

# **The Global Alliance for Musculoskeletal Health**

**Bone and Joint Decade 2010 - 2020**

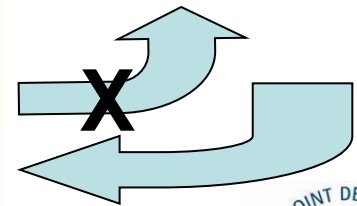
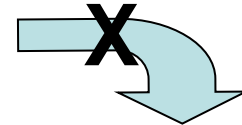


## **Impact of Musculoskeletal Disorders on Workplace Productivity**

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Royal Cornwall Hospital, Truro &  
University of Exeter Medical School  
Chair, Bone and Joint Decade 2010-20

# Work and Musculoskeletal Health

- Musculoskeletal conditions limit work capacity
  - eg osteoarthritis of the hip or knee prevents many people aged over 50 years working
- Work causes musculoskeletal disorders
  - eg heavy work causes back pain, repetitive work related to upper limb problems



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# Work-related Musculoskeletal Disorders

Major cause of work loss

Back pain

Shoulder pain

Capsulitis

Bursitis

Elbow pain

Medial epicondylitis

Lateral epicondylitis

Hand pain

Tenosynovitis

Most are chronic and only occur after exposure to work based risk factors over a period of time.



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# What effect do musculoskeletal conditions have?

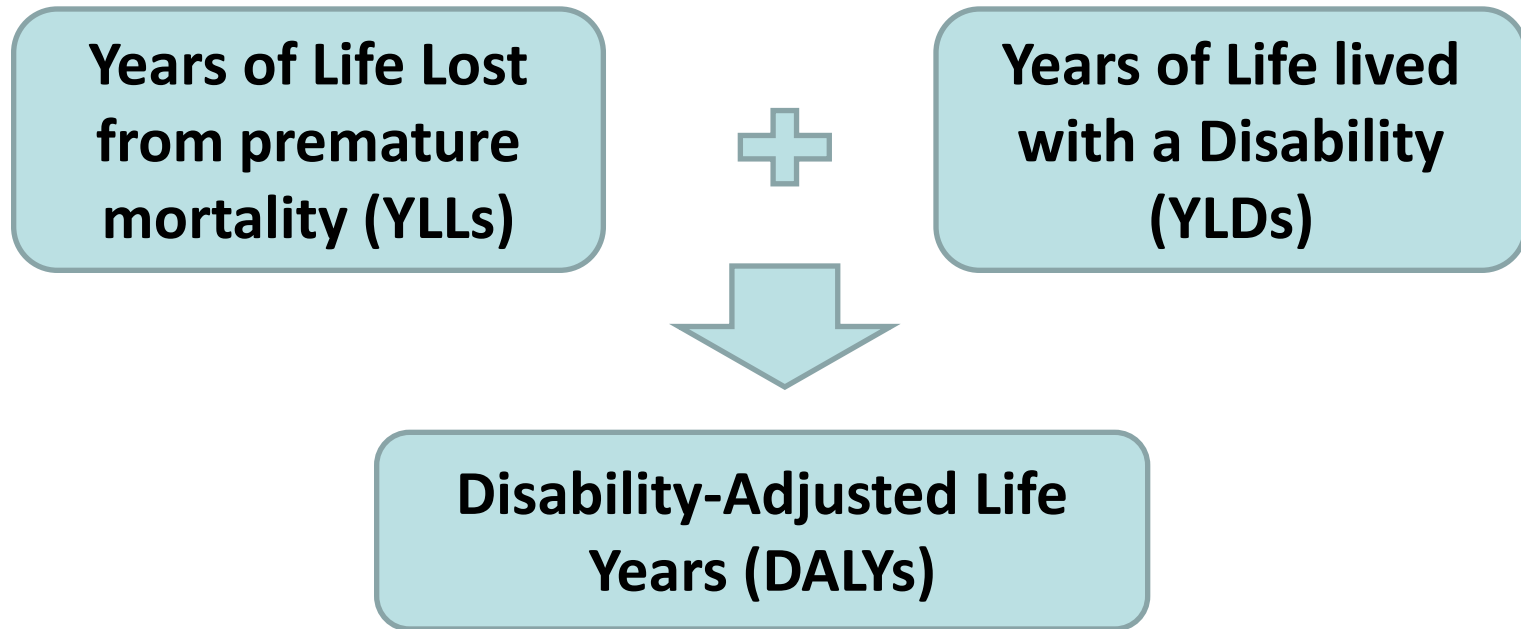
- Pain
  - Deformity
  - Disability
  - Quality of life
- 
- Loss of physical independence
  - Loss of economic independence



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# Global Burden of Disease 2010 Study: Summary measures used

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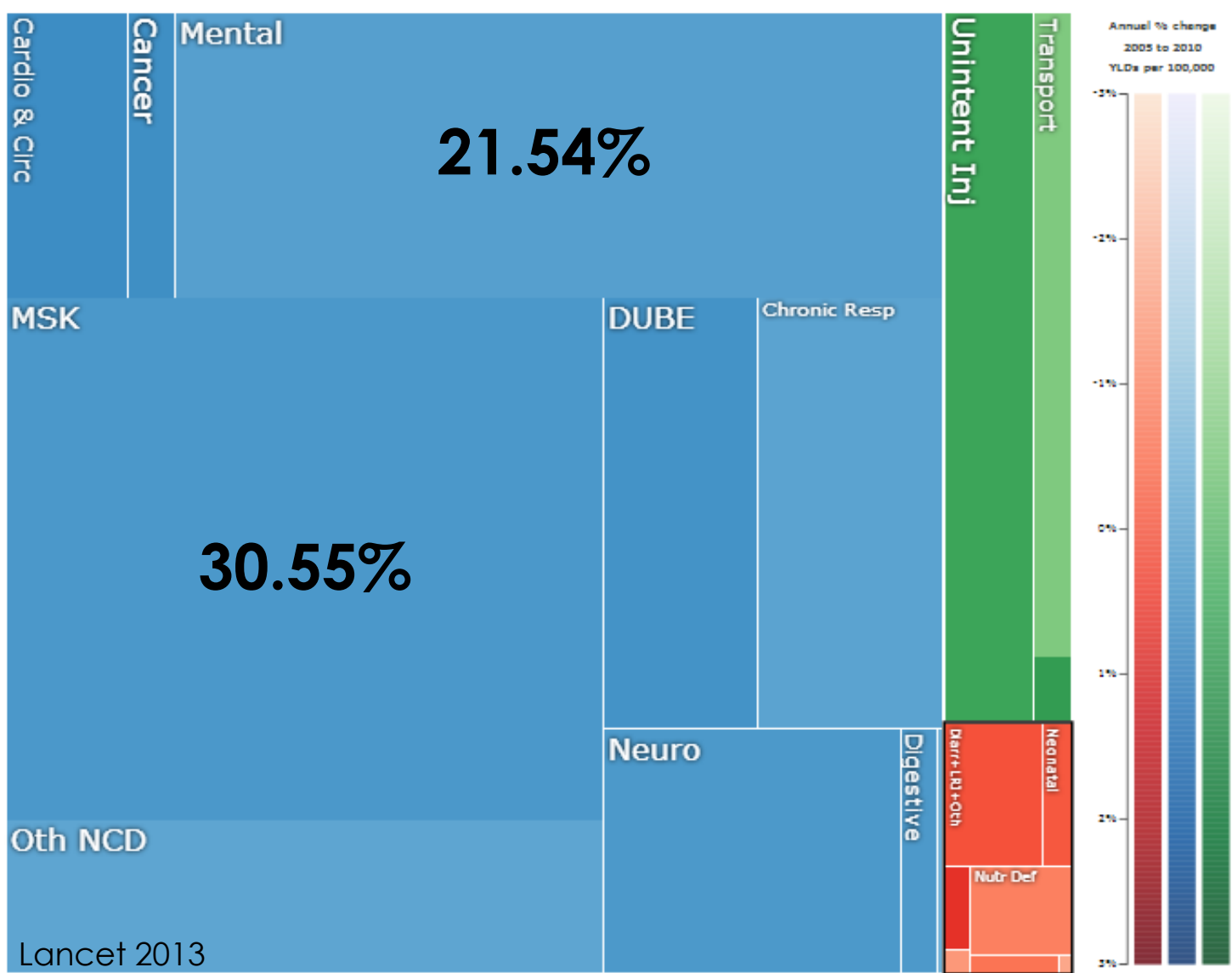


Disability Adjusted Life Years (DALYs) provide a ranking of how much death and disability each disease/condition causes



# Years Lived with Disability (YLDs) %: UK by cause, 2010

Musculoskeletal conditions are the greatest cause of disability



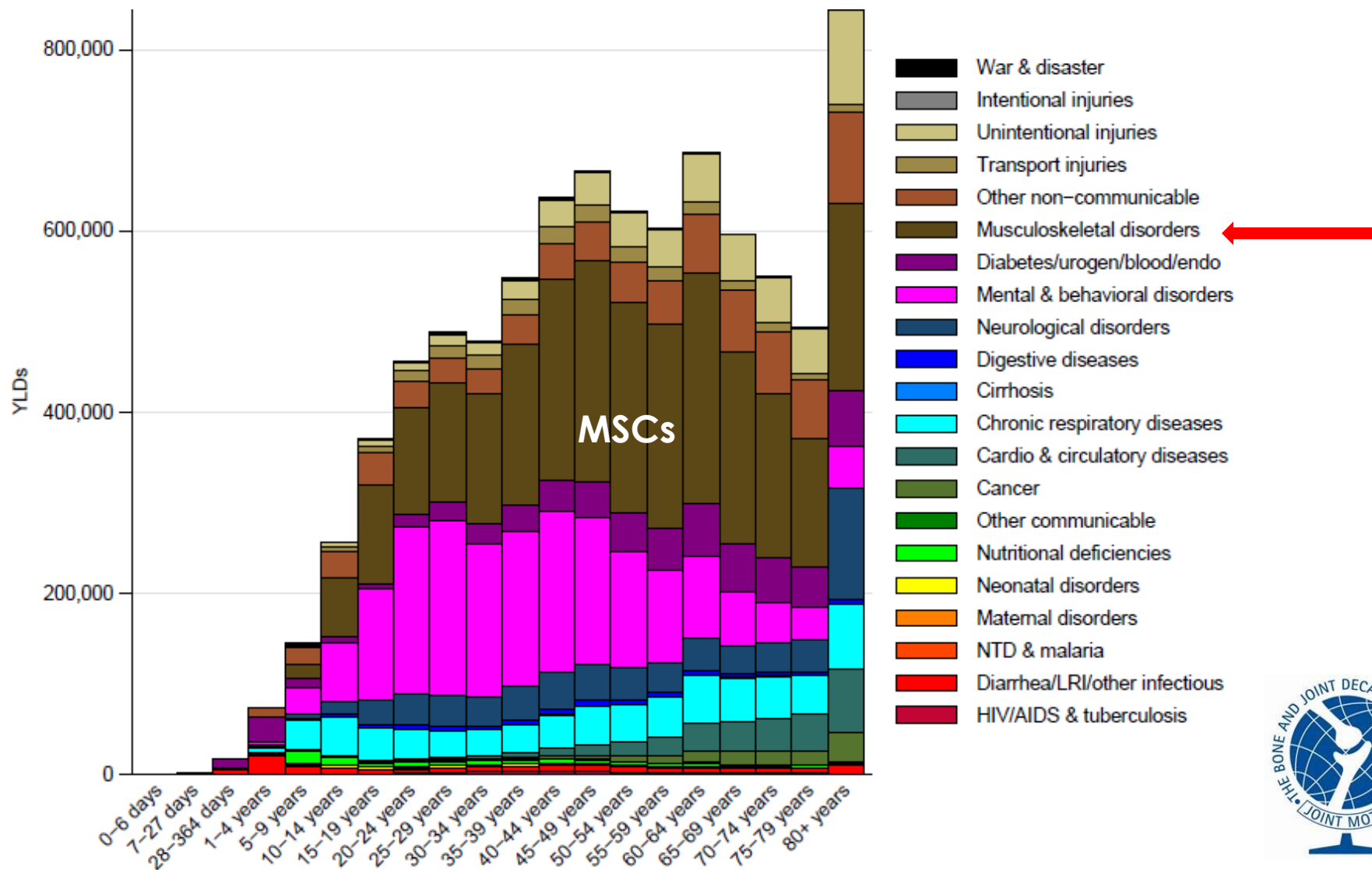


# Musculoskeletal conditions are the greatest cause of disability



# UK YLD's by Cause and Age, 2010

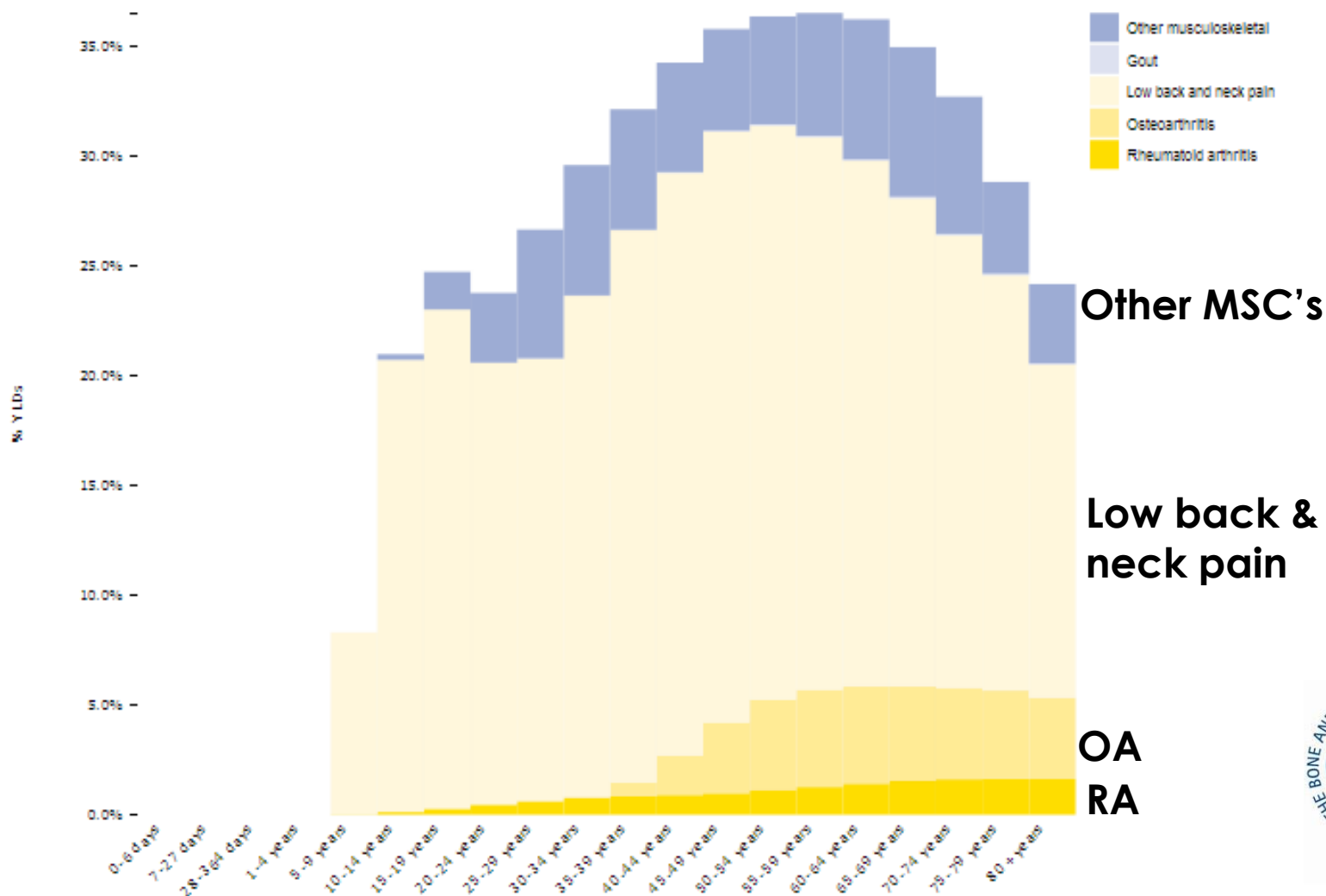
Musculoskeletal conditions are the greatest cause of disability, impacting on adults of all ages



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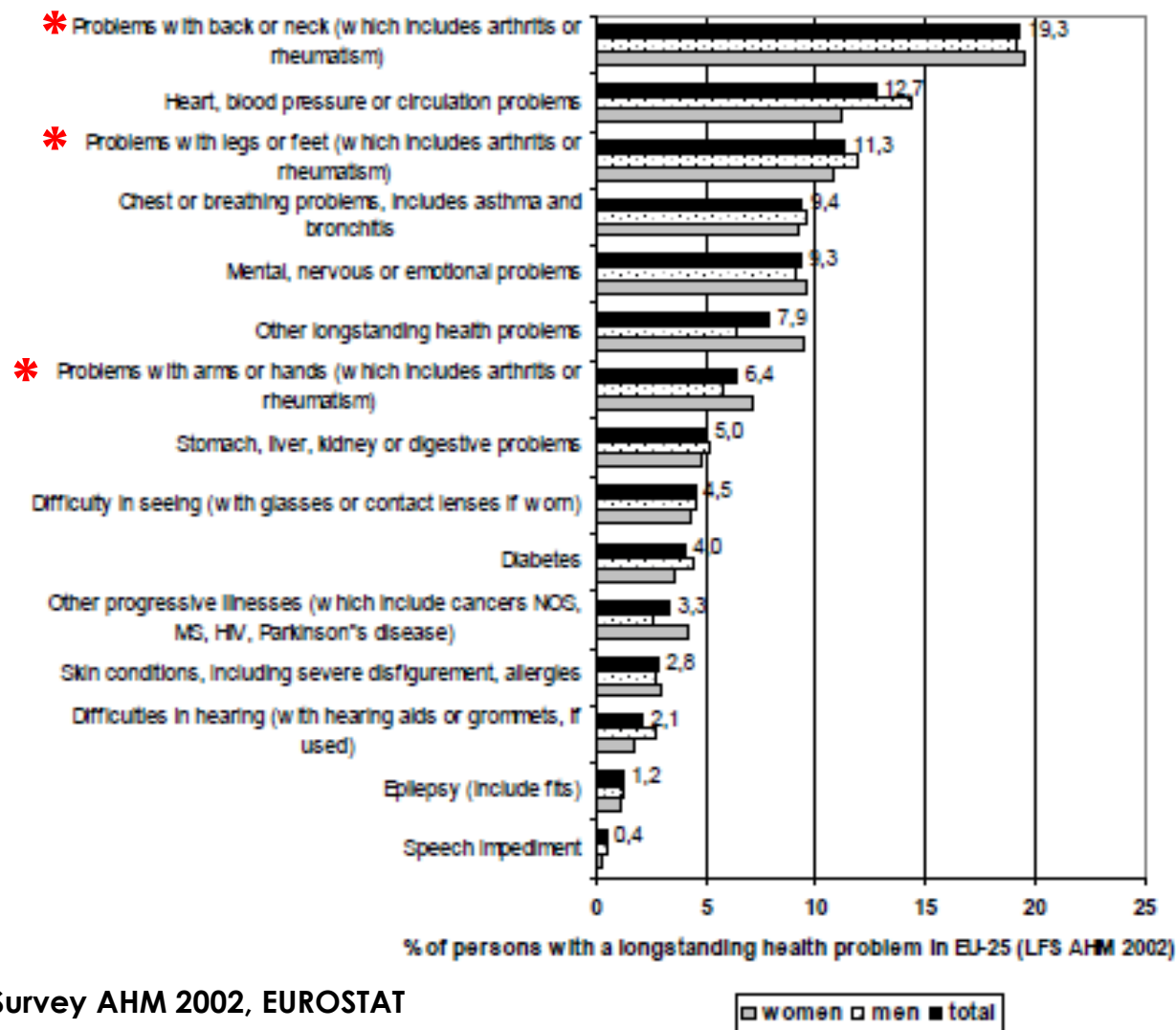
# Disability from specific musculoskeletal conditions in UK at all ages, 2010



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# Health in Europe of working age people

## Main health problem in people aged 15 – 64 yrs with a health problem in EU-25



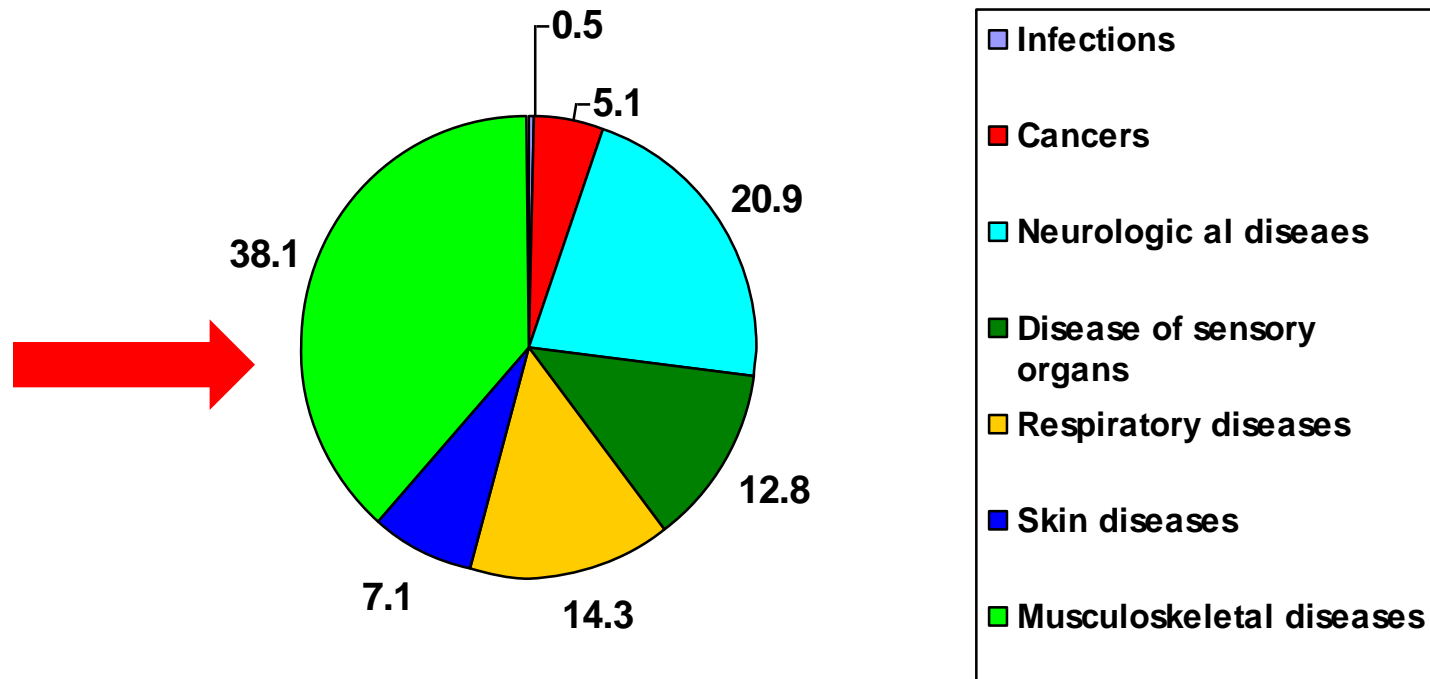
**Musculoskeletal problems most common main health problem in the EU working age population**



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# Musculoskeletal Disorders were 38% of occupational diseases in Europe in 2005

EODS proportion of occupational diseases 2005



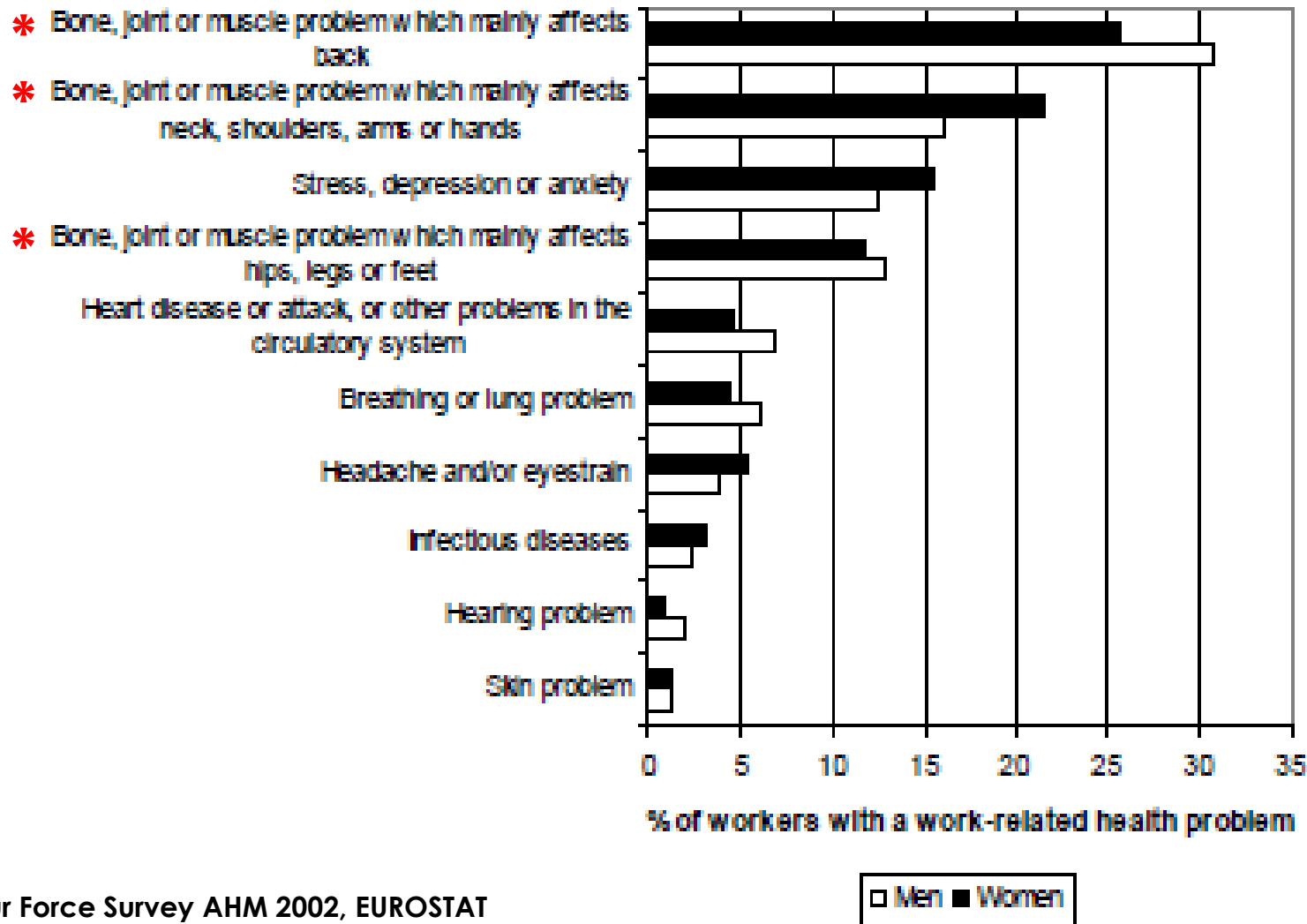
European Occupational Disease Statistics , 2005  
Occupational diseases recorded in 12 EU countries



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# Health in Europe of working age people

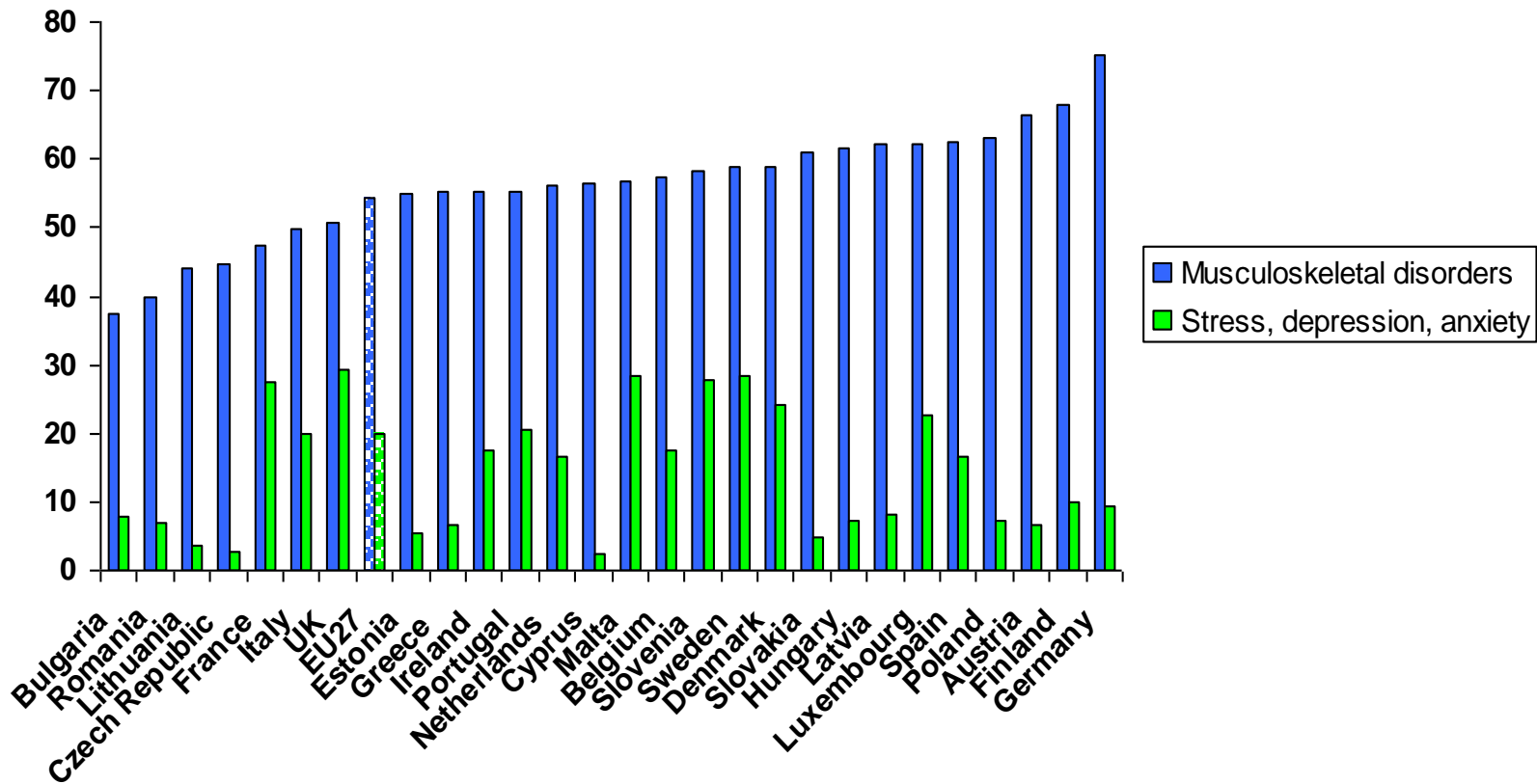
## Main work-related health problem in people that work or ever worked (men & women) in EU-25



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# Most serious work-related health problems in past 12 months

Percentage reporting most serious work-related health problem in past 12 months, 2007



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# Number of diagnoses, calculated incidence rates and associated sickness absence by broad diagnostic category of work-related ill-health

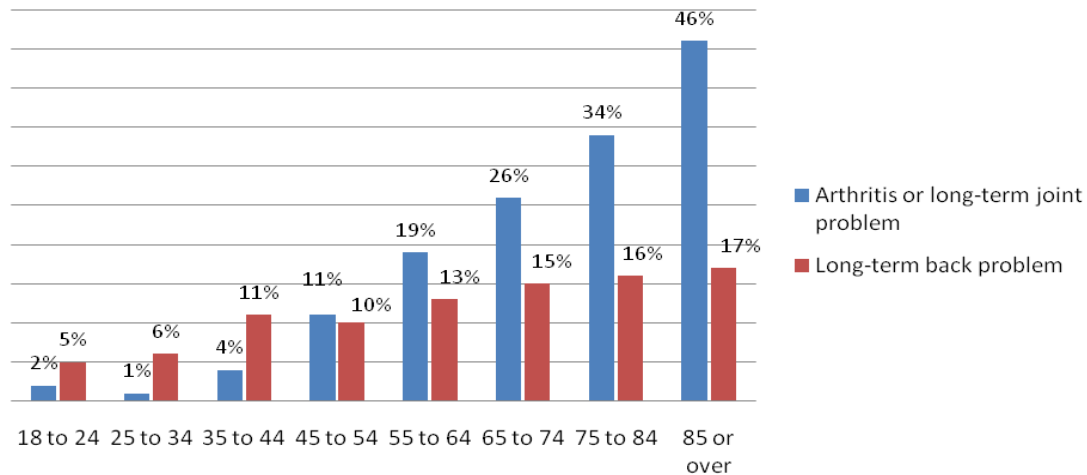
(Top level data from THOR-GP for 2009 to 2011)

	Estimated number of new diagnoses of work-related ill-health	% of total diagnoses	Incidence rate per 100,000 of working population	% of diagnoses issued with sickness certification	Estimated annual days certified sickness absence (millions)*	% of total days certified sickness absence
<b>Musculoskeletal</b>	2822	48	670	36	4.0	34
<b>Mental ill-health</b>	2208	38	493	68	7.0	58
<b>Skin</b>	567	9	132	15	0.3	2
<b>Respiratory</b>	102	2	24	36	0.2	2
<b>Audiological</b>	55	1	12	16	0.1	1
<b>Other diagnoses</b>	235	4	54	37	0.4	3
<b>Total diagnoses</b>	5915	100	1371	—	11.9	100
<b>Total cases</b>	5872	—	1355	46	11.6	—

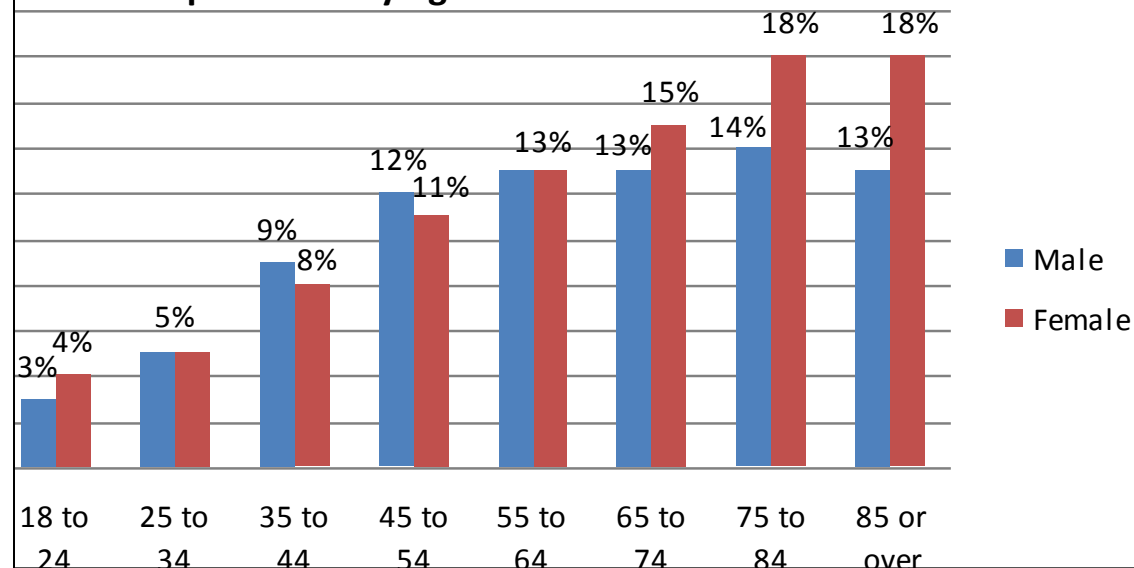


# Musculoskeletal problems in Cornwall

**Percentage of patients reporting arthritis/ joint problem or a back problem by age group  
Cornwall 2012-13**



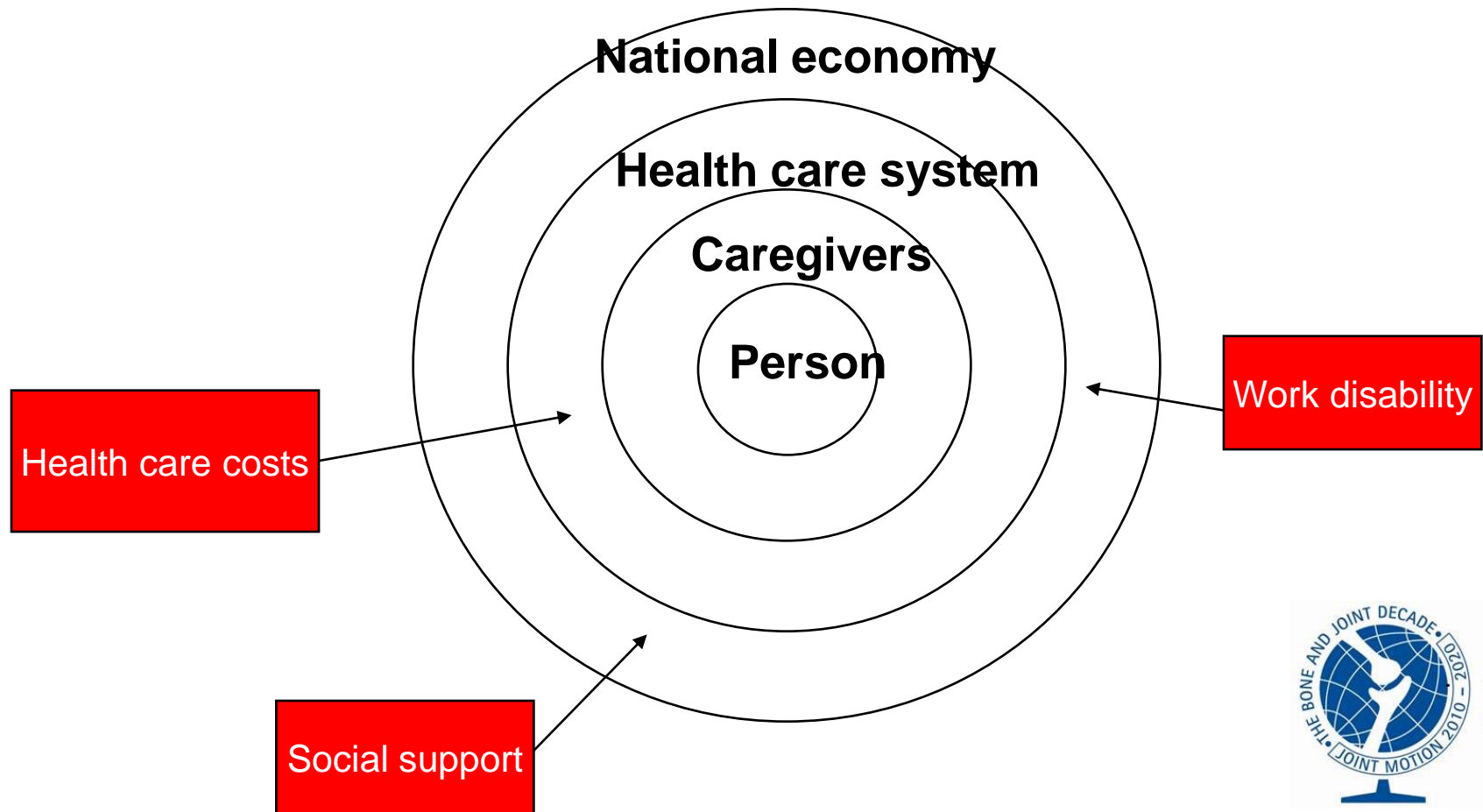
**Percentage of patients reporting long- term back problems by age and sex in Cornwall 2012-13**



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# The impact

- the financial consequences



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# Impact on work



Impact can be described in terms of:

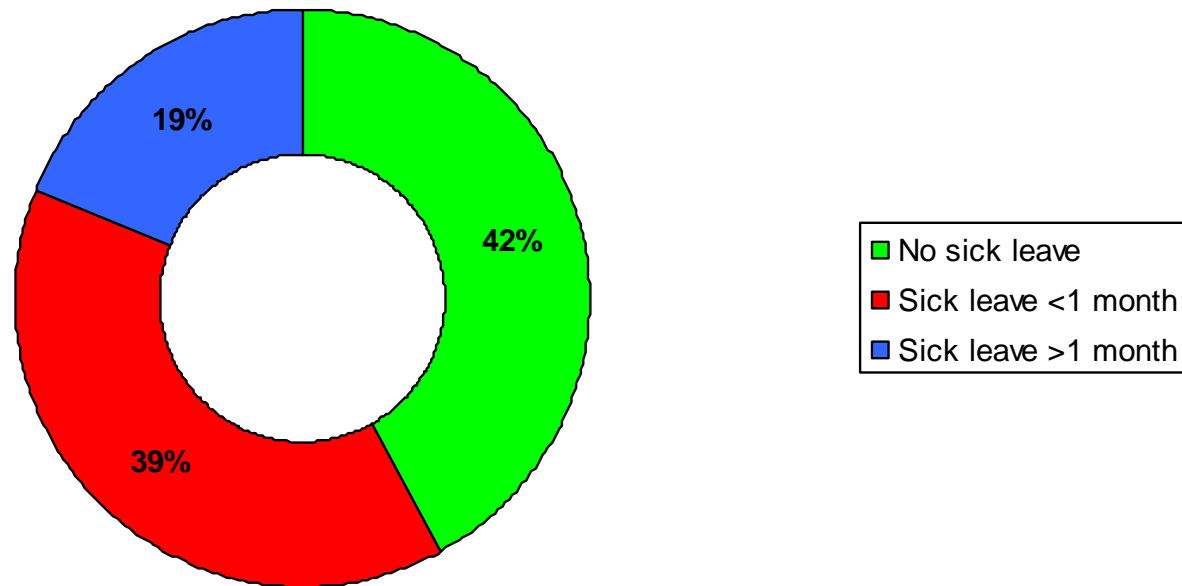
- Absenteeism
  - missing part or whole days from work (e.g. number of days/hours off work)
- Presenteeism
  - an individual remains in work but with difficulty or reduced efficiency/productivity.
- Work disability
  - ceasing to work before retirement age



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# Sick leave in those with work related musculoskeletal problems

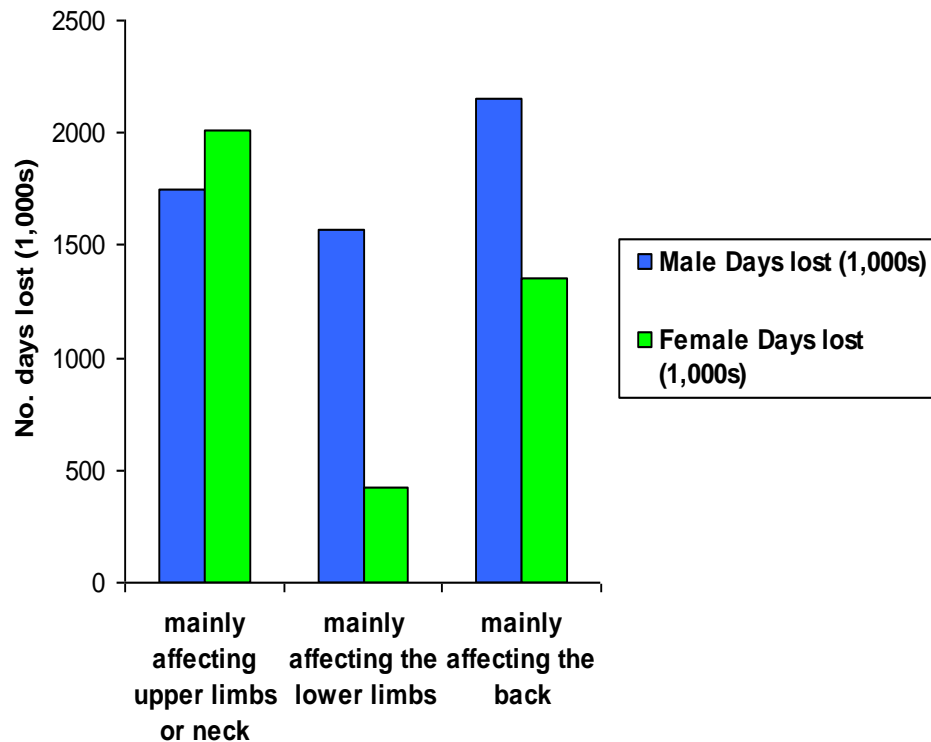
**Sick leave in those reporting work related musculoskeletal health problems in past 12 months, employed workers, EU27 2007**



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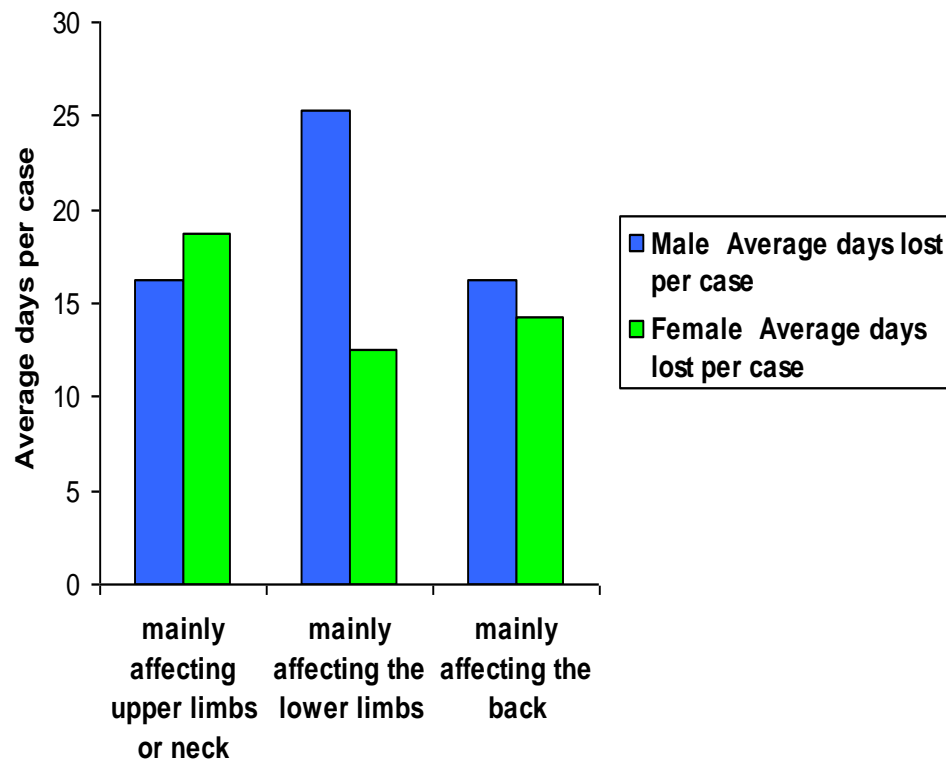
# Work loss due to MSDs in UK 2009-10

Work loss due to MSC UK 2008-9



Number of days lost

Work loss due to MSC UK 2008-9



Average days lost per case

# Lost work days due to MSDs – data from national statistical offices

## Percentage of sick leave days attributed to MSD's

•Austria	2007	24%
•Belgium	2008	40%
•Finland2007	33%	
•Romania	2007	22%
•Slovenia	2006	19%
•UK	2009	33%

## Number of work days lost per annum due to MSDs (millions)

•Austria	2004	7.7
•France	2006	7.0
•Slovenia	2006	2.47
•UK	2009	9.3





# Sickness absence in Cornwall

- Data from two of the largest employers indicate that back pain is a major cause of sickness absence
- For major healthcare provider 1,859 days were taken off sick with musculoskeletal problems in the year ending 2011 at a cost of £103,075 - approximately 55 percent of these were back problems.
- At another large employer (manual and sedentary work) 117,364 days were lost due to sickness absence in the year 2011/12. It is estimated that nearly 0.8 days a year per employee are lost to back problem due to sickness absence.



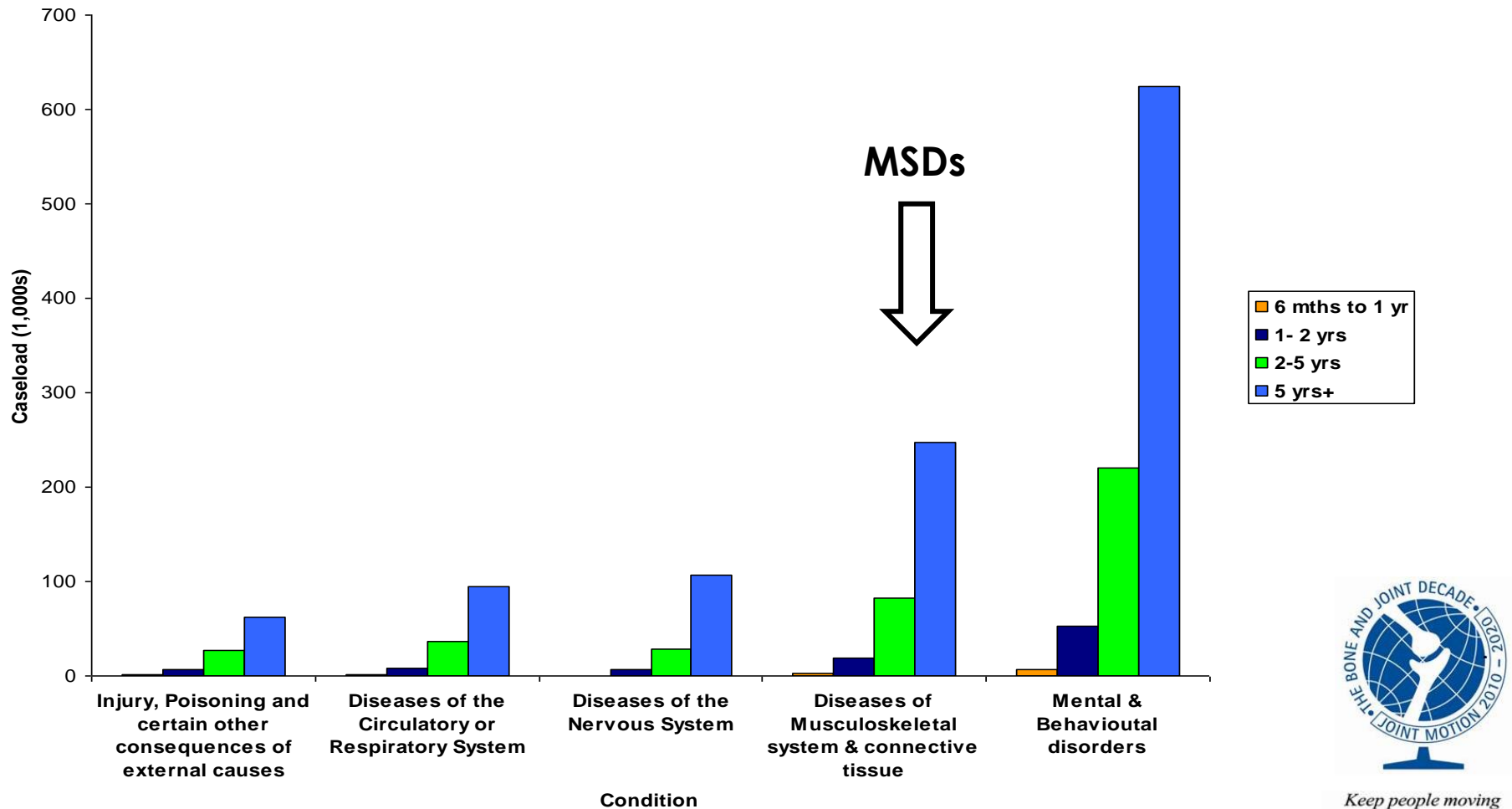
# Work limitation (presenteeism)

- During a 2-week period
  - 13% of total workforce experienced loss in productive time due to a common pain condition.
  - Most common pain conditions resulting in lost productive time
    - Headache 5.4%
    - Back pain 3.2%
    - Arthritis pain 2.0%
    - Other MSK pain 2.0%
  - The majority (76.6%) of lost productive time explained by reduced performance while at work and not work absence.  
(Stewart et al 2003)
- Individuals with neck , shoulder or arm pain reported lost productivity while at work of up to 36%  
(van den Heuvel et al. 2007)



# Duration of incapacity benefit claim by condition England, Scotland & Wales 2010

## Incapacity benefit caseload working age by duration of claim ES& W 2010



# UK Disability Living Allowance (DLA)

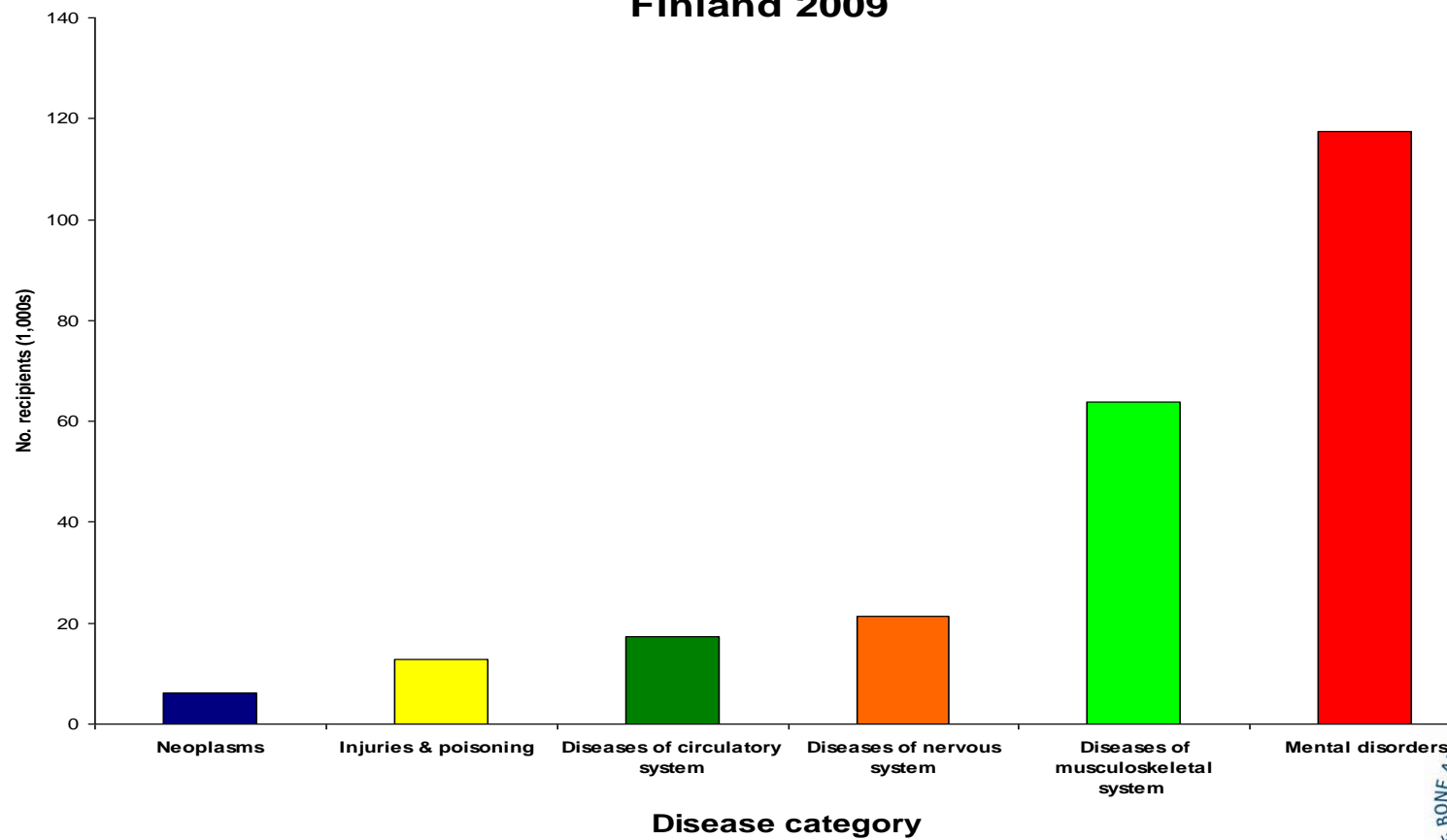
- a benefit for people who are so disabled as to have personal care needs and/or mobility needs and who claim before their 65th birthday.
- In 2010 38% of those claiming DLA were doing so because of musculoskeletal conditions.



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# Disability pension by main diagnosis Finland

**Recipients of disability pensions top 6 main diagnosis  
Finland 2009**



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# Work related problems by sociodemographic factors, occupation

- Low educated workers reported work-related problems more often and more likely to report MSDs as the most serious work-related problem.
  - In those with low educational level with a work-related health problem MSD was the main problem in 68% .
  - In those with high educational level this was 44%.
- MSD most often reported as the main work related health problem in manual workers and lowest in highly skilled non-manual workers.

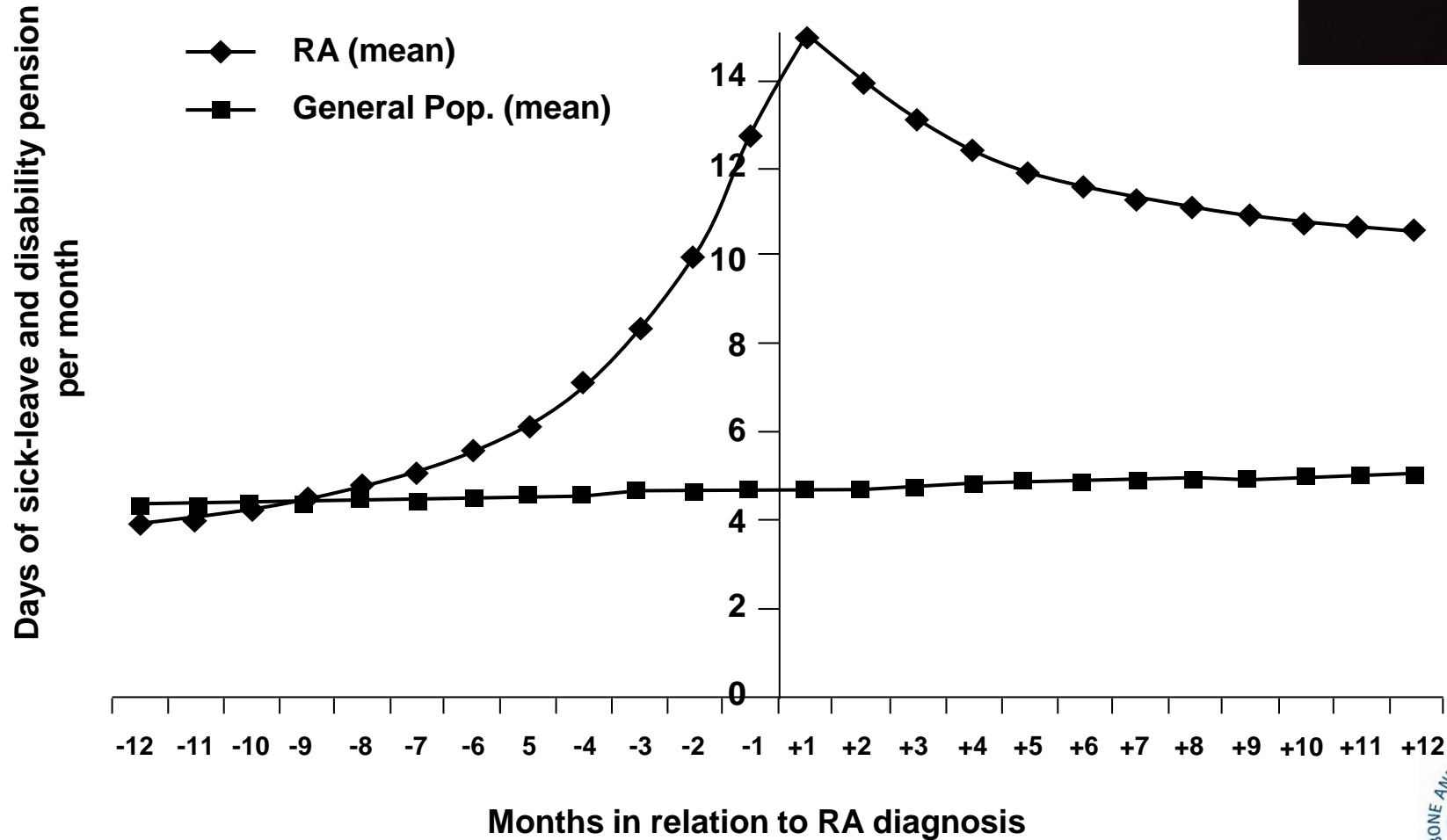


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# Impact of Rheumatoid Arthritis on work

Days on sick-leave and disability pension before and after diagnosis



Patients diagnosed 1999-2007; n=3029. General population comparators matched 5:1 on age ( $\pm 1$  year), sex, education level and country. RA, rheumatoid arthritis.



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# Costs and course of disease and function in early rheumatoid arthritis in Sweden.

- Indirect costs over 3 years due to lost productivity
  - The mean annual indirect costs were
    - € 8 871 in the first year
    - € 8 539 in the second year
    - € 8 837 in the third year
  - While direct costs decreased, indirect costs were mainly unchanged.  
This pattern was similar for both women and men
- Indirect costs were calculated for subjects of working age (18–65 yr), using the human capital approach, estimating the value of lost production during the entire period of work absenteeism, assuming full productivity.



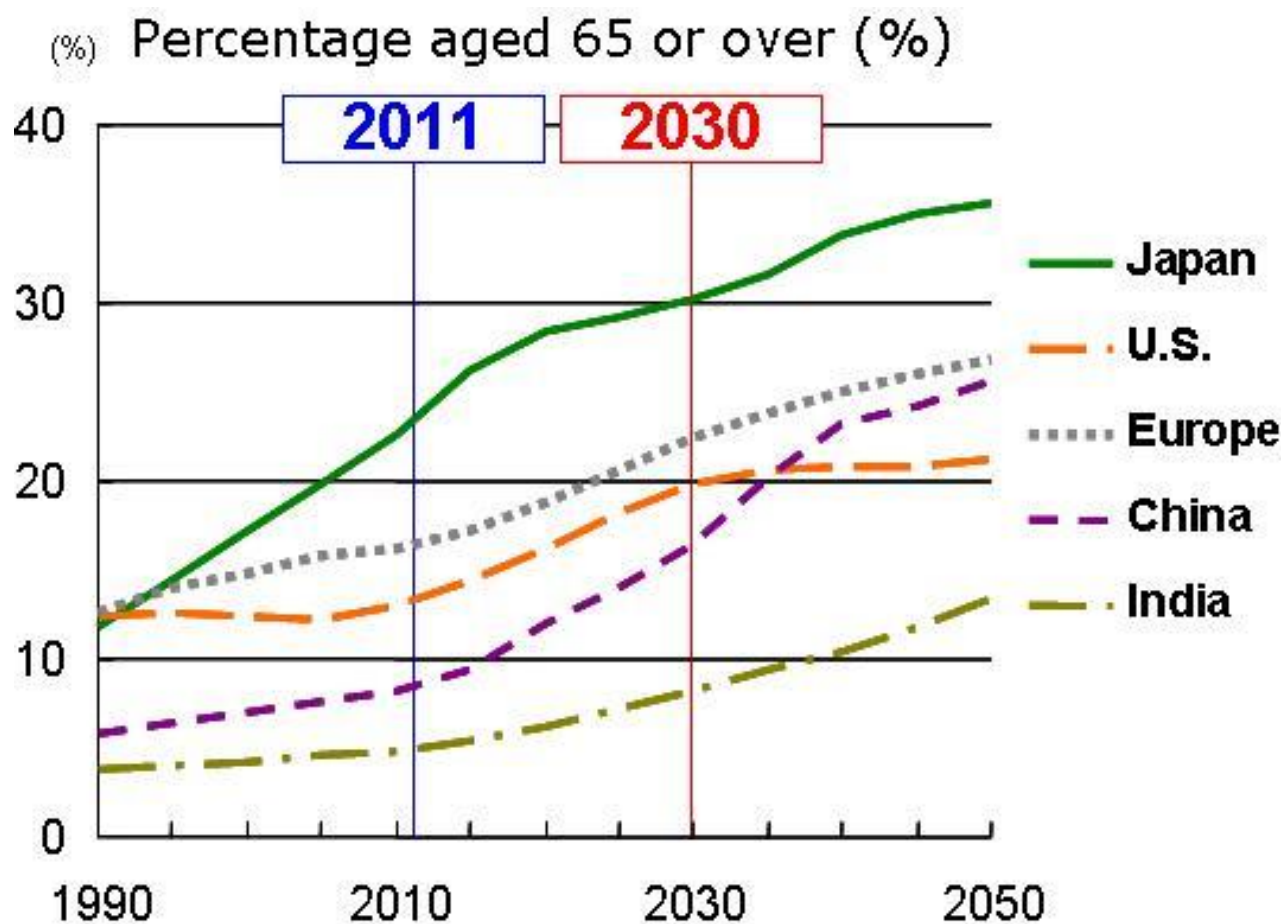
# The needs of society

- Being economically productive and independent throughout life
- Extending working lives because of increasing life expectancy



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# Ageing of the population



Source: United Nations, World Population Prospects: The 2010 Revision

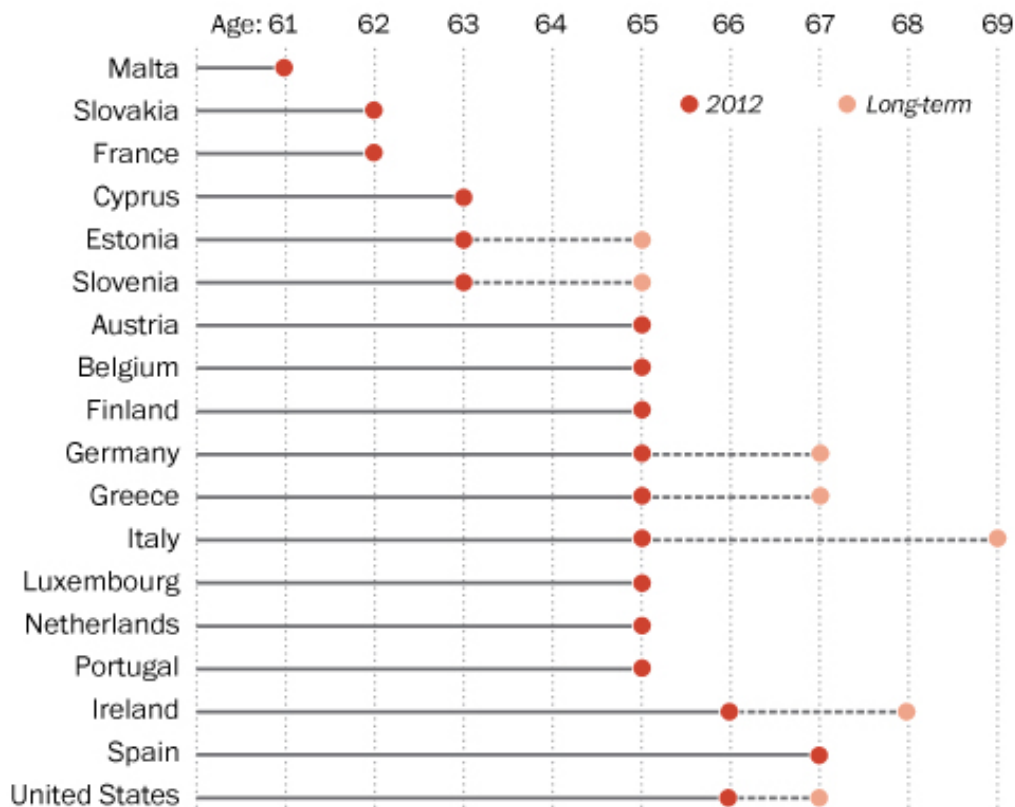


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# We are going to have to work for longer

**Government retirement ages, current and long-term**



Note: Four countries have lower retirement ages for women, with Malta and Austria at 60 years, Slovenia at 61 and Italy at 65.

Sources: Government pension agencies, Organization for Economic Cooperation and Development. The Washington Post.



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# Musculoskeletal Health in the Workplace

## A BONE AND JOINT DECADE INITIATIVE

- How do we enable people to have full and productive working lives despite musculoskeletal problems (work related and non-work related).



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# Musculoskeletal Health in the Workplace

## A BONE AND JOINT DECADE INITIATIVE

1. Maintain physical capacity
2. Prevent MSDs and workloss associated with them
  - identification and modification of risk factors for MSDs in the workplace - ergonomic and psychological interventions
  - balancing work capacity of the employee with the workload of the working environment - work organisation and management attitudes
3. Preventing workloss due to musculoskeletal disorders (work-related) or conditions (not work-related).
  - access to early interventions
  - ways to reintegrate people into the workplace



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# Promoting musculoskeletal health in the workplace

- Promoting a bone and joint healthy lifestyle

- Physical activity
- Avoiding obesity



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- Challenge

- Getting recognition that musculoskeletal health can be improved through a lifestyle approach and that musculoskeletal conditions can limit the ability to keep physically fit



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# A healthy workplace

- A healthy workplace is one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well-being of all workers and the sustainability of the workplace by considering the following, based on identified needs:
  - health and safety concerns in the physical work environment;
  - health, safety and well-being concerns in the psychosocial work environment, including organization of work and workplace culture;
  - personal health resources in the workplace;
  - and ways of participating in the community to improve the health of workers, their families and other members of the community.



# Cost benefit studies that support tackling musculoskeletal disorders



- Ergonomic interventions (eg designing task, the equipment, organisational context of work) reduce risks of MSD's (specific case examples given in the report).
- Need to demonstrate that good practice in tackling MSD's can prevent them and benefits business financially
- Business owners, shareholders and managers need to be persuaded that business investment will provide a good return on investment and increasingly will form an integral part of meeting their social responsibility.



# Promoting Musculoskeletal Health in the Workplace

## A “train the managers” programme

### A Bone and Joint Decade Initiative

- a training programme for managers to enable them to understand and meet the needs of employees
- delivered to managers by a partnership of an occupational health professional and an employee who has had experience of a musculoskeletal problem that has affected their ability to work.
- programme developed to meet the needs of employers, managers and employees and evidence-based
- tailored to meet the needs of different workplaces.



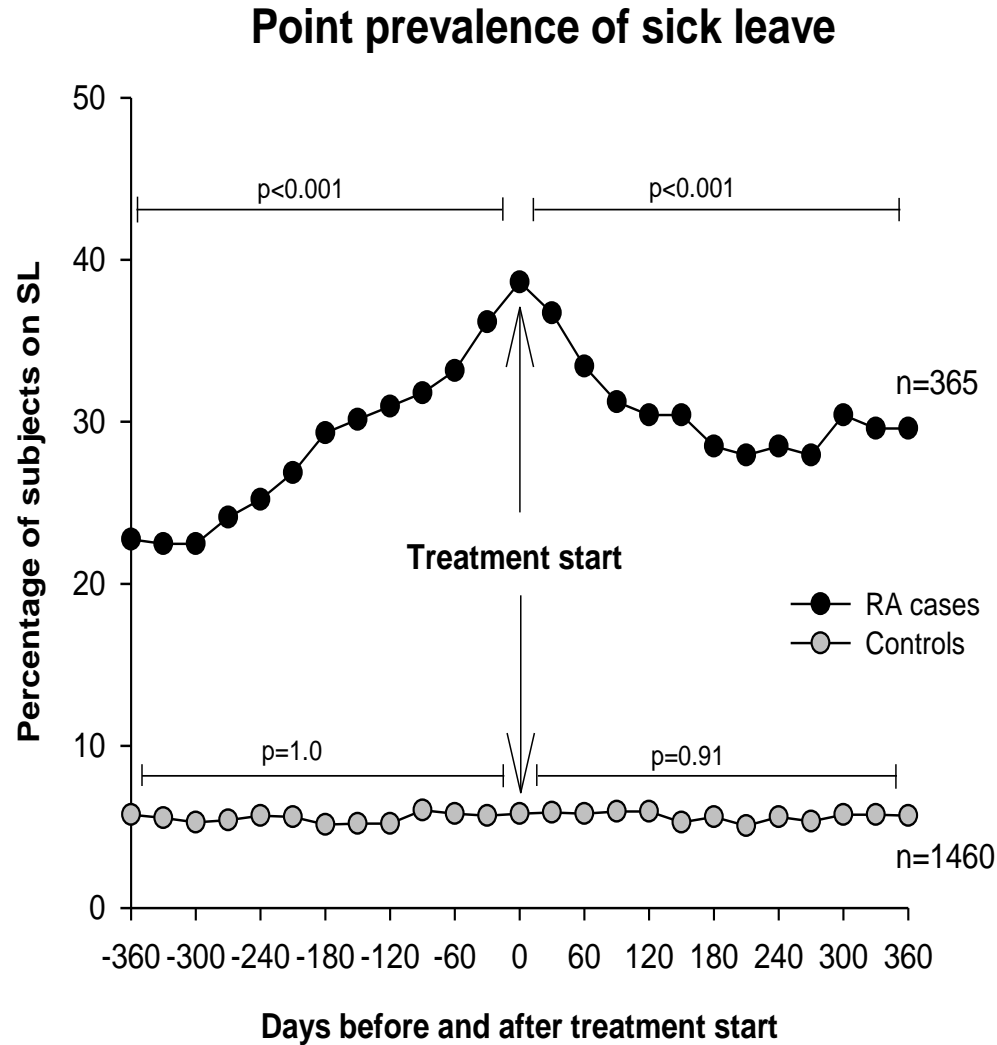
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  - access to early interventions
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# Reduction in sickleave with antiTNF therapy in Sweden



# What is needed from healthcare

- Work needs to be a clinical outcome, a therapeutic goal
- Recognition that the longer off work, the greater the challenge to return to work.
- Inclusions of work in assessing cost-effectiveness of health interventions
- Early access to evidence based cost effective interventions



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# Cost savings and benefits to employers of preventing MSD's

Two main forms: savings made by avoiding the costs of MSDs; and benefits accrued through increased productivity.

## Costs of MSD's

- Instances of musculoskeletal sick leave and their duration
- Ratio of personnel on sick leave because of MSDs before and after
- Staff turnover
- Compensation claims
- Reduced working time leading to reduced productivity on certain tasks because of the risk of MSDs or excessive fatigue

## Benefits to be considered

- Greater output over a given time period
- Reduced wastage of raw materials (occurring for example when personnel were able to work more efficiently because the task had been designed around operator capabilities)
- Higher quality output – fewer mistakes in better designed jobs
- Savings in wage costs from jobs which were made less manually intensive



**The Bone and Joint Decade is a global alliance of professional, scientific and patient organisations working together promoting musculoskeletal health and musculoskeletal science worldwide**

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