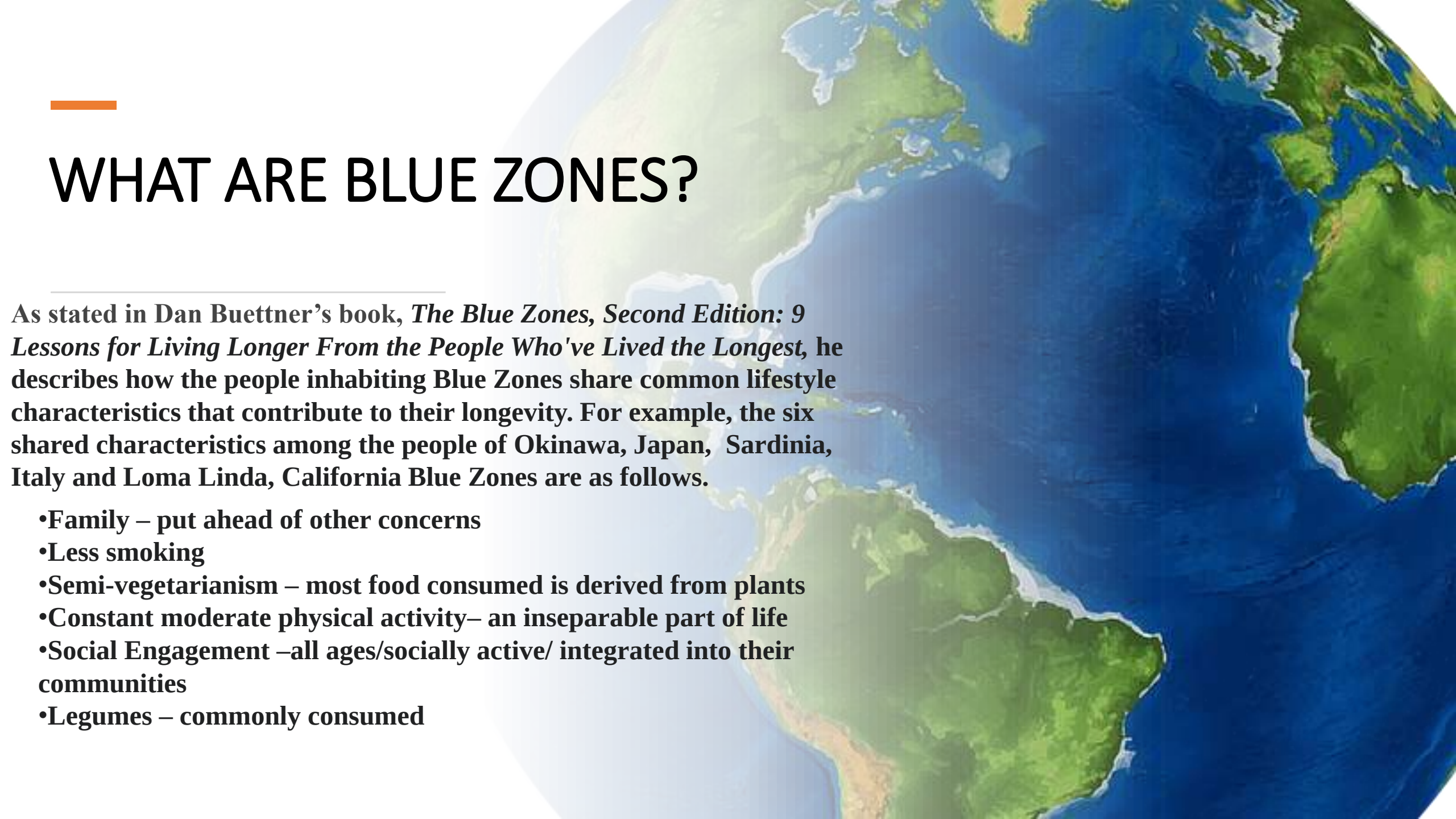
With regards to various types of inflammatory arthritis, such as rheumatoid arthritis, the immune system attacks joint tissue. While the trigger for this disease is unknown, there are several risk factors involved:

- **Adults over 40-years-old**
- **Obesity**
- **Family History**
- **Cigarette Smoking**

THE WHY

As of August 2020, *Right Diagnosis* published an estimation of people with rheumatoid arthritis by country. The United States, notorious for its obesity rates and overuse of medications, sits at #1 for the most cases of arthritis. In addition, it is not surprising that many countries known for having the most centenarians, or people living to be 100, and Blue Zones in the world show less cases of various inflammatory arthritis based on population.

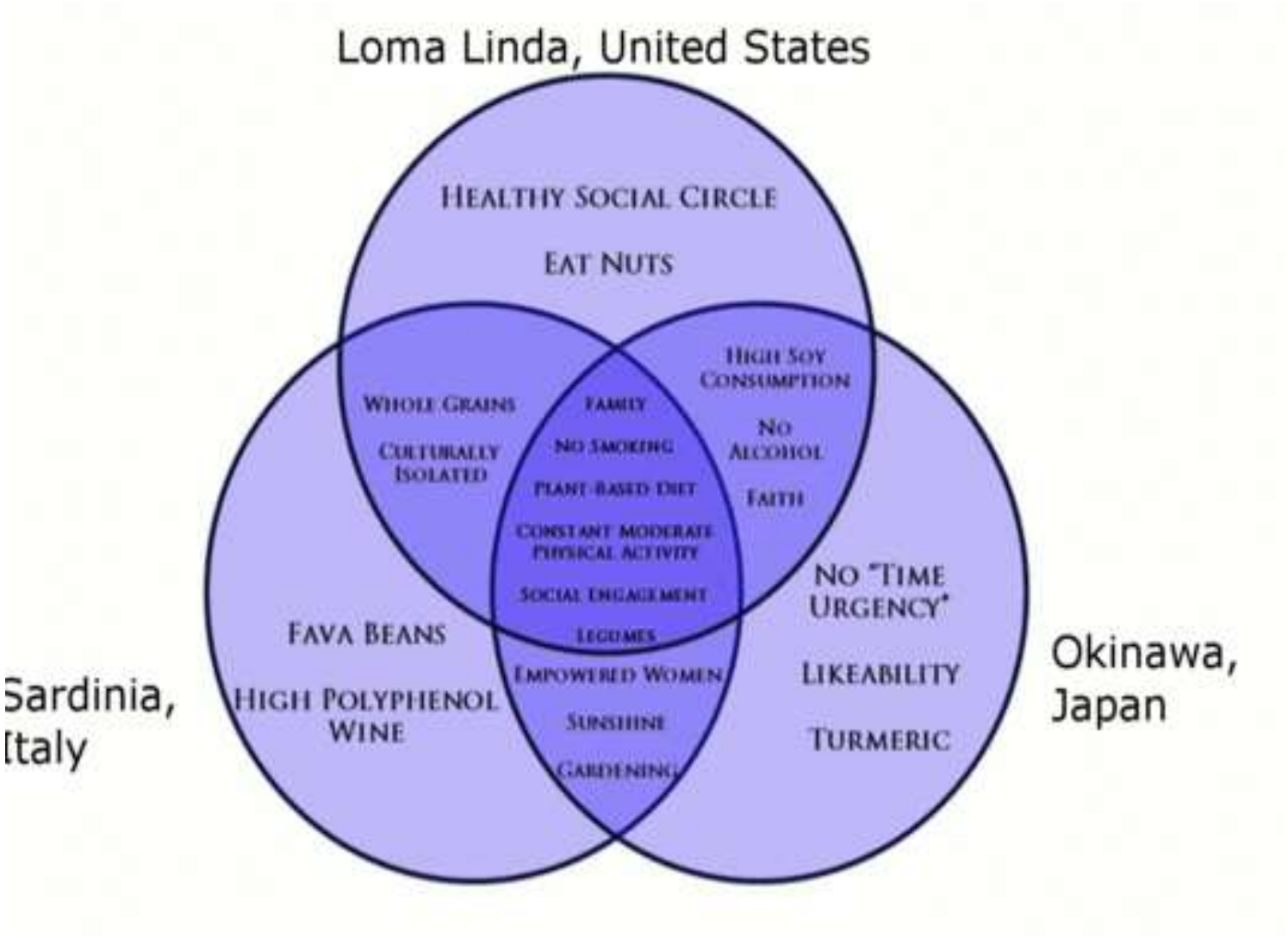
WHAT ARE BLUE ZONES?



As stated in Dan Buettner's book, *The Blue Zones, Second Edition: 9 Lessons for Living Longer From the People Who've Lived the Longest,* he describes how the people inhabiting Blue Zones share common lifestyle characteristics that contribute to their longevity. For example, the six shared characteristics among the people of Okinawa, Japan, Sardinia, Italy and Loma Linda, California Blue Zones are as follows.

- **Family – put ahead of other concerns**
- **Less smoking**
- **Semi-vegetarianism – most food consumed is derived from plants**
- **Constant moderate physical activity– an inseparable part of life**
- **Social Engagement –all ages/socially active/ integrated into their communities**
- **Legumes – commonly consumed**

BLUE ZONE CHARACTERISTICS



* Moderate, regular physical activity
- Life purpose.
- Stress reduction
- Moderate caloric intake
- Plant-based diet
- Moderate alcohol intake, especially wine.
- Engagement in spirituality or religion
- Engagement in family life.
- Engagement in social life.

As an arthritis fitness specialist, it is crucial to communicate the importance of incorporating daily movement to reduce signs and symptoms of arthritis. While exercise is not medicine, it is key to disease prevention or prolonging the onset of symptoms that may inhibit daily activities and have negative effects on the quality of life.

Things to consider.

As an arthritis fitness specialist you should ask yourself:

1. **Can I define the epidemiology of arthritis?**
2. **Can you clearly communicate the far-reaching effects of arthritis on populations around-the-globe?**
3. **Are you able to recognize the health disparities and their causes among different groups of people?**
4. **Do I understand the common risk factors for arthritis?**
5. **Can I define and describe a “Blue Zone?”**
6. **Am I able to describe the characteristics of people who live in “Blue Zones” to benefit my arthritic clients.**

At this time, please complete the Module #5 Quiz.