Frailty free life expectancy in the older population: the Netherlands

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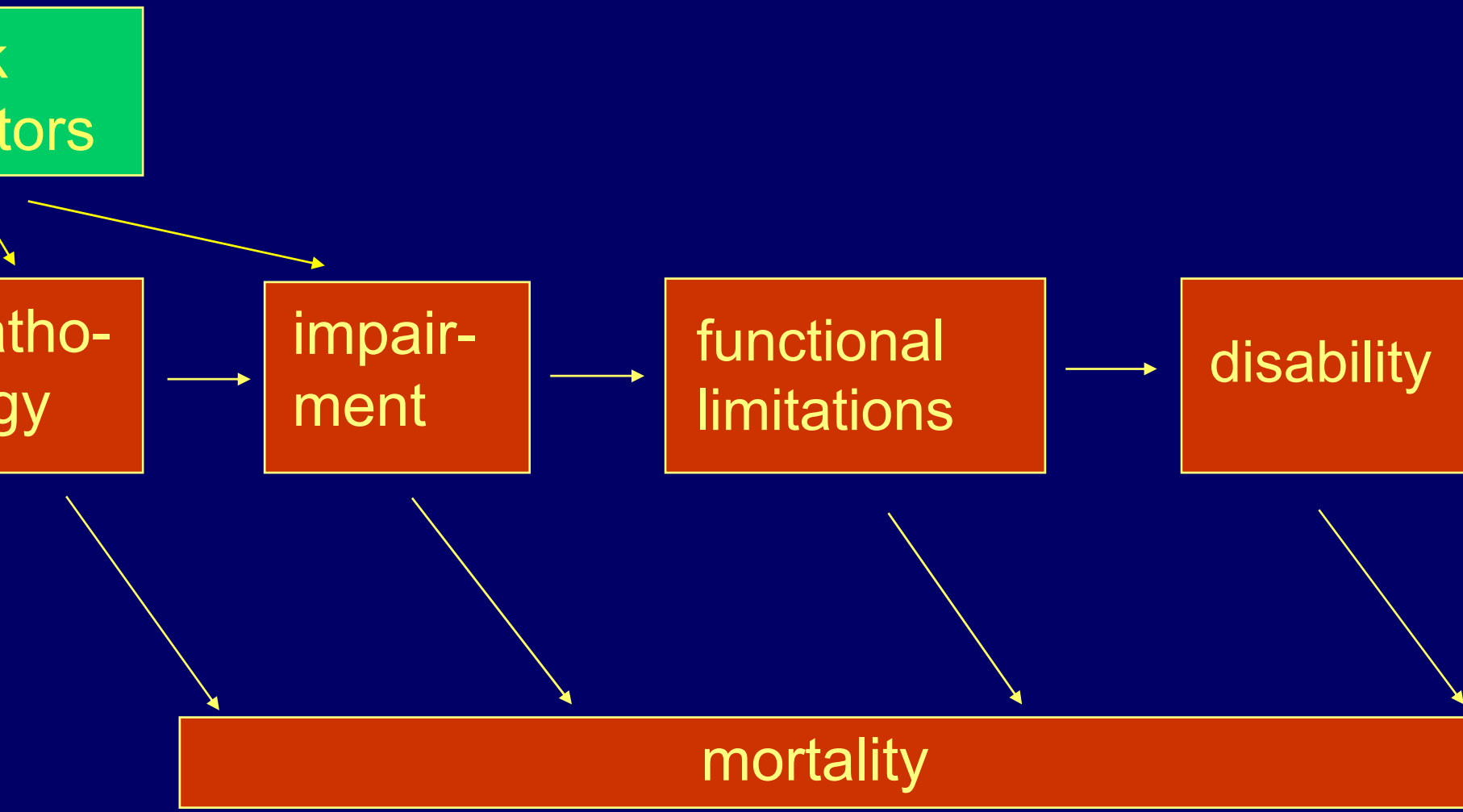
Conceptual definition of frailty

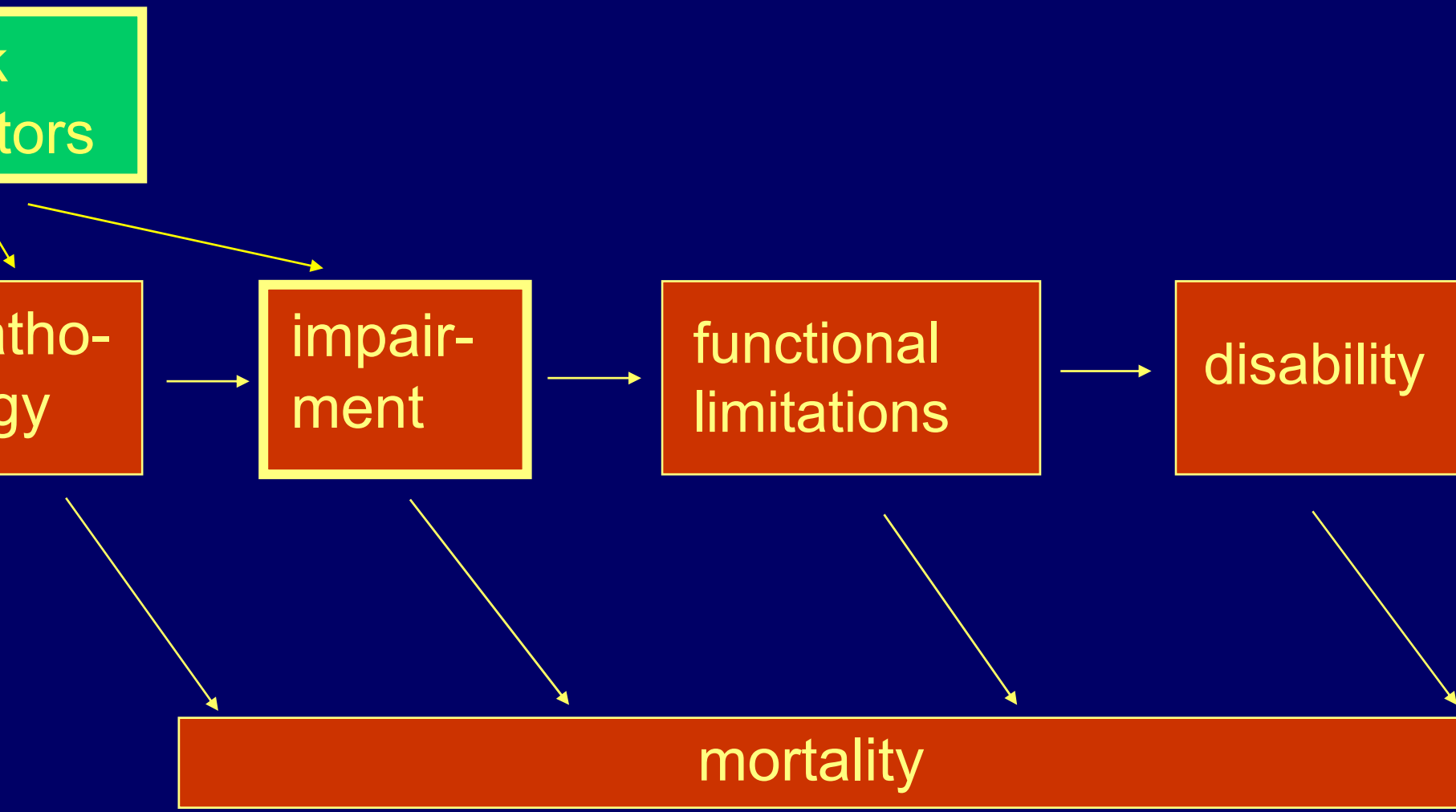
The concept of frailty denotes

- multisystem decline, as a consequence of aging-related changes in the neuromuscular, endocrine and immune systems, and
- with adverse outcomes such as disability, institutionalization, and mortality

The disablement process



The disablement process



= frailty

Background

- Frailty, chronic conditions, and disability are separate, partly overlapping concepts (Fried 2004)
- Health expectancies have been calculated based on chronic conditions, impairments, and (mild/severe) disability, but not on frailty

This study:

1. Calculation of frailty-free life expectancy
2. Comparison with LE free of mild/severe disability

Longitudin
Aging
Study
Amsterdam

Longitudinal Aging Study Amsterdam

Random sample

3107 men and women

Ages 55-85

Start 1992

3-year intervals

Frailty markers LASA

- BMI<23
- Lowest quintile peak flow
- Lowest quintile physical activity
- Incontinence
- Poor distant vision
- Poor hearing
- MMSE<24
- Depression
- Lowest quintile mastery

Operational definition of frailty

Frailty =
the presence of three or more frailty markers

Functional disability

- Walking up and down a staircase of 15 steps
- Walking outside 5 minutes without resting
- Getting up from and sitting down in a chair
- Dressing and undressing one-self
- Using own or public transportation
- Cutting one's toenails

Response categories:

(0) "Yes without difficulty" to (4)" No I Cannot"

Scale score ranges between 0 and 24

Mild / severe disability

No disability = 0-2 (< 0 + 1/2 SD)

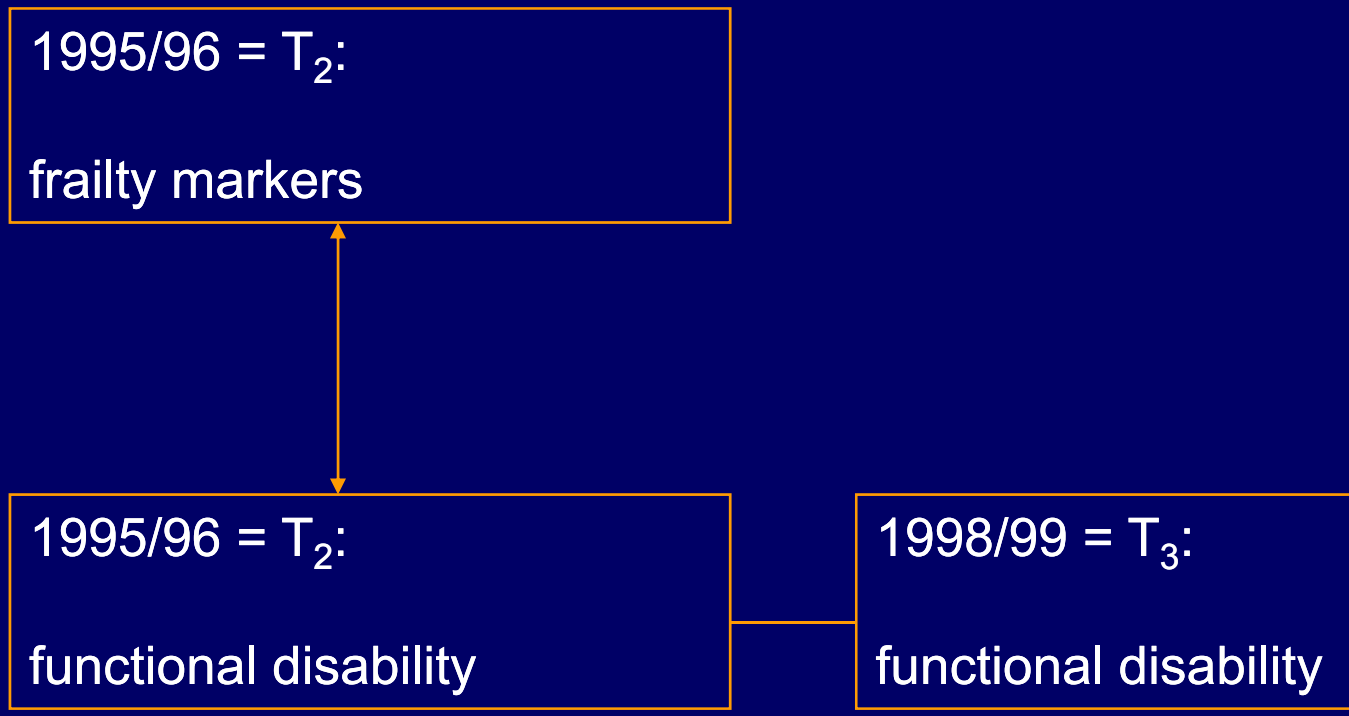
Mild disability = 3-15 (> 0 + 1/2 SD)

Severe disability = 16+ (> 0 + 2 SD)

Approach

ges 65-88;

= 1688



Overlap frailty - disability (T_2)

	Men	Women
Frail	17%	23%
Of these:		
Mildly disabled	71%	79%
Severely disabled	29%	43%

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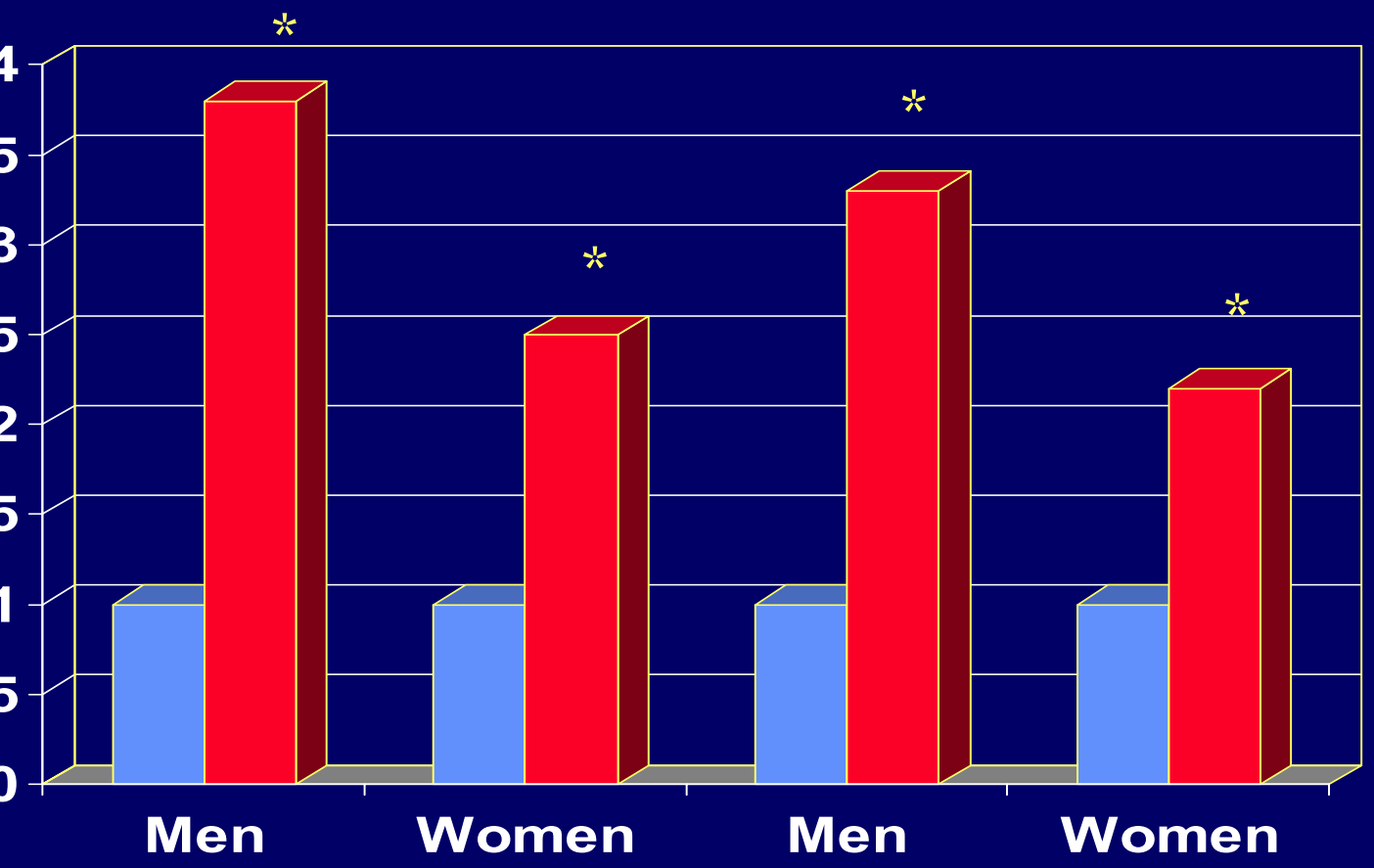
Association of frailty and functional decline



p < 0.05

= any three markers

Life & Health Expectancy (yrs) at age 65

	Men	Women
Total LE	14.3	18.7
LE_Frailty	2.0 (14%)	4.1 (22%
Mild LE_Disability	4.0 (28%)	9.0 (49%
Severe LE_Disability	1.1 (7%)	3.6 (19%

Conclusions (1)

- Gender differences: the overlap between frailty and disability is greater among women than among men,
- However, frail men have greater risk of functional decline than frail women
- The population impact of frailty is greater than that of severe disability
- This is especially the case among men, who spend about 1.8 as much time in frailty as in severe disabili

Conclusions (2)

- Increase in functional limitations in the older population
- Same period: decrease in care services supply
- Most expensive care service: hospital days decrease
- 1992-2002: less professional home care; more care by partner after hospital admission

The use of frailty in health expectancy provides complementary information to health expectancy based on disability

The oldest person in the world lives in the Netherlan

Hendrikje
Van Andel,
114 years ol