
Arthritis and Obesity: An Unfortunate Combination

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Arthritis and Obesity: The Basics

Arthritis

affects almost 70 million in the US (1 in 3 adults)
risk increases with age; women at higher risk
pain, functional impairment are common symptoms

Obesity

almost 130 million adults are either overweight or obese in US (65%)
associated with increased mortality and disability

Impact: Individual and Society

Both obesity and arthritis

are expected to increase greatly in the coming years

impact quality of life in terms of daily functioning

are associated with costs over \$100 billion/year

are amenable to intervention (e.g., exercise, weight management)

Which came first?

Unclear whether obesity causes arthritis or vice versa

Studies do suggest that obesity increases risk and severity of arthritis

Obesity and arthritis often co-occur yet little research focuses on their combined effect on disability and active life expectancy; particularly in old age

Research Questions

What is the impact of arthritis on active life expectancy?

How is it different from the impact of obesity on active life expectancy?

What is the impact of both arthritis and obesity on active life expectancy?

Design and Methods

1993-1998 AHEAD data

N = 7,381 whole sample

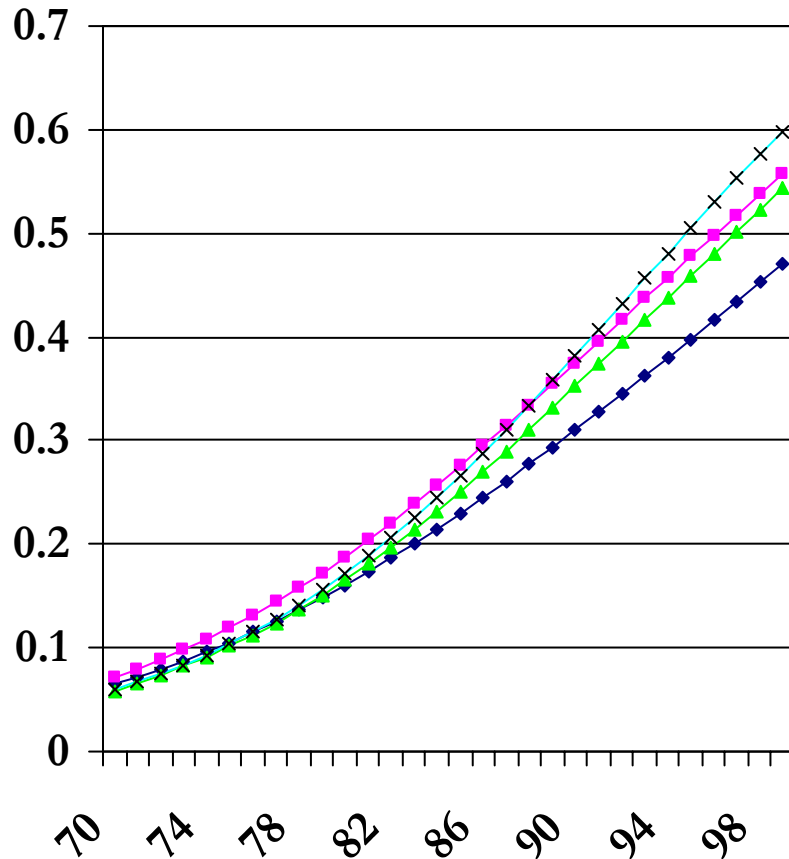
Age 70+

Multistate Lifetable analysis using IMaCh

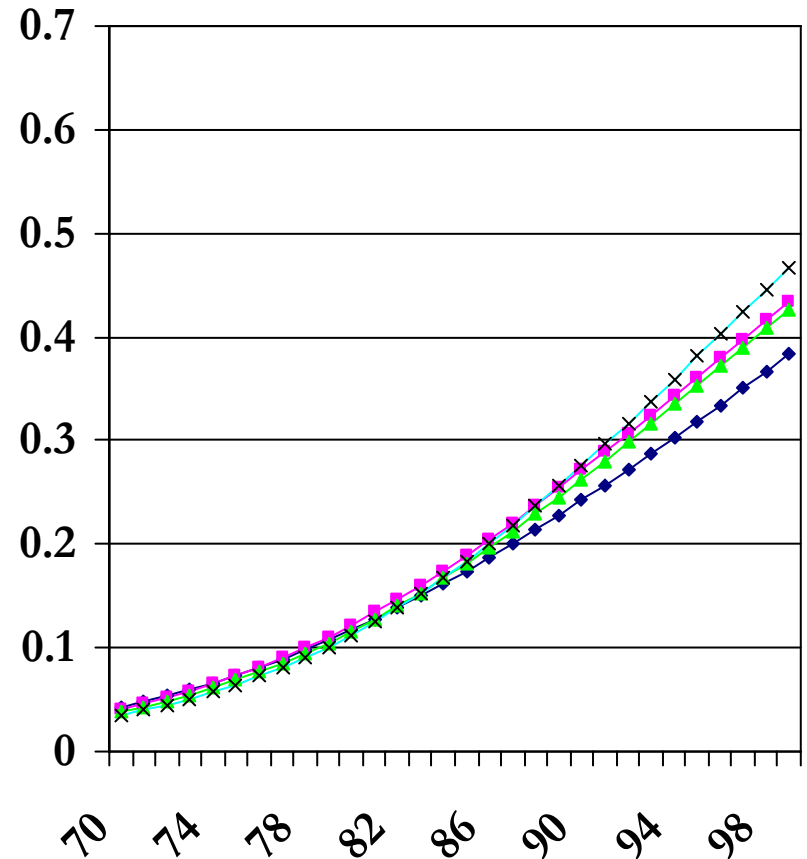
Examination of transition rates and total, active,
and disabled years remaining

2-Year Transition Probabilities: Probability of Dying – Males and Females

Males



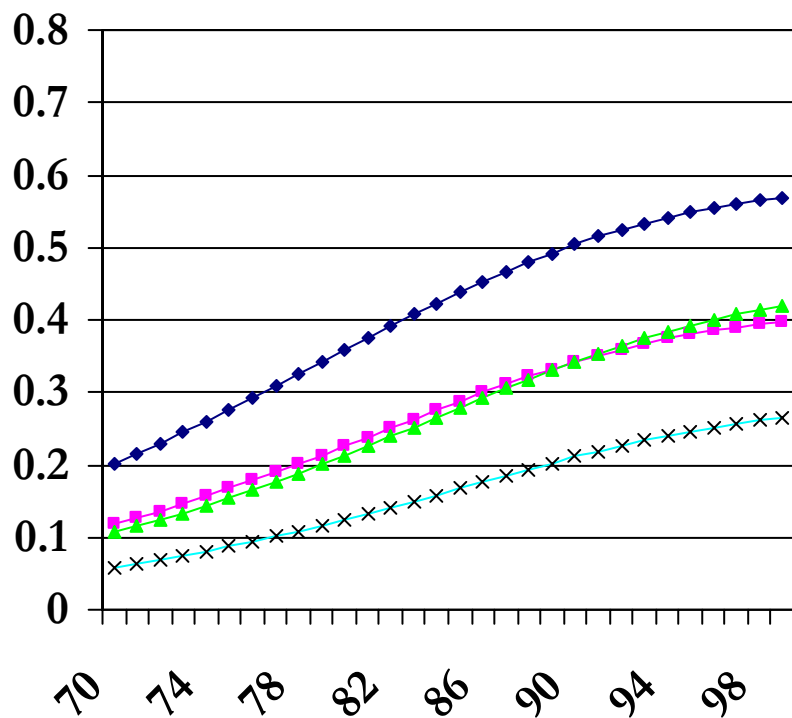
Females



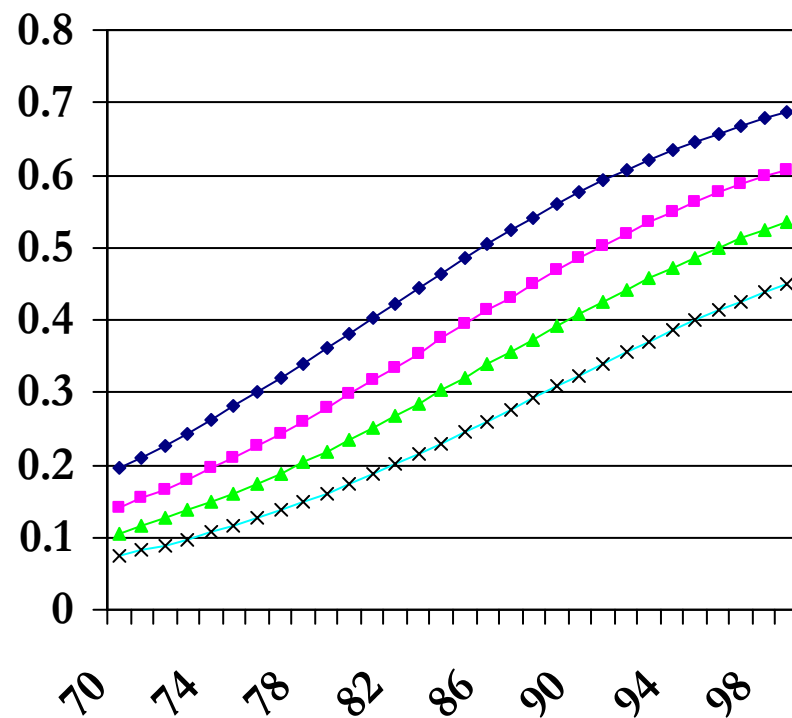
◆ = Both ■ = Arthritis Only ▲ = Obese Only × = Neither

2-Year Transition Probabilities: Probability of Becoming Disabled – Males and Females

Males



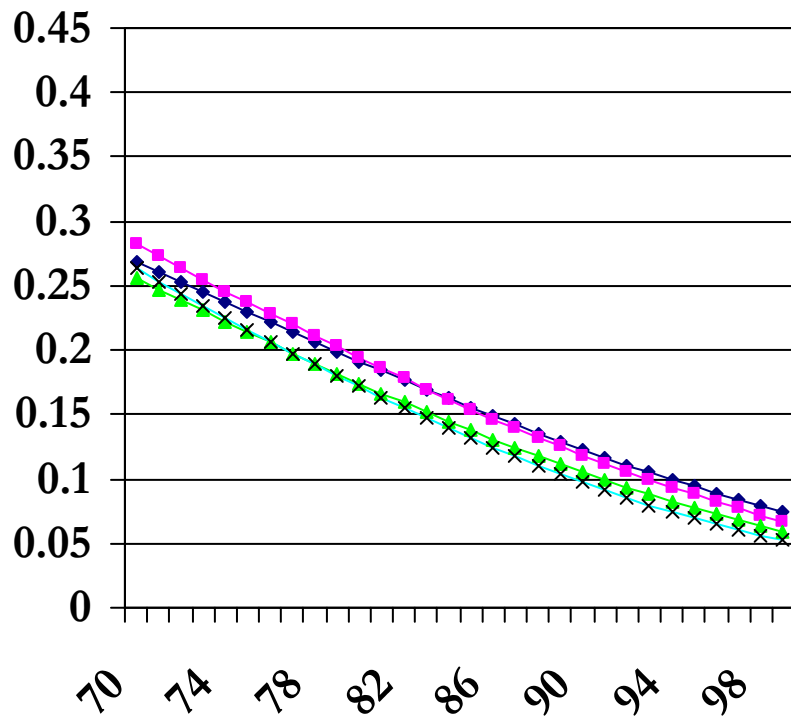
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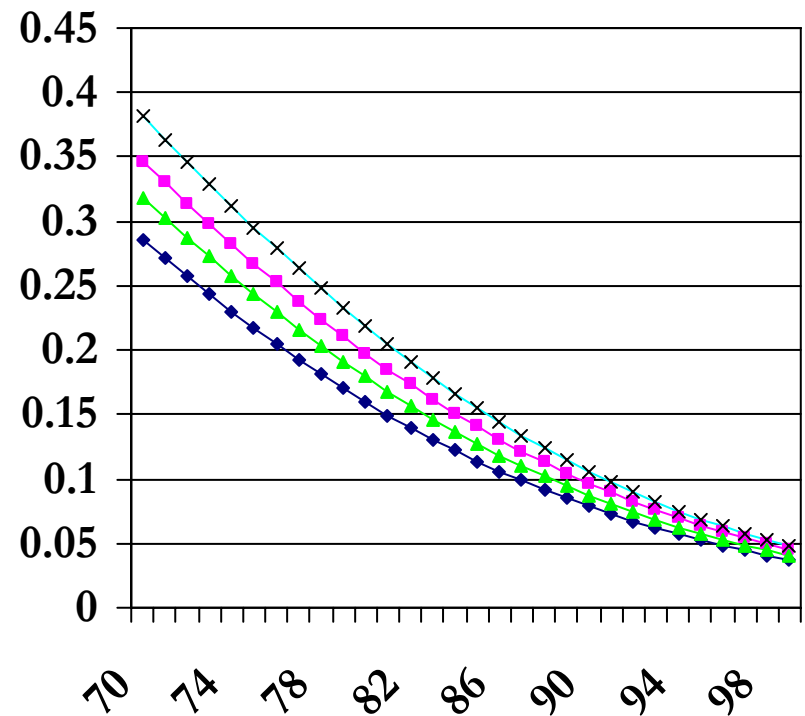
◆ = Both ■ = Arthritis Only ▲ = Obese Only × = Neither

2-Year Transition Probabilities: Probability of Recovering Activity – Males and Females

Males



Females



◆ = Both ■ = Arthritis Only ▲ = Obese Only × = Neither

Examination of Transition Probabilities

Probability of death

Arthritis and/or obesity do not increase risk of death in older adults

Probability of Disability

Arthritis increases risk of disability for men and women;
obesity increases risk only for men

no difference in risk due to arthritis compared to obesity

The combination of arthritis and obesity poses the greatest risk of disability for older men and women

Probability of Recovery

Chance of recovery declines with age regardless of arthritis and obesity

Total, Active, and Disabled Life Expectancy – Males Age 70

| | Total | Active | Disabled | %Disabled |
|-------------------|-------|--------|----------|-----------|
| Neither Condition | 12.3 | 10.0 | 2.3 | 19% |
| Obesity Only | 13.0 | 9.3 | 3.7 | 28% |
| Arthritis Only | 11.9 | 8.3 | 3.5 | 29% |
| Both Conditions | 12.9 | 6.3 | 6.3 | 50% |

Total, Active, and Disabled Life Expectancy – Females Age 70

| | Total | Active | Disabled | %Disabled |
|-------------------|-------|--------|----------|-----------|
| Neither Condition | 15.4 | 11.2 | 4.2 | 27% |
| Obesity Only | 15.2 | 9.3 | 5.9 | 39% |
| Arthritis Only | 14.8 | 8.5 | 6.3 | 43% |
| Both Conditions | 14.9 | 6.3 | 8.7 | 58% |

Summary of Differences by Comparison Group

– TLE, ALE, DLE

Total Life Expectancy

little difference among the four groups for males and females

Active Life Expectancy

somewhat shorter with just one condition
almost 4 years shorter for men and 5 years shorter for women with both arthritis and obesity

Disabled Life Expectancy

somewhat longer with just one condition
about 4 years longer for men and 4½ years longer for women with both arthritis and obesity

Implications

As the baby boomers age, we can expect to see more older adults with both arthritis and obesity

This combination puts both men and women at a greater risk of disability and shorter active life expectancy than having just one or neither condition

Public health efforts need to focus now on primary prevention efforts, as well as exercise and weight management interventions, across the life span

Otherwise, the effects of these two related conditions will be very costly to both the individual in terms of quality of life and to society in terms of money and services
