



European Male Ageing Study

# The European Male Ageing Study (EMAS)

Wednesday 19<sup>th</sup> October 2011

MICRA: Male Ageing Seminar

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# Background

## 1. Rationale for an all-male study

- Male life expectancy 5 – 12 years shorter than for females
- Onset of age-related disease 4 – 5 years earlier in males
- Health of ageing women deeply influenced by the menopause: ageing men's health presents an important scientific opportunity to study the mechanisms of ageing and chronic diseases with their relatively shorter healthspan, unencumbered by a menopause
- Health of ageing men has been studied to a far lesser extent than women (WHI, Nurse Health, Million Women, SWAN and MERI)

# Background

## 2. The unanswered questions in 2002

- Why do some individuals age “better” than others?
- Are there geographical differences in how men age?
- What role do hormones play in determining how men age?
- Can the medical profession intervene to improve the quality of life and health of men as they age?

# Aims

- **Describe the variation in male sex hormone levels by age and geographical region**
- **Examine the influence of socio-demographic, lifestyle, co-morbidity and genetic factors on variation in male sex hormone levels**
- **Determine the influence of male sex hormones in explaining variations in health outcomes**
- **Investigate the mechanism by which declining male sex hormone levels exert their effects on health**
- **Explore if changes in circulating hormone levels can predict the development of clinical symptoms or disabilities such as frailty and fractures associated with ageing**

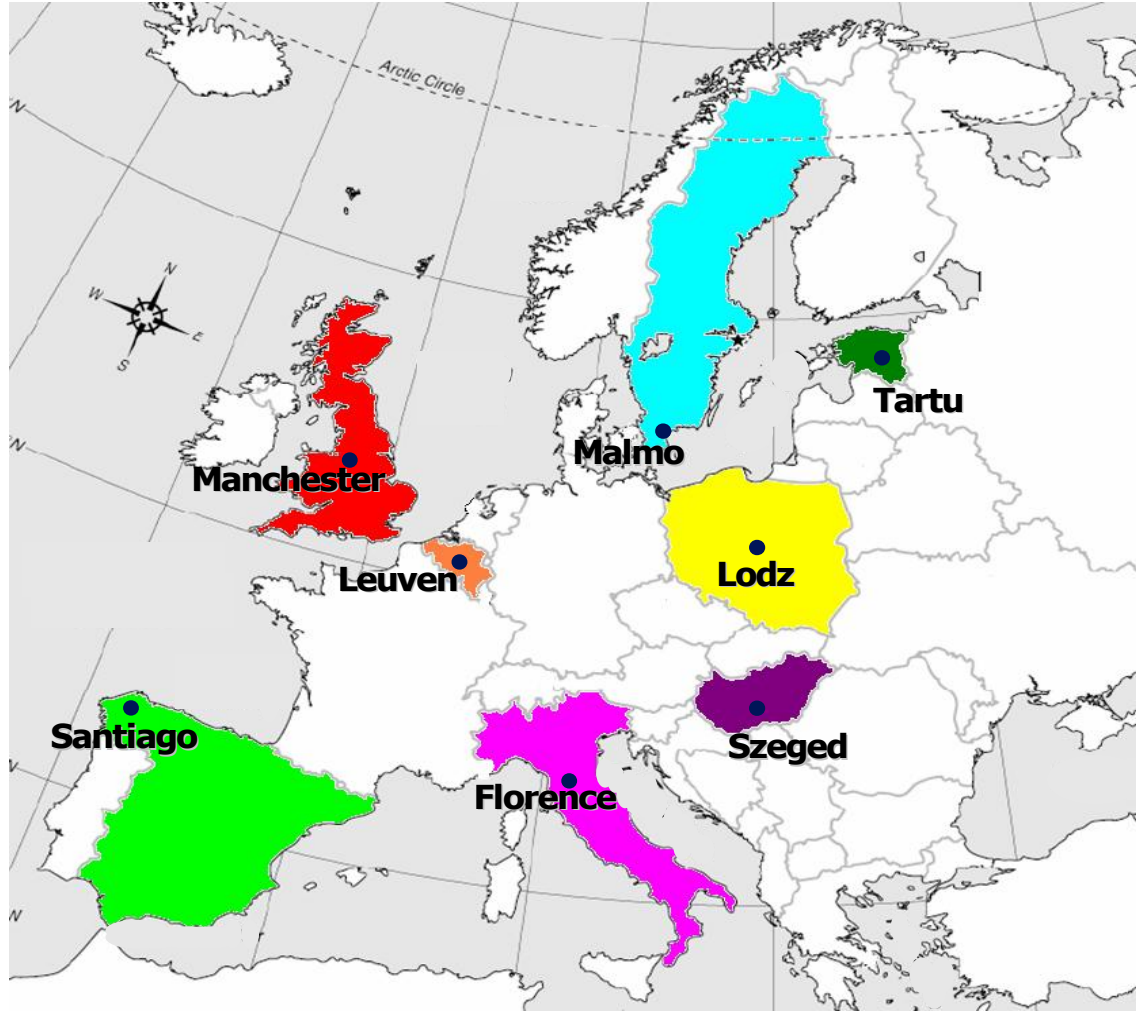
# **Ethical approval**

**The European Male Ageing Study: prevalence, incidence and geographical distributions of symptoms of ageing in men and their psychosocial correlates (EMAS) is conducted under ethical approval MREC 01/08/95 granted by the North West Multi-centre Research Ethical Committee.**

# Subjects

- **Random population sample**
- **Community-dwelling men age-stratified by decades 40-79 years**
- **8 countries in Europe**

# EMAS centres






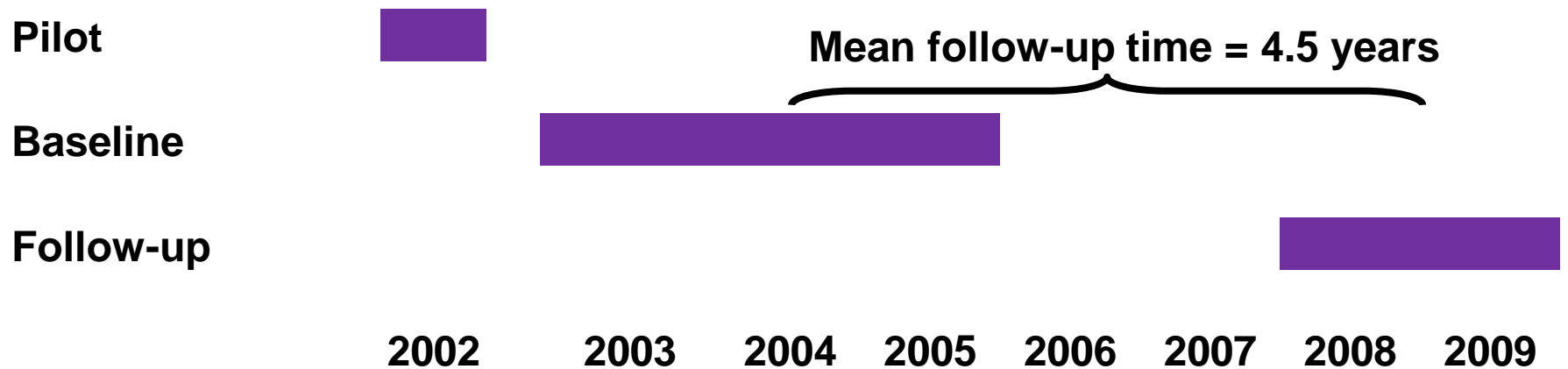
# Measurements

- **General health assessment**
- **Lifestyle**
- **Diet**
- **Medical history**
- **Current medication**
- **Vision**
- **Blood pressure**
- **Blood assessments**
- **Bone health**
- **Body composition**
- **Physical function**
- **Sexual function**
- **Cognition**
- **Pain**

# **Standardisation & Quality Control**

- **Standard Operations Procedures (SOPs) adopted in all centres**
  - **“Culture fair” instruments selected**
  - **Questionnaires translated and back-translated**
  - **Equipment centrally purchased and regularly calibrated**
  - **Performance of tests monitored and checked at regular workshops**
  - **Centralised analysis of data**
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# Data collection: timeline



# **Selected results**

# EMAS Participants

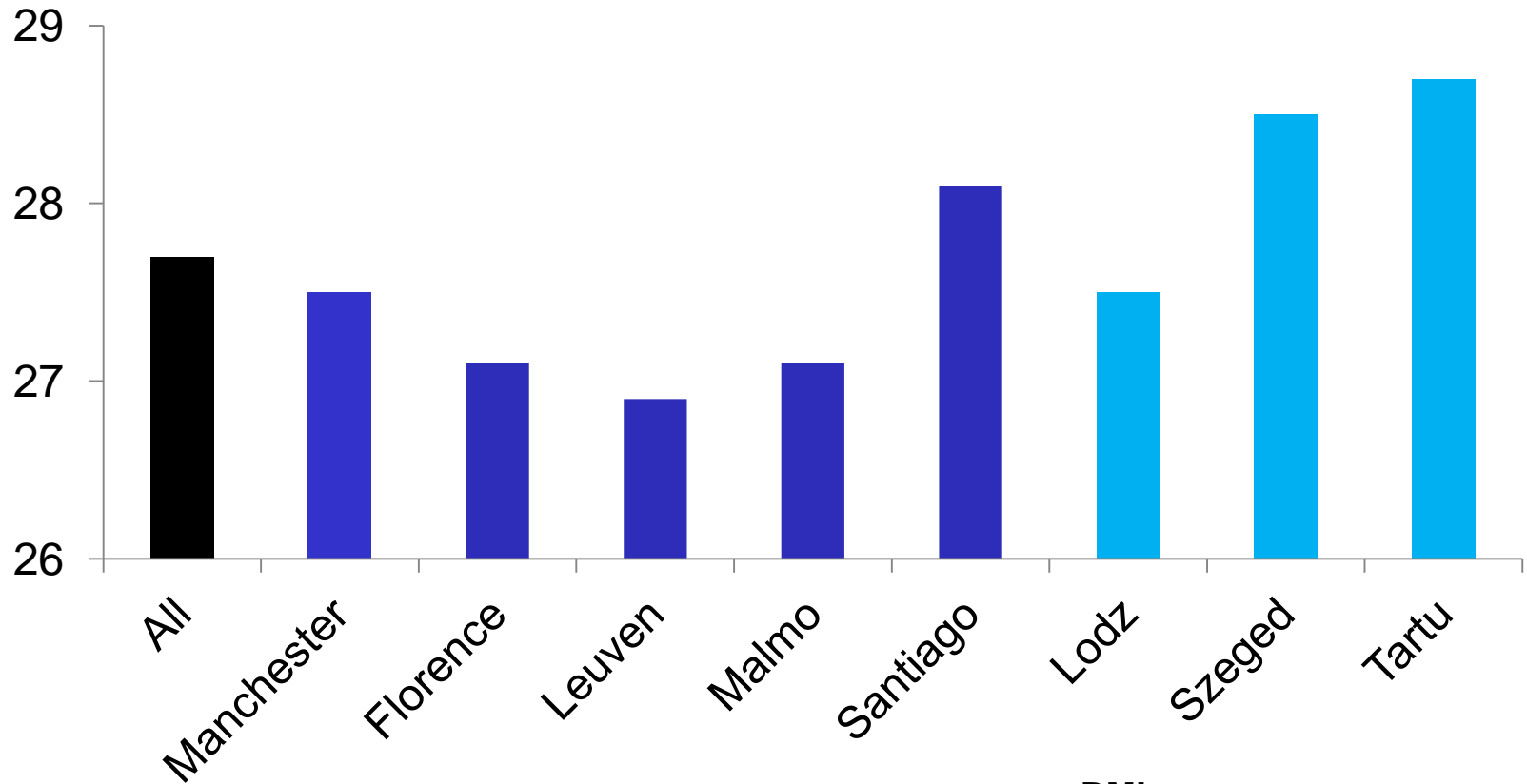
Centre	Age band				Total
	40 - 49	50 - 59	60 - 69	70 & over	
Florence, Italy	100	124	105	104	433
Leuven, Belgium	102	115	118	116	451
Lodz, Poland	85	114	100	112	108
Malmo, Sweden	94	118	102	95	409
Handforth, U.K.	92	101	96	107	396
Santiago, Spain	101	100	102	103	406
Szeged, Hungary	114	116	101	100	431
Tartu, Estonia	111	116	115	93	435
<b>TOTAL</b>	<b>796</b>	<b>904</b>	<b>839</b>	<b>830</b>	<b>3,369</b>

*Response rate = 45%*

# Self-reported characteristics of EMAS participants

	Mean (SD)
Age	60.0 (11.0)
Age left education	20.9 (7.7)
Number of morbidities	1.2 (1.3)
	Percent
General health good - excellent	76.6
Daily exercise $\geq$ 1/2 hour/day	65.3
Current smokers	21.1
Heart condition	16.6
High blood pressure	29.0
Diabetes	7.7

# Body Mass Index (BMI)



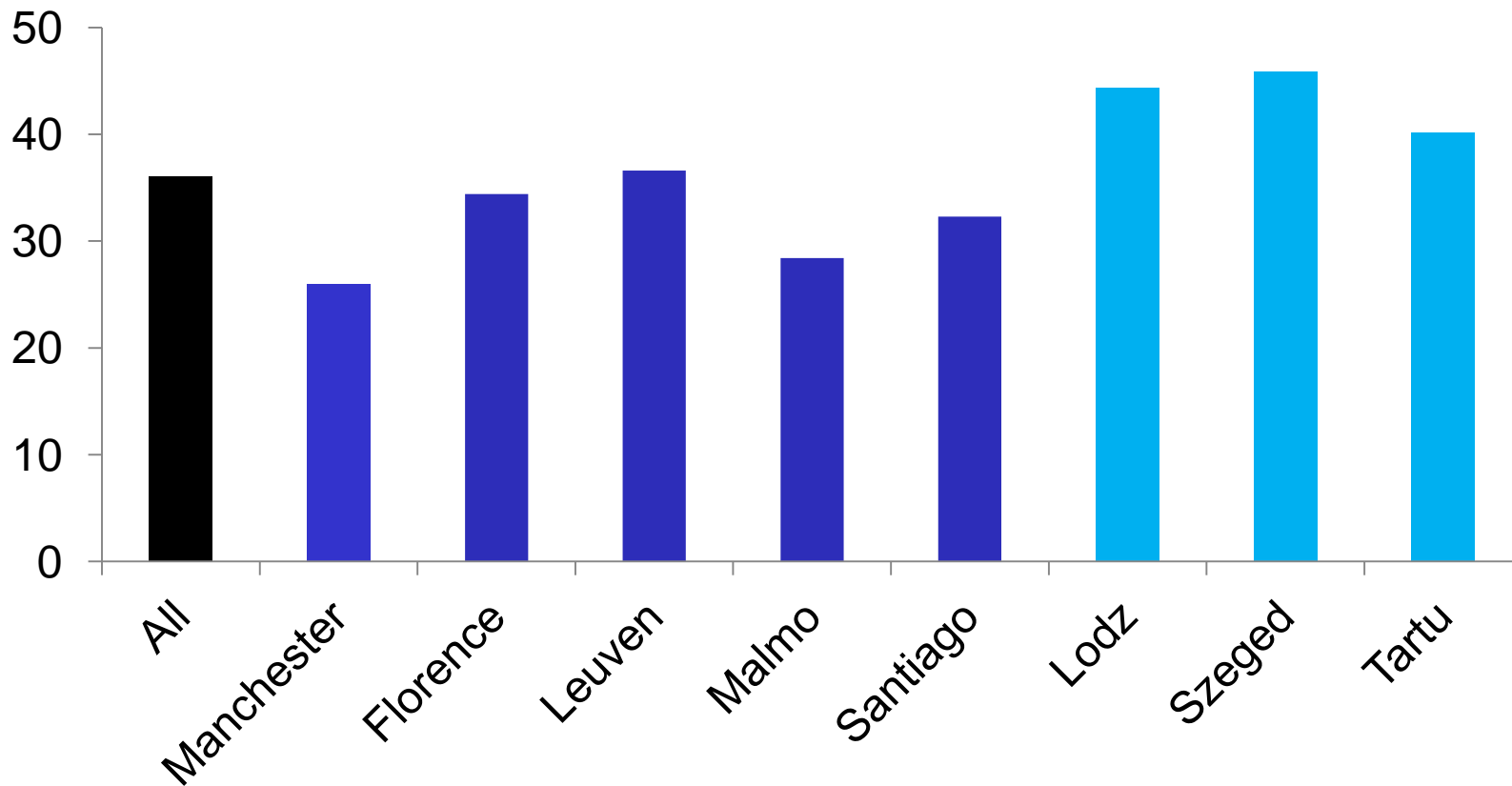
**BMI:**

**18.5 to less than 25 = normal**

**25 to less than 30 = overweight**

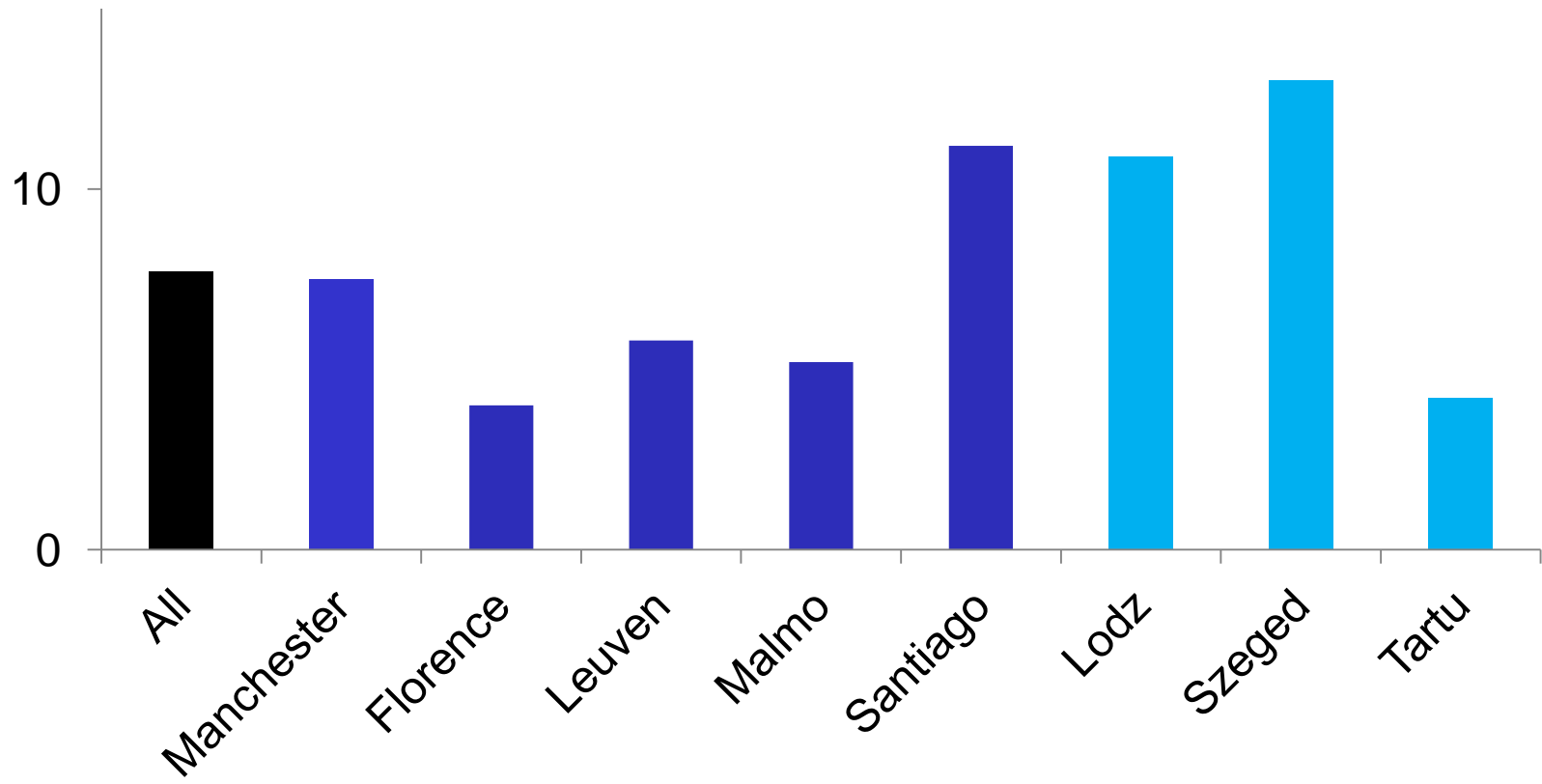
# Prevalence of treated heart disease

## (% of EMAS population)

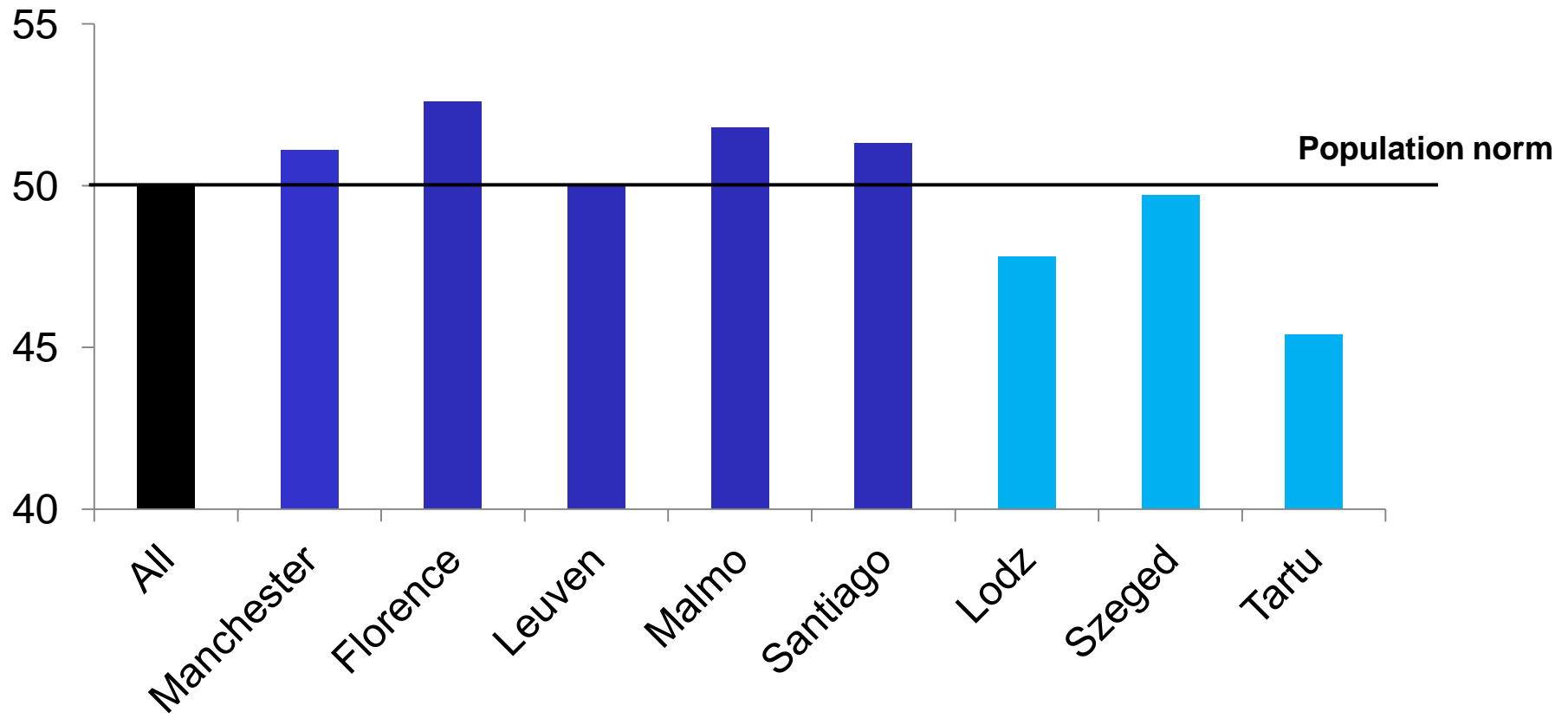




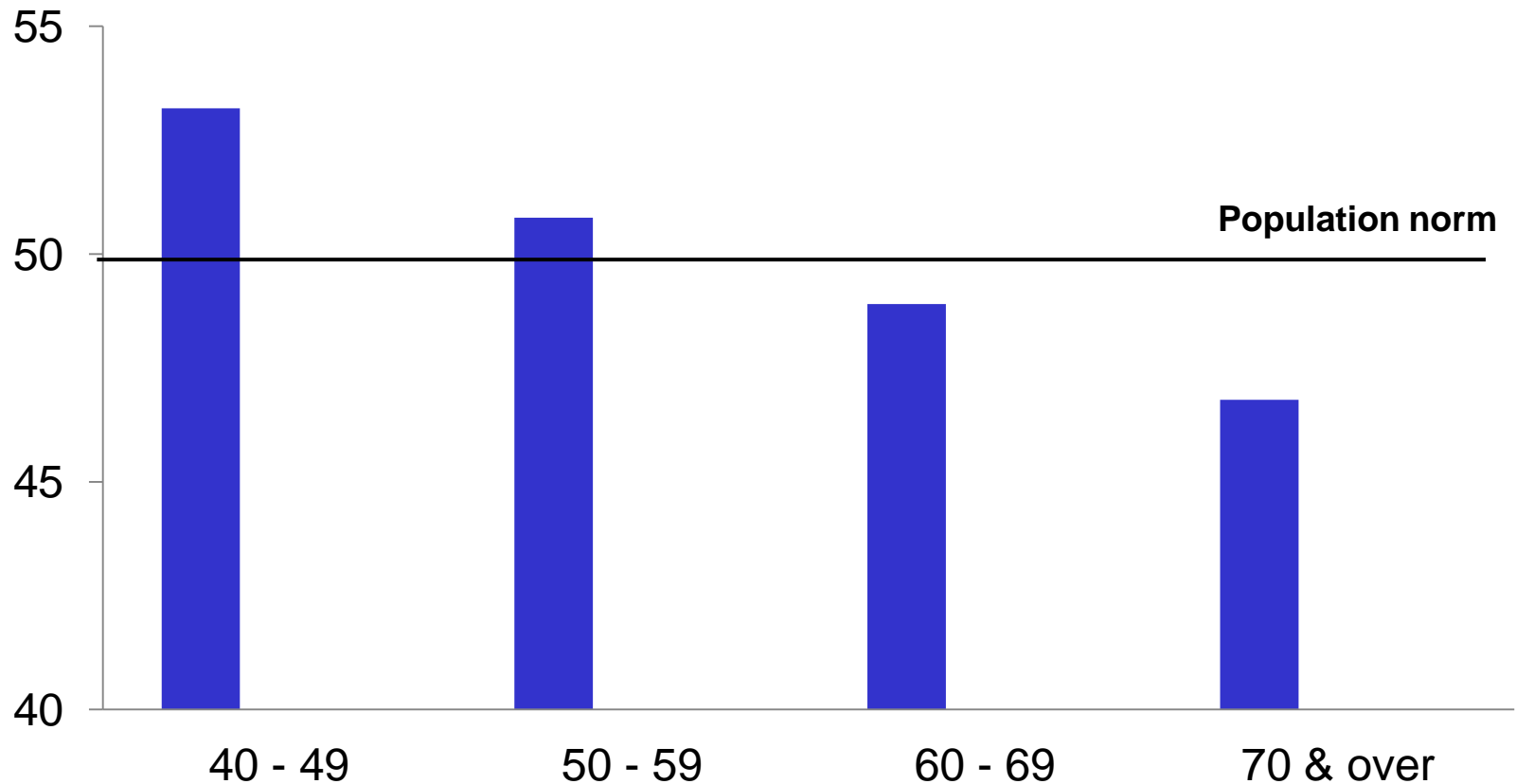
# Prevalence of treated diabetes (% of EMAS population)



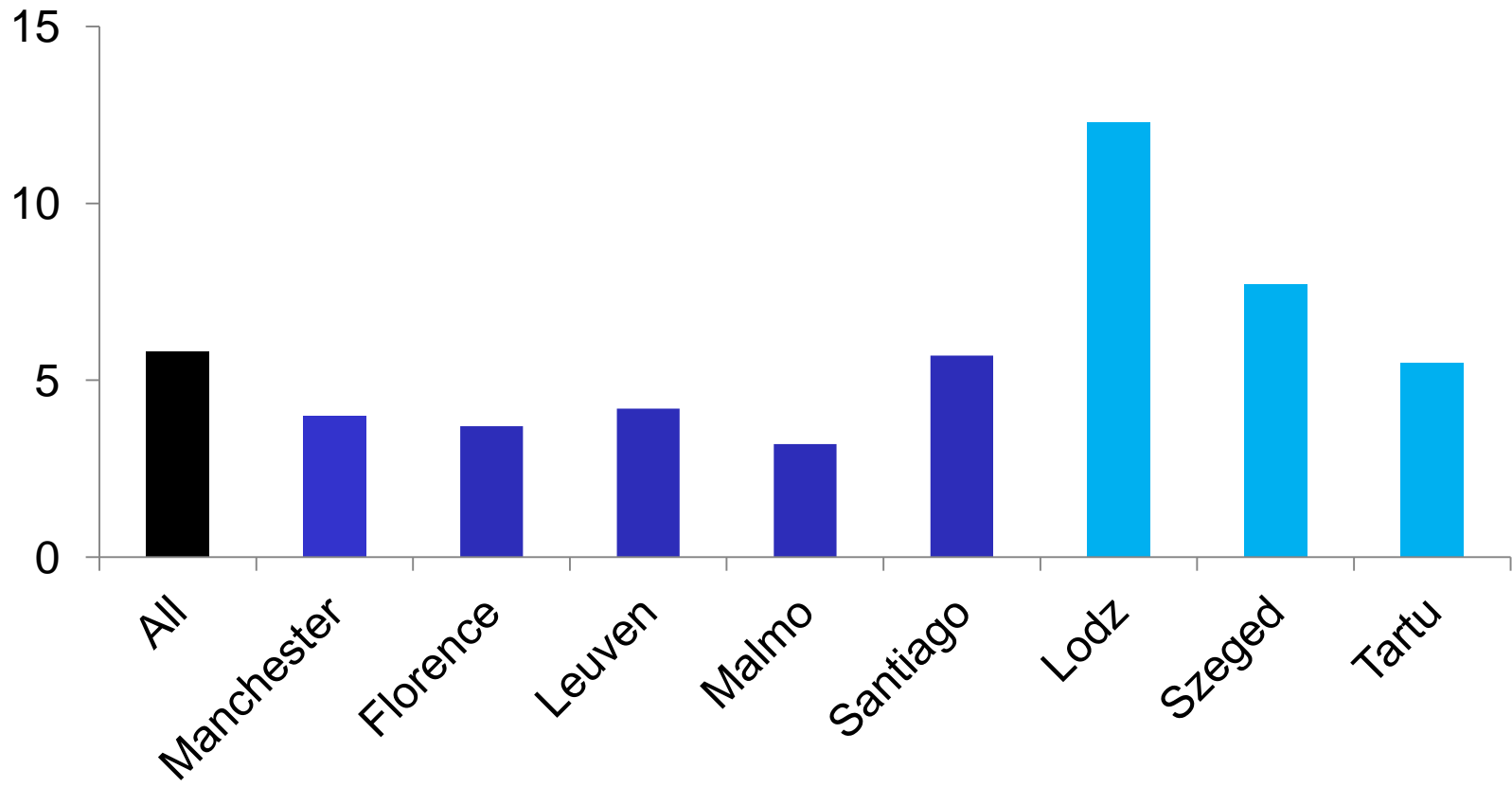
# Overall assessment of physical health (SF36) by centre



# Overall assessment of physical health (SF36) by age band



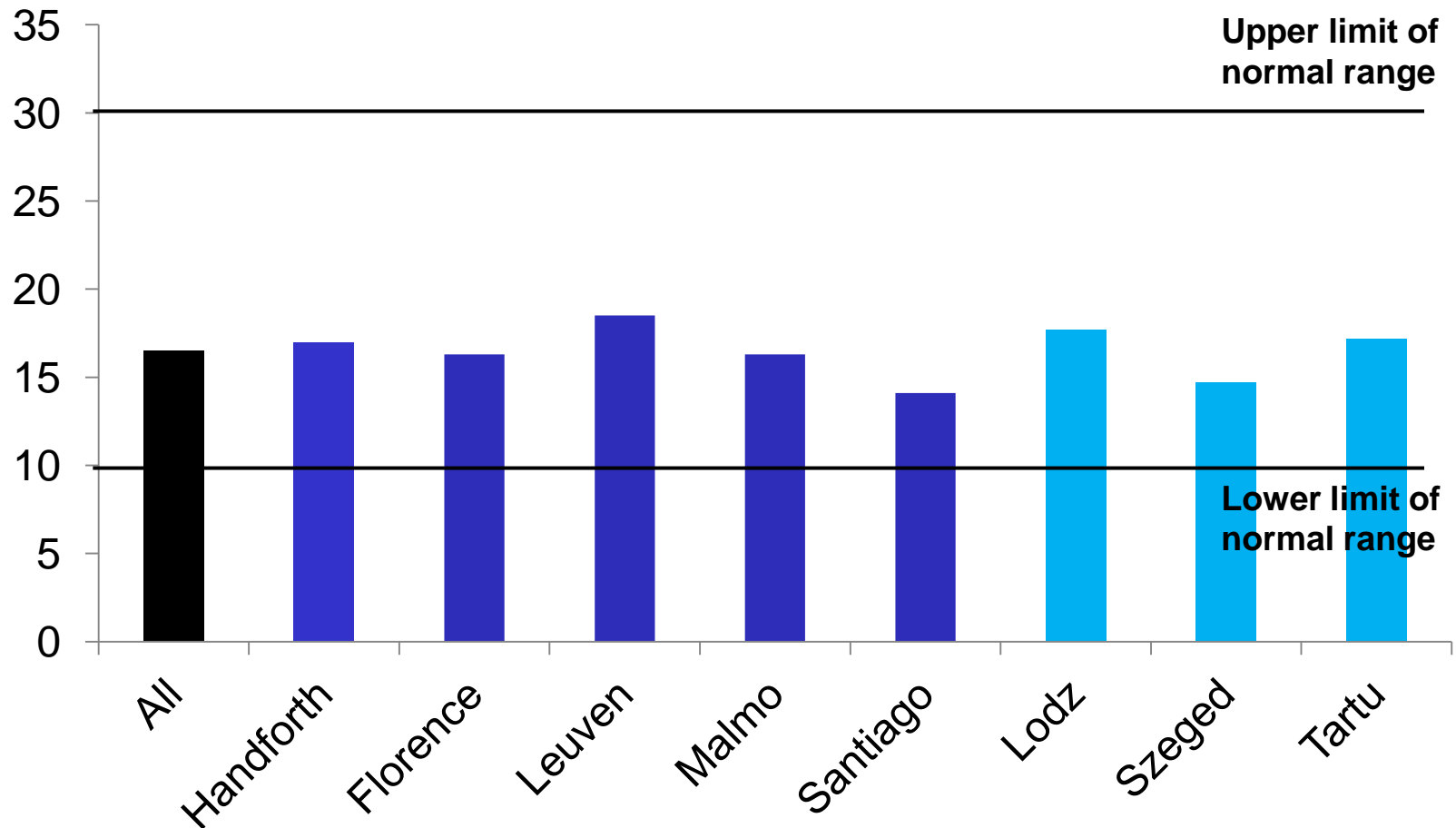
# Mortality rates (% of centre cohort)



# Summary of health indicators

- **Men in the transitional countries (Estonia, Poland & Hungary) Have markedly poorer health than the rest of the EMAS cohort**
- **Health declines with age**

# Testosterone (nmol/l) by centre



# Testosterone (nmol/l) by age band

