



SIP

Societal Impact of Pain

2017

Structured Cooperation
between Health Care
Systems tackling the
societal impact of pain!

Musculoskeletal Pain:
incidence, prevalence and
impact on healthy ageing

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Global Alliance for Musculoskeletal Health
of the Bone and Joint Decade

&

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University of Exeter Medical School

Disclosure Statement of conflict of interest in the context of the subject of this presentation



Within the past 12 months, I or my spouse/partner have had following financial interest/arrangement(s) or affiliation(s)

- **Support for travel** ..as invited speaker..
- **Honoraria for lectures**None.....
- **Honoraria for advisory board activities**None.....
- **Participation in clinical trials**None.....
- **Research funding**None.....
- **Financial shares and options**None.....
-

Musculoskeletal conditions - the unmet need

- Musculoskeletal conditions are common in all countries and cultures
- Greatest cause of disability worldwide
- They are a major burden and cost to health and social care
- Often prevent people being economically independent
- There are now effective ways of preventing and controlling musculoskeletal conditions and their symptoms but these are not being implemented with equity
- BUT there is a lack of policies and priorities for musculoskeletal conditions and investment in prevention, treatment, education and research



There is enormous unmet need and avoidable disability



Keep people moving

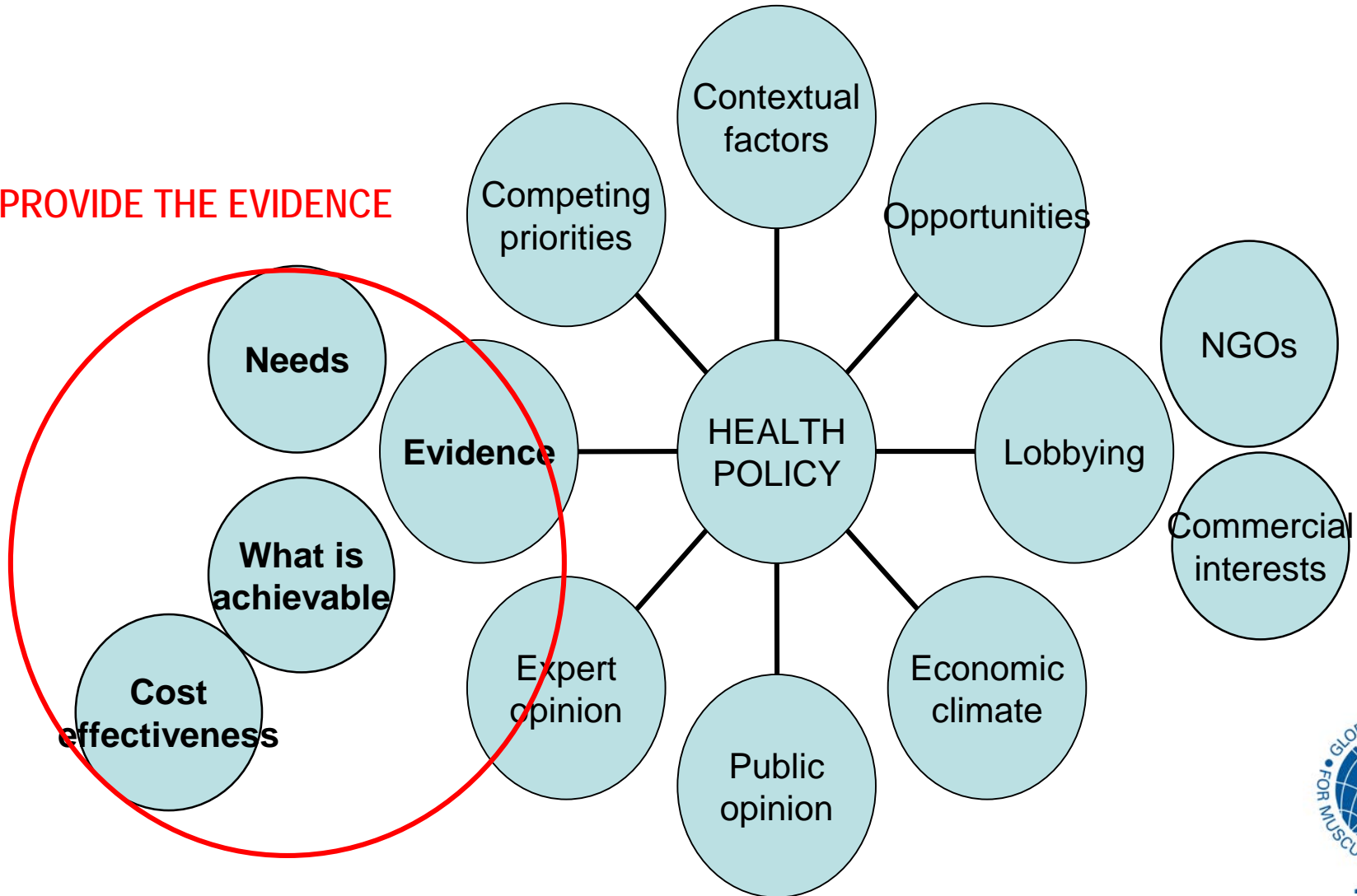
Why?

- Lack of awareness by policy makers, non-expert health workers and public about the impact of pain and musculoskeletal conditions and what can be achieved by prevention and treatment
- Beliefs and expectations about pain, disability, ageing and coping
- Lack of medical education and competency about pain and musculoskeletal conditions
- Care is provided by a range of professionals and disciplines and we do not work well enough together



Factors that influence health policy

PROVIDE THE EVIDENCE

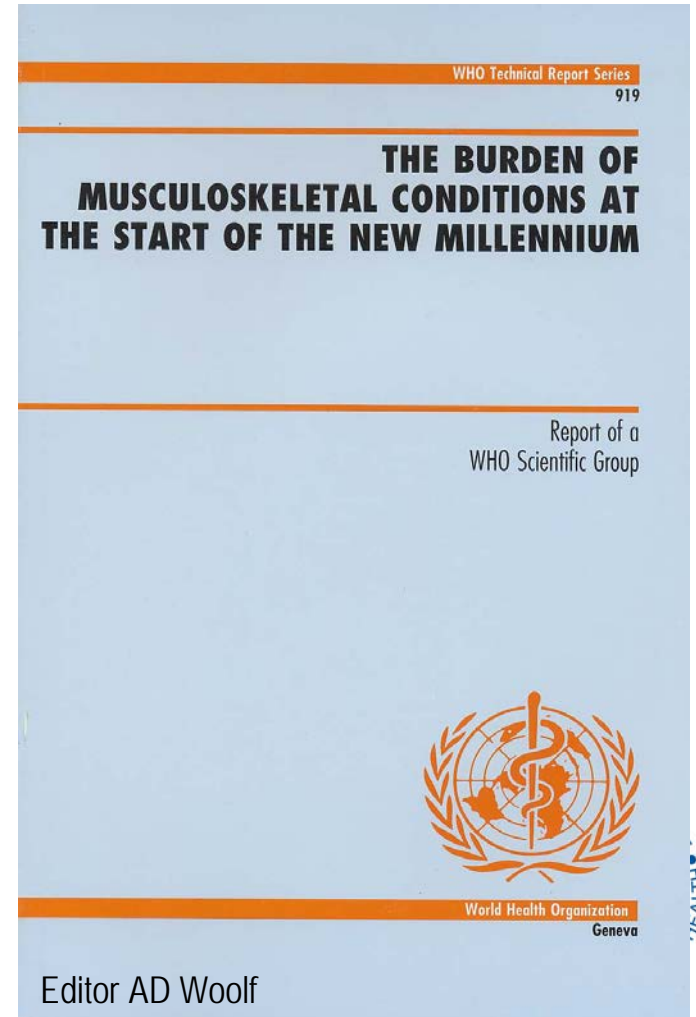


Keep people moving



The global burden of musculoskeletal conditions

- emphasis on identifying the full impact of musculoskeletal conditions since the launch of the Bone and Joint Decade in 2000, leading to the publication of the WHO Report on the “Burden of Musculoskeletal Conditions at the Start of the New Millennium (WHO TRS 919, 2003)
- 2010 full revision of the Global Burden of Disease included for the first time **all** musculoskeletal conditions. Estimates made for 1990 and 2010 and are being regularly updated (2013, 2015.....)



Musculoskeletal Health in Europe 2012

Slide set of key facts also available

Driving musculoskeletal health for Europe



Musculoskeletal Health in Europe 2012



Musculoskeletal Health in Europe 2012

MEDs (in million)

The work days lost	3.7
	3.8
	3.47
	9.3

Safety and Health at Work, 2010, OSH in the EU - Facts and Figures, Luxembourg

[Musculoskeletal.org/press.htm](http://musculoskeletal.org/press.htm)

working days were lost through work-related ill health and

to work-related ill health and

to work-related ill health Survey 2009/10 UK



39%

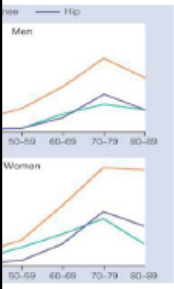
are accounted for by conditions mainly 3.5 million days and 3.7 million days

138

Musculoskeletal Health in Europe 2012

to estimate because of its gradual progressive of a new case. Therefore there is little data. It developed countries, that 1 in 10 of the significant clinical problems that can be and females the incidence of osteoarthritis so 70-79 age group. The incidence of is with women experiencing particularly high

and, hip, and knee osteoarthritis by



Men

Women

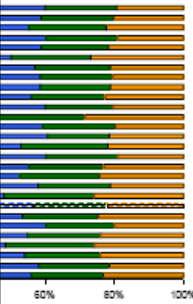
to compare because of differences in age group or similar age groups and using radiographic was 9.90 % in the Netherlands and 3.8% in prevalence rates for osteoarthritis of the hip, ch were derived from data collected in the project (GBD 2010).

19

Musculoskeletal Health in Europe 2012

serious work related disorder by

et serious work-related disorder ge, 2010



15-24
25-34
35-44
45-54
55-64

60% 80% 100%

et al/health/health_safety_work/data/da

Men more often and were more likely to Hem. In 68% of those with low educational the main problem. For those in the high 44%. With the exception of Bulgaria, proportion of those reporting HSD is countries those with tertiary education t often reported as the main work related orted in highly skilled non-manual

49

Musculoskeletal Health in Europe 2012

Age group	Female average days
	13.5
	97.1
	106.5

Figures: Work related Survey 2010.

in MSC in the UK the gender lost days. This was

MSC UK 2009-10 by

Age group

age days

ing to which cases the first before acute

146

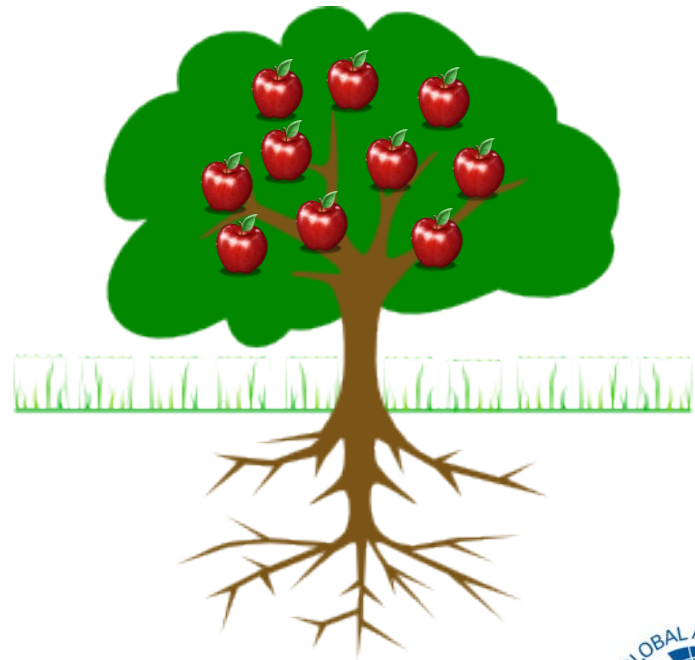


Driving musculoskeletal health for Europe

The musculoskeletal system is the roots and trunk of the tree

It gives us mobility, dexterity and agility and enables us to walk, run, stand, sit, lift and carry

We must value it and look after it because



Keep people moving

The musculoskeletal system is the roots and trunk of the tree

It gives us mobility, dexterity and agility and enables us to walk, run, stand, sit, lift and carry

The fruit throughout the lifecourse is general health and wellbeing, fitness, activities of daily living, work and economic independence



Keep people moving

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Keep people moving

Spectrum of Musculoskeletal Conditions

Many chronic or recurrent; characterised by pain and physical disability, seldom fatal

- Joint diseases
 - Osteoarthritis
 - Rheumatoid arthritis
 - Gout
 - Infections
- Systemic connective tissue disorders
- Back pain
- Musculoskeletal pain
- Osteoporosis and low trauma fractures
- Bone infections
- Trauma
- Injuries (occupation, sports) and more.....



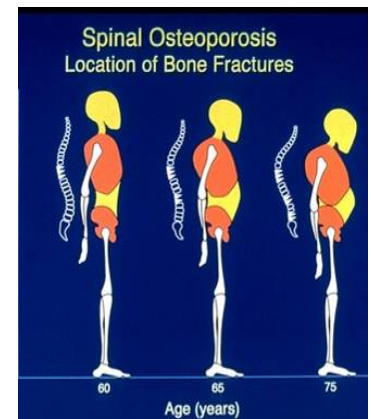
ARTHRITIS



BACK PAIN



INJURIES & TRAUMA

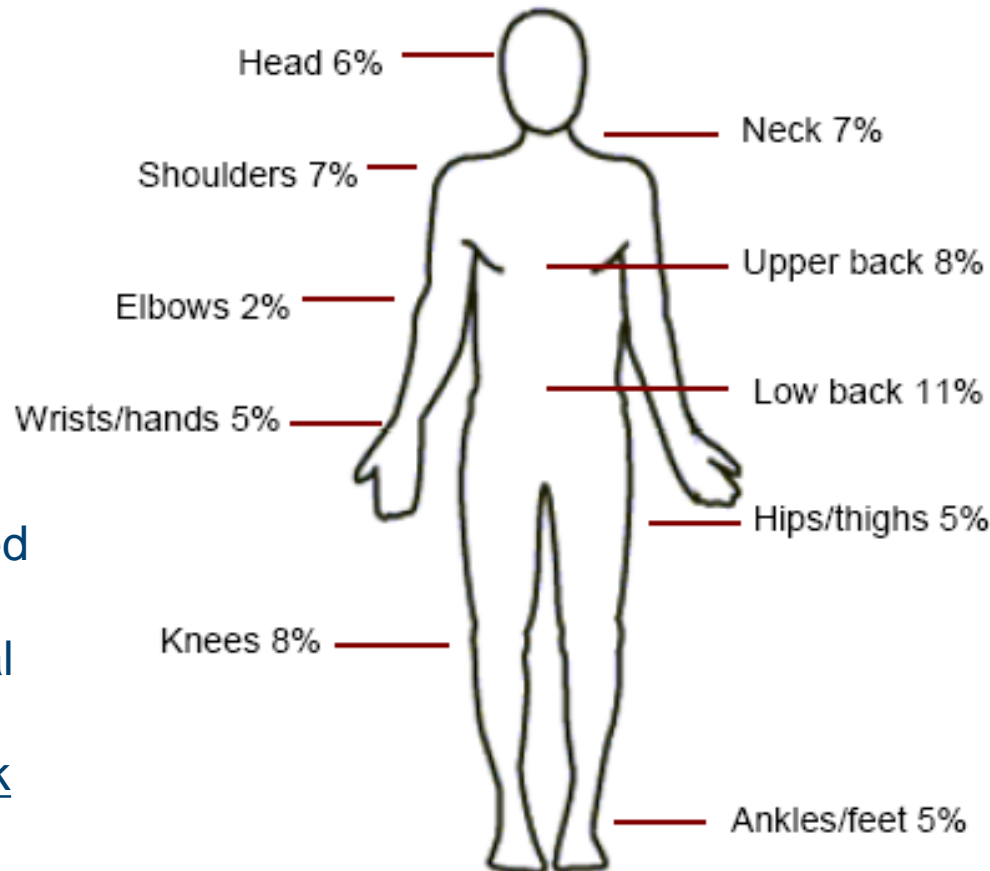


OSTEOPOROSIS

1 in 3 experience musculoskeletal pain restricting activities of daily living

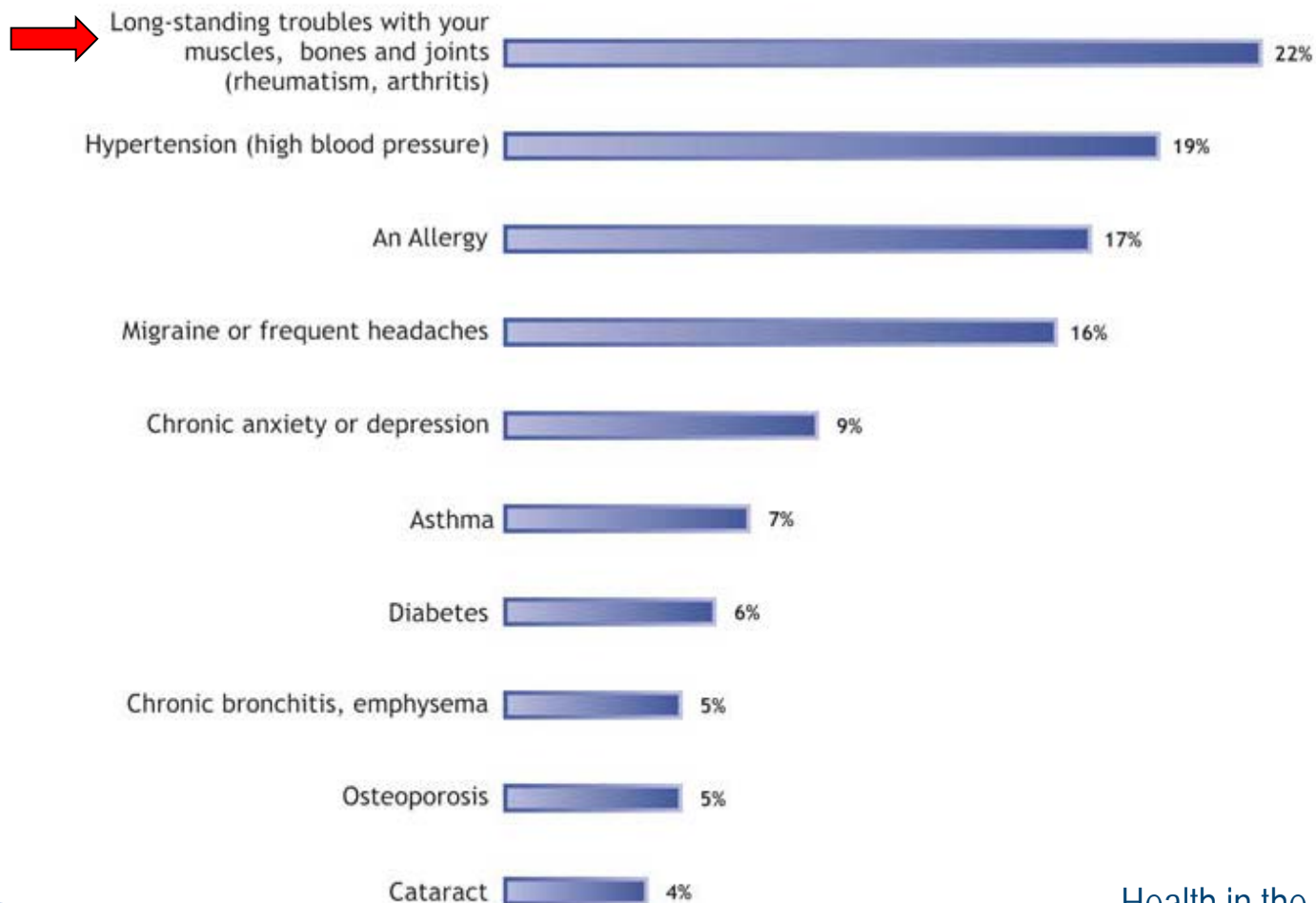
Locations of pain restricting daily activity

(% of total sample saying pain in location restricted activity in week preceding interview)



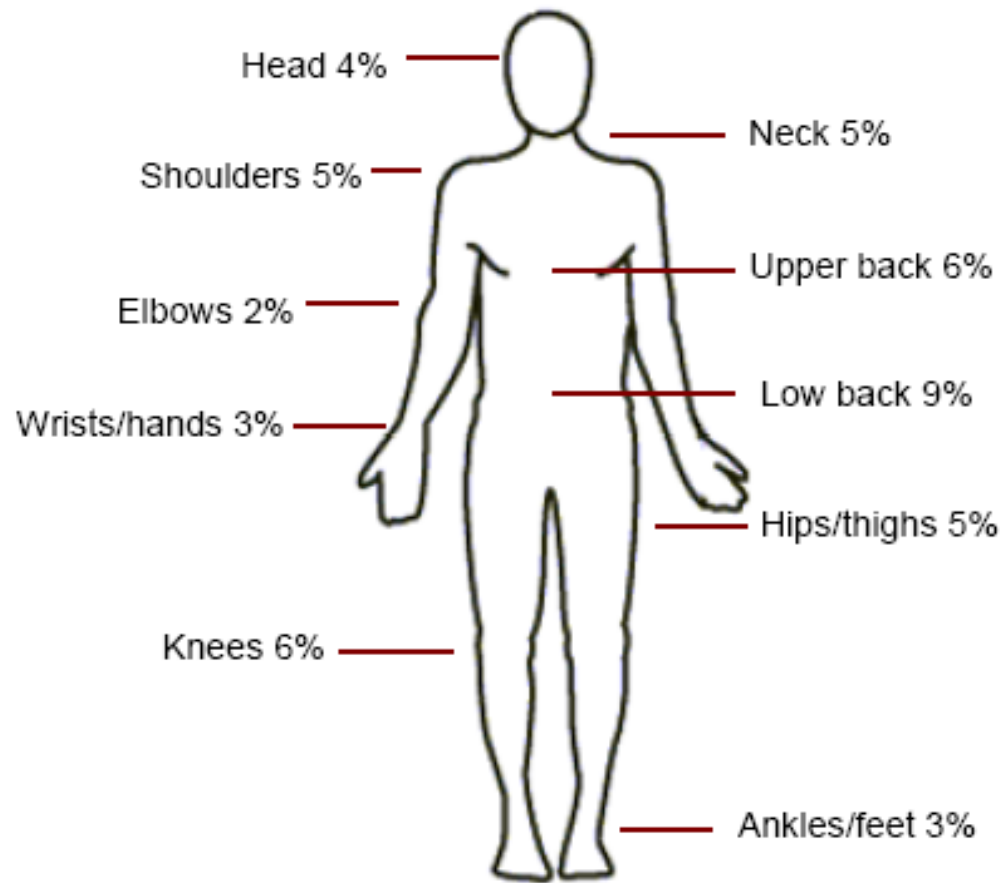
32% experienced activity-limiting musculoskeletal pain in the preceding week

22% of the population in Europe currently had, or had experienced “long-term muscle, bone and joint problems such as rheumatism and arthritis”



1 in 4 adults in Europe have experienced **chronic** restrictive musculoskeletal pain at some point in their life

Locations of chronic pain restricting daily activity
(% of total sample saying they have experienced pain in location for 3 months or longer)



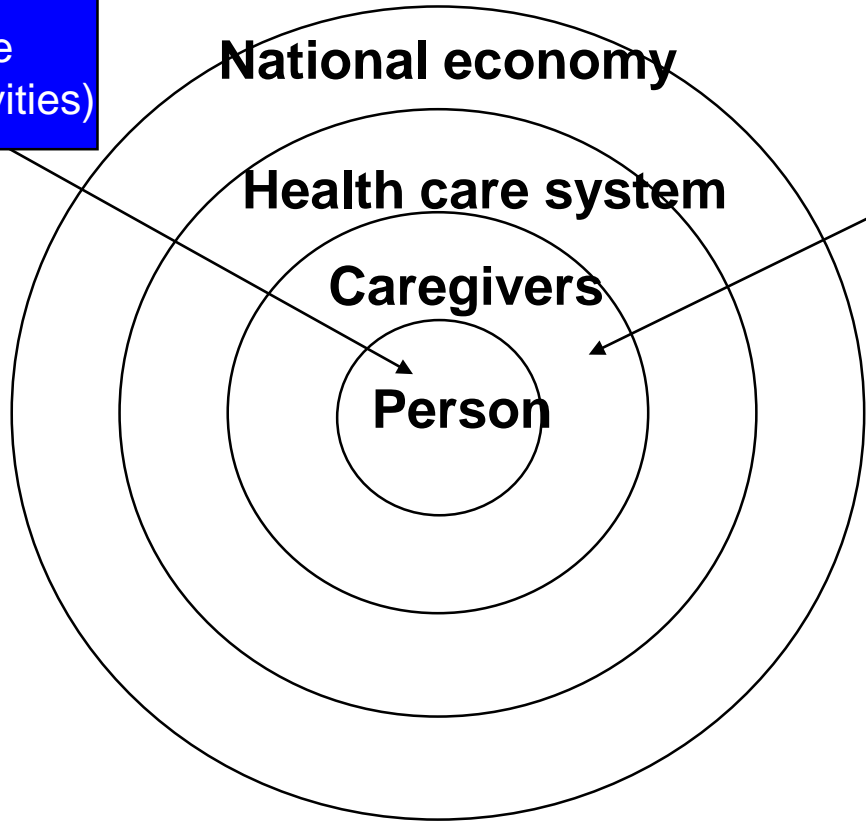
The impact

- the human and financial consequences



Lower quality of life
(pain, restriction of activities)

Caregiver time



Keep people moving

World Health Survey: Proportion of respondents reporting difficulties on 16 domains of functioning

	None	Mild	Moderate	Severe	Extreme
Mobility					
Moving around	64.8	16.5	11.4	5.9	1.3
Vigorous activity	50.7	16.0	13.3	10.3	9.7
Self-care					
Self-care	79.8	10.7	5.9	2.6	1.0
Appearance, grooming	80.4	10.7	6.0	2.2	0.9
Pain					
Bodily aches and pains	45.2	26.3	16.8	9.5	2.2
Bodily discomfort	49.2	24.9	16.1	8.0	1.8
Cognition					
Concentrating, remembering	61.5	20.0	11.8	5.5	1.3
Learning	65.6	17.3	9.8	4.7	2.5
Interpersonal relationships					
Participation in community	76.8	13.1	6.6	2.4	1.2
Dealing with conflicts	74.4	14.4	6.7	3.0	1.5
Vision					
Distance vision	75.4	11.6	7.1	4.3	1.6
Near vision	76.3	11.9	7.0	3.8	1.0
Sleep and energy					
Falling asleep	60.9	18.9	10.0	6.6	1.6
Feeling rested	57.2	22.1	13.1	6.2	1.4
Affect					
Feeling depressed	56.1	22.5	12.9	6.6	2.0
Worry, anxiety	51.2	22.9	14.0	8.3	3.6

World Health Survey: Proportion of respondents reporting difficulties on 16 domains of functioning

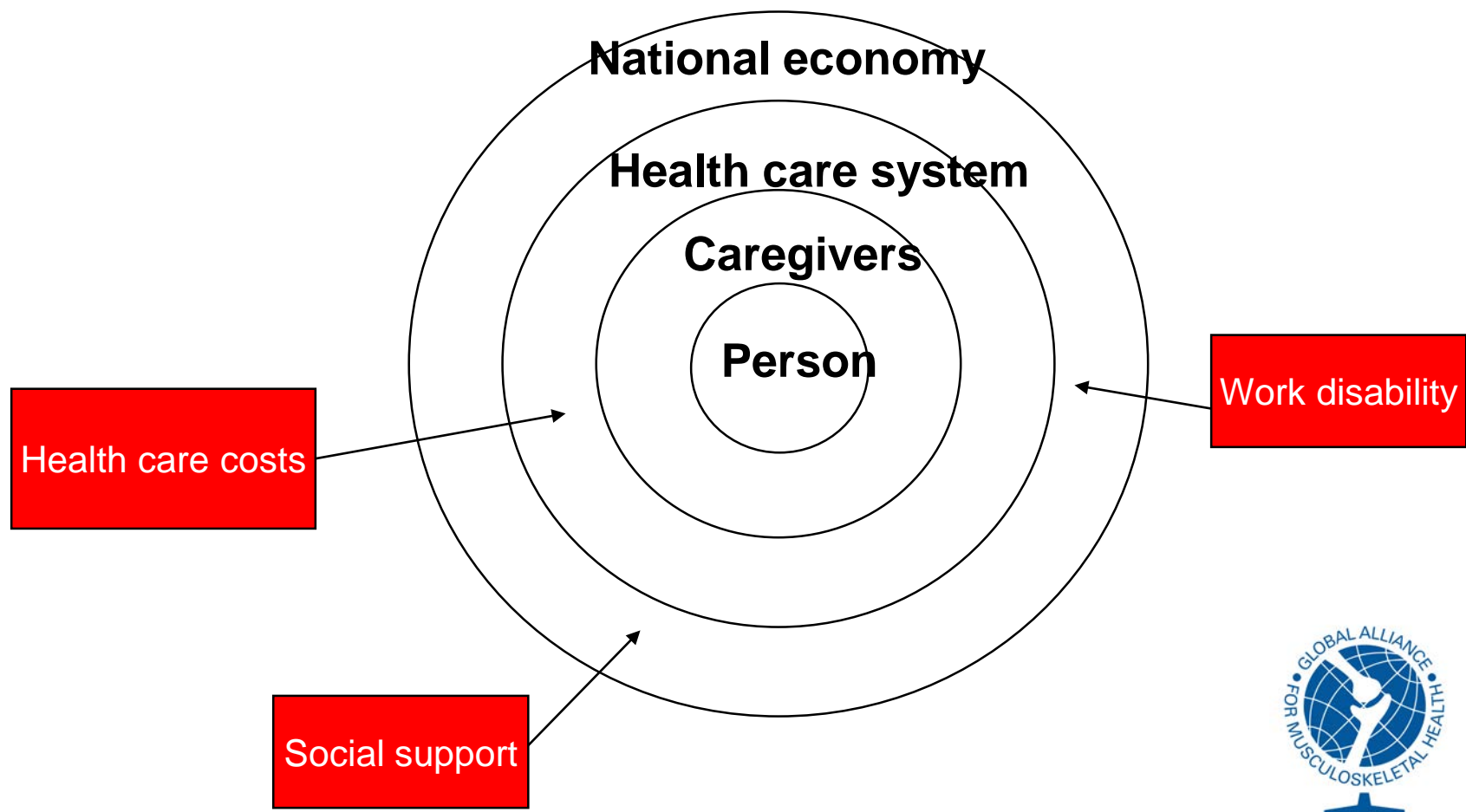
	None	Mild	Moderate	Severe	Extreme
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Musculoskeletal conditions are characterised by pain, loss of dexterity and loss of mobility – the commonest reported difficulties

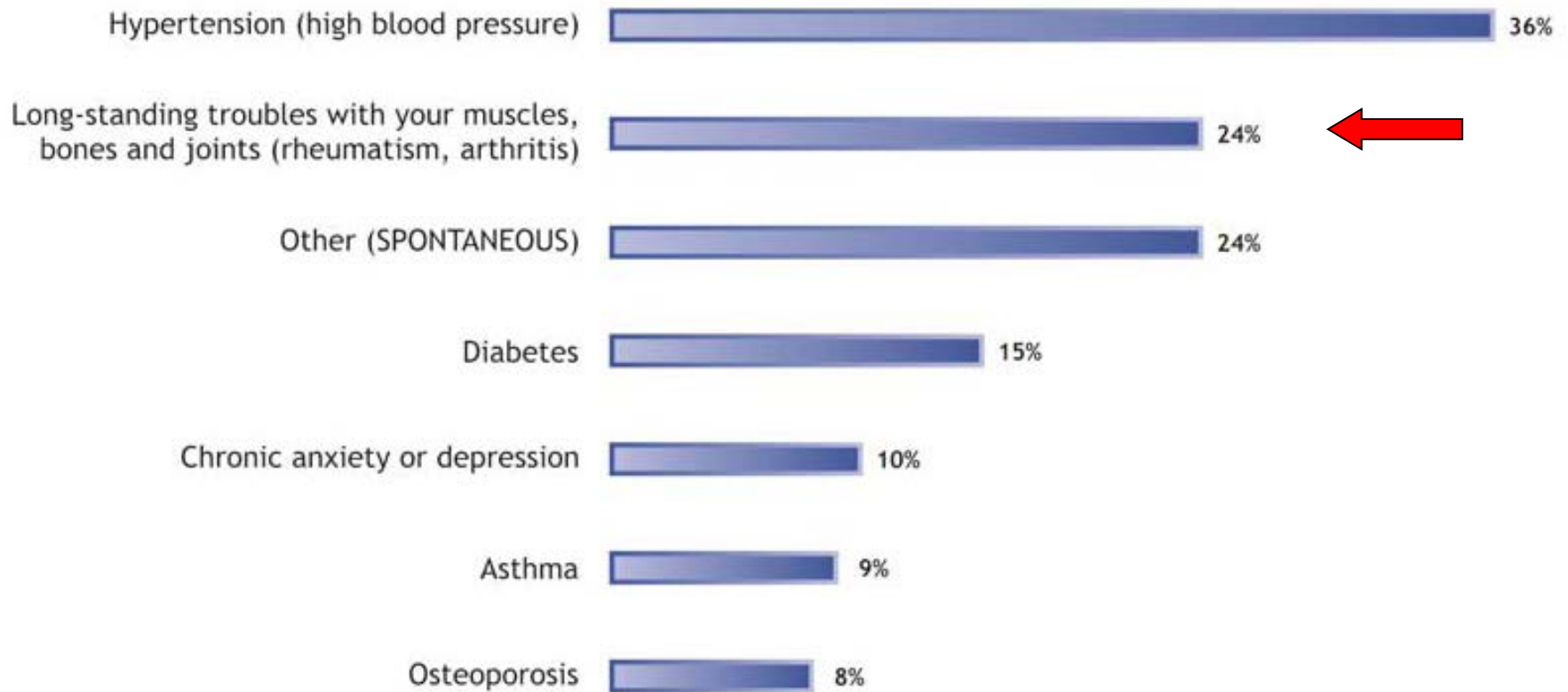
Musculoskeletal conditions are most common cause of disability

The impact

- the human and financial consequences

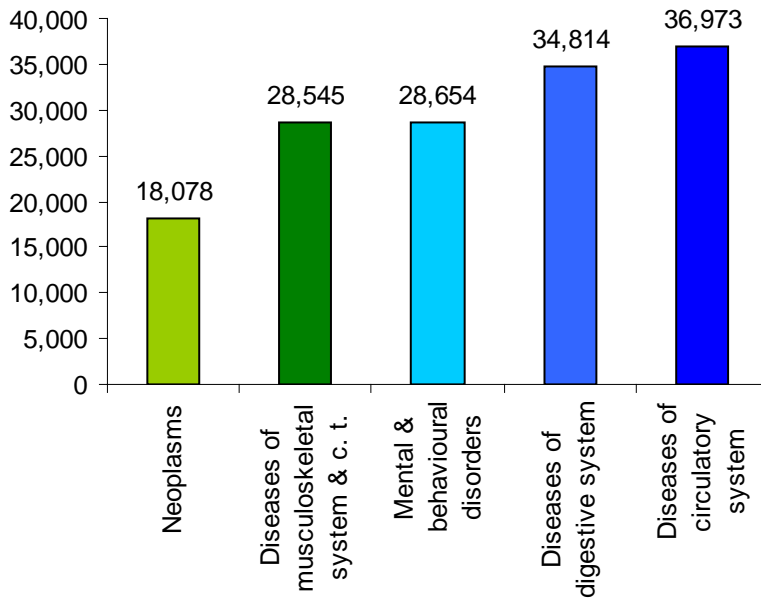


1 in 4 on longterm treatment because of “longstanding troubles with muscles, bones and joints (arthritis, rheumatism)”

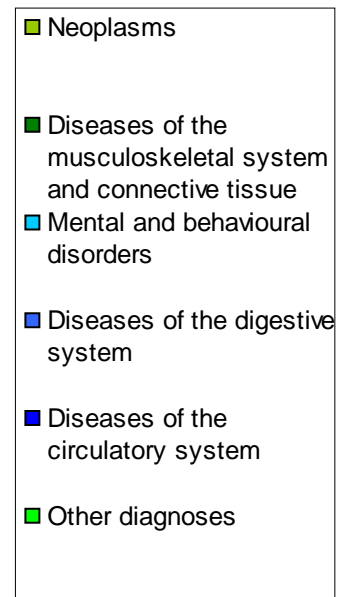
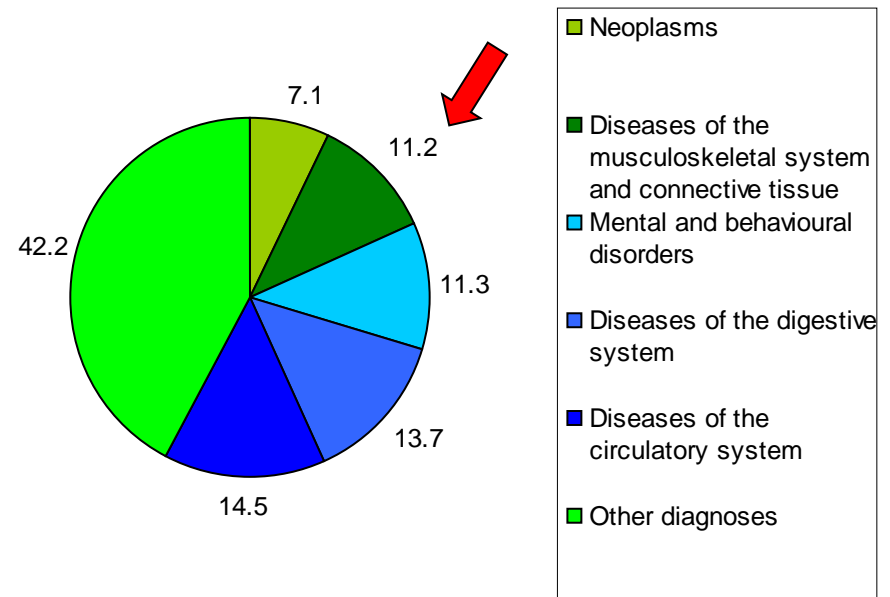


Cost of illness in millions Euro Germany 2008

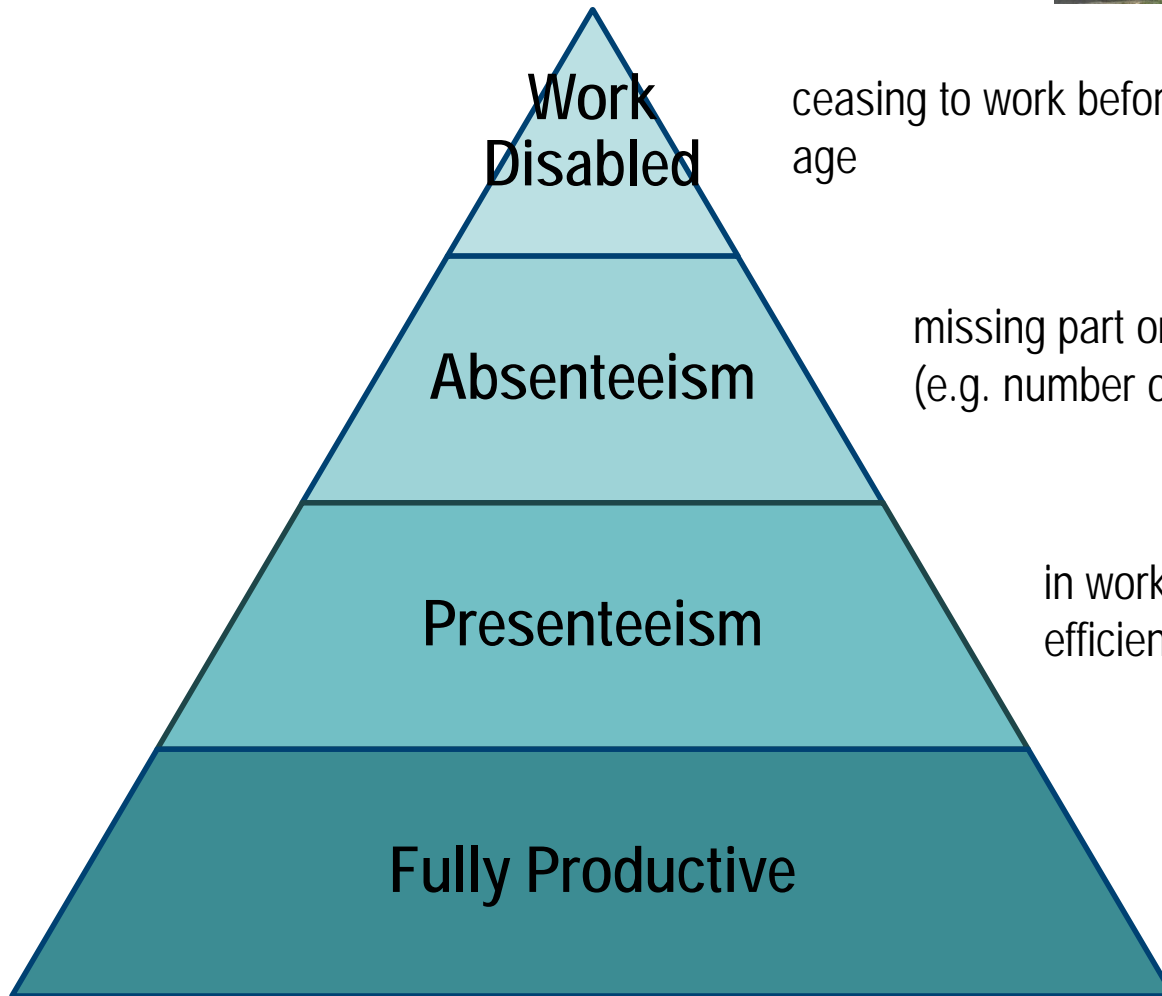
Germany Cost of illness in millions of Euro 2008



Germany - Cost of illness in millions of Euro as % of total illness costs 2008



Impact on work



**Work
Disabled**

ceasing to work before retirement age

Absenteeism

missing part or whole days from work
(e.g. number of days/hours off work)

Presenteeism

in work but with difficulty or reduced efficiency/productivity

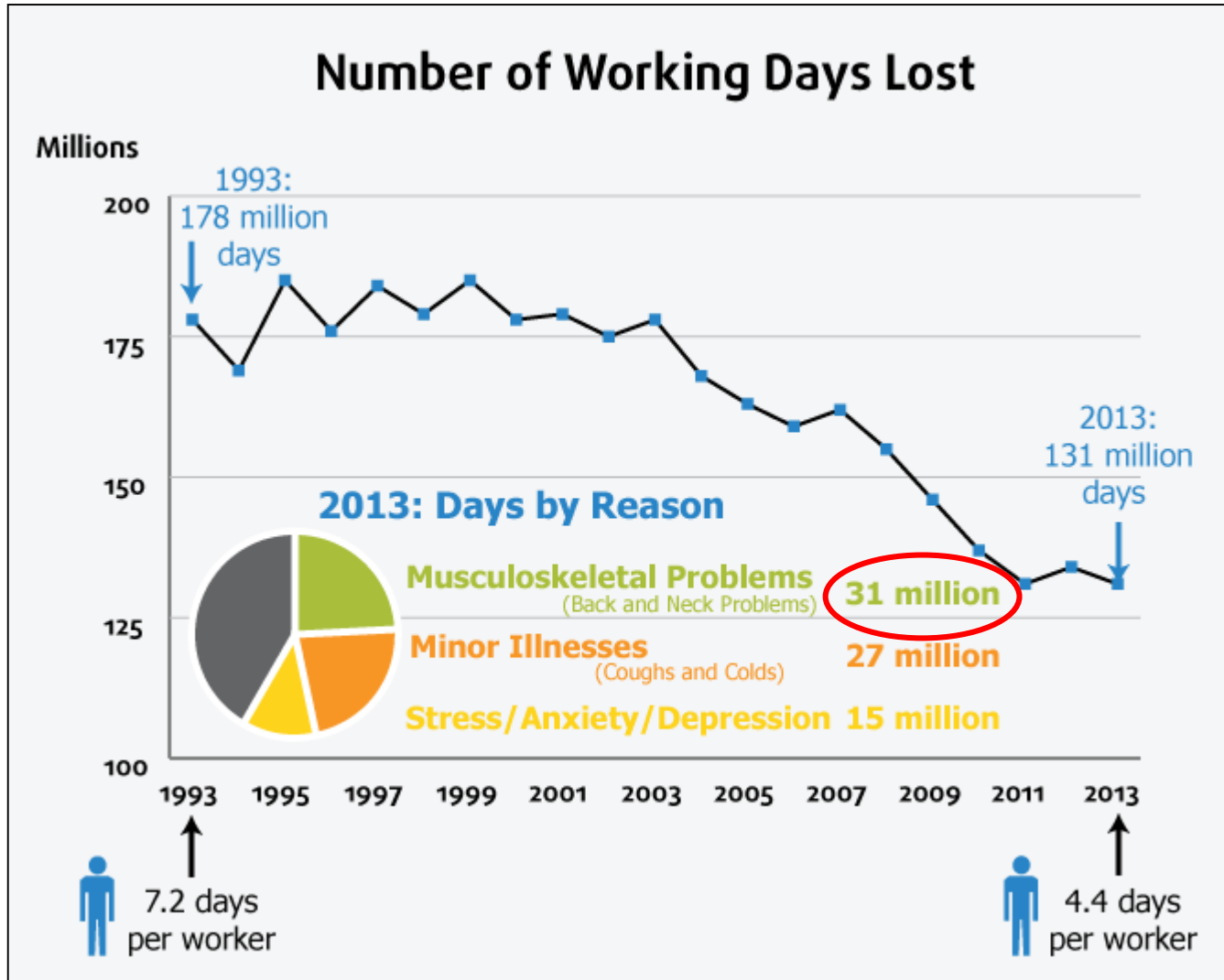
Fully Productive



Keep people moving

Musculoskeletal problems account for greatest loss of working days in UK

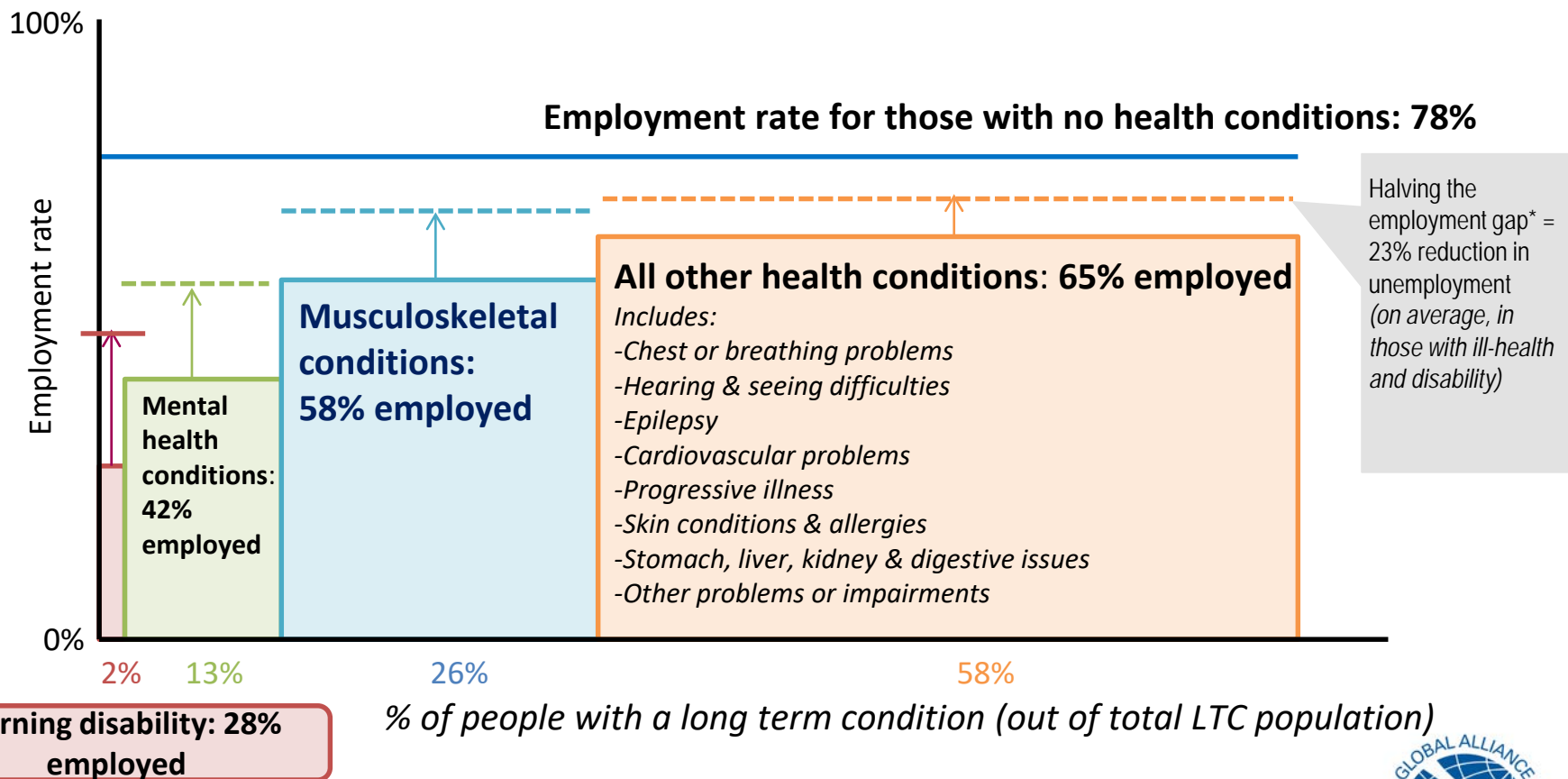
Labour Force Survey 2014, ONS



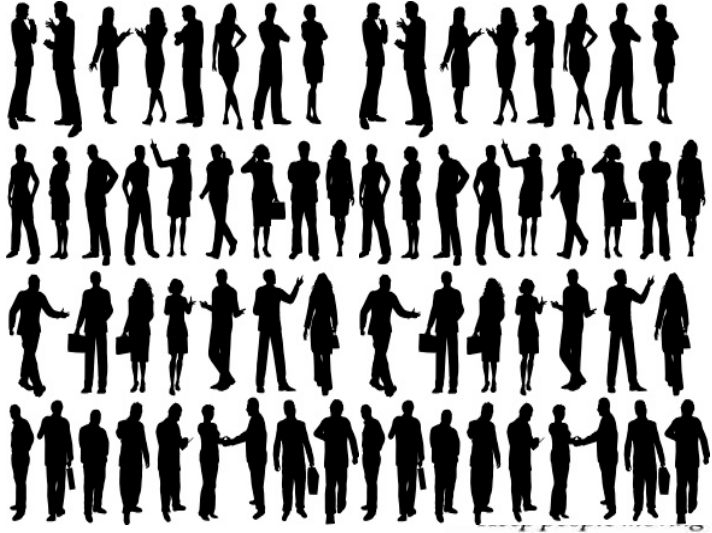
Keep people moving

Health-related worklessness

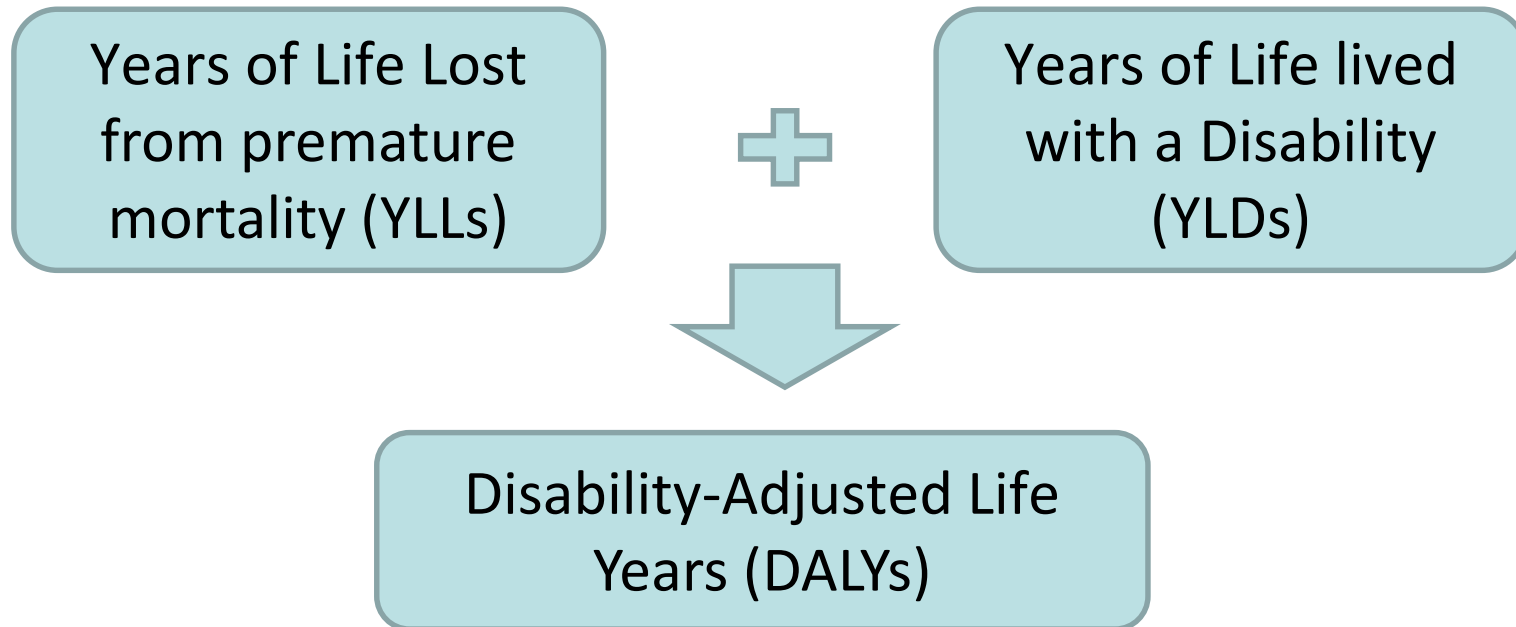
People with Musculoskeletal Conditions have a low level of employment



From the individual to health of the population



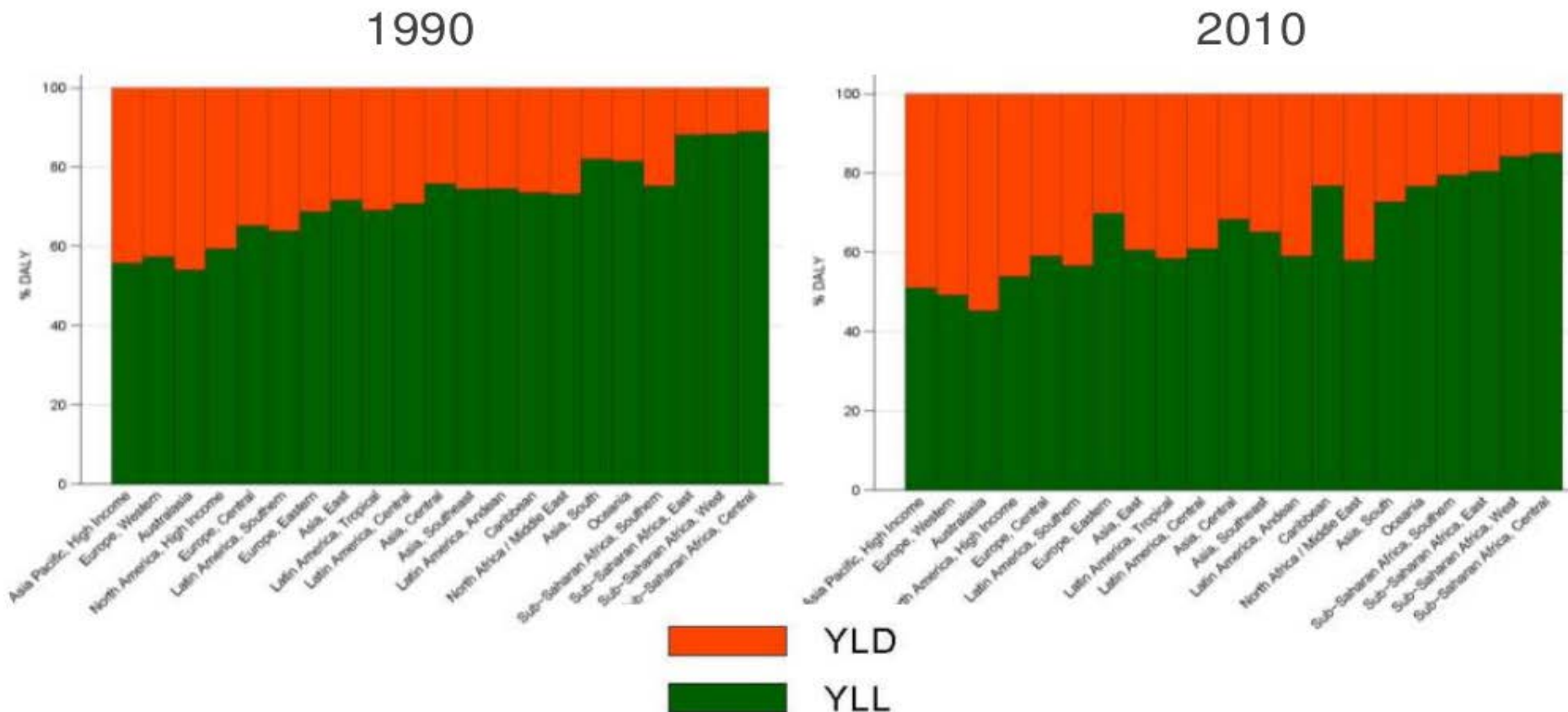
Global Burden of Disease 2010 Study: Summary measures used



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

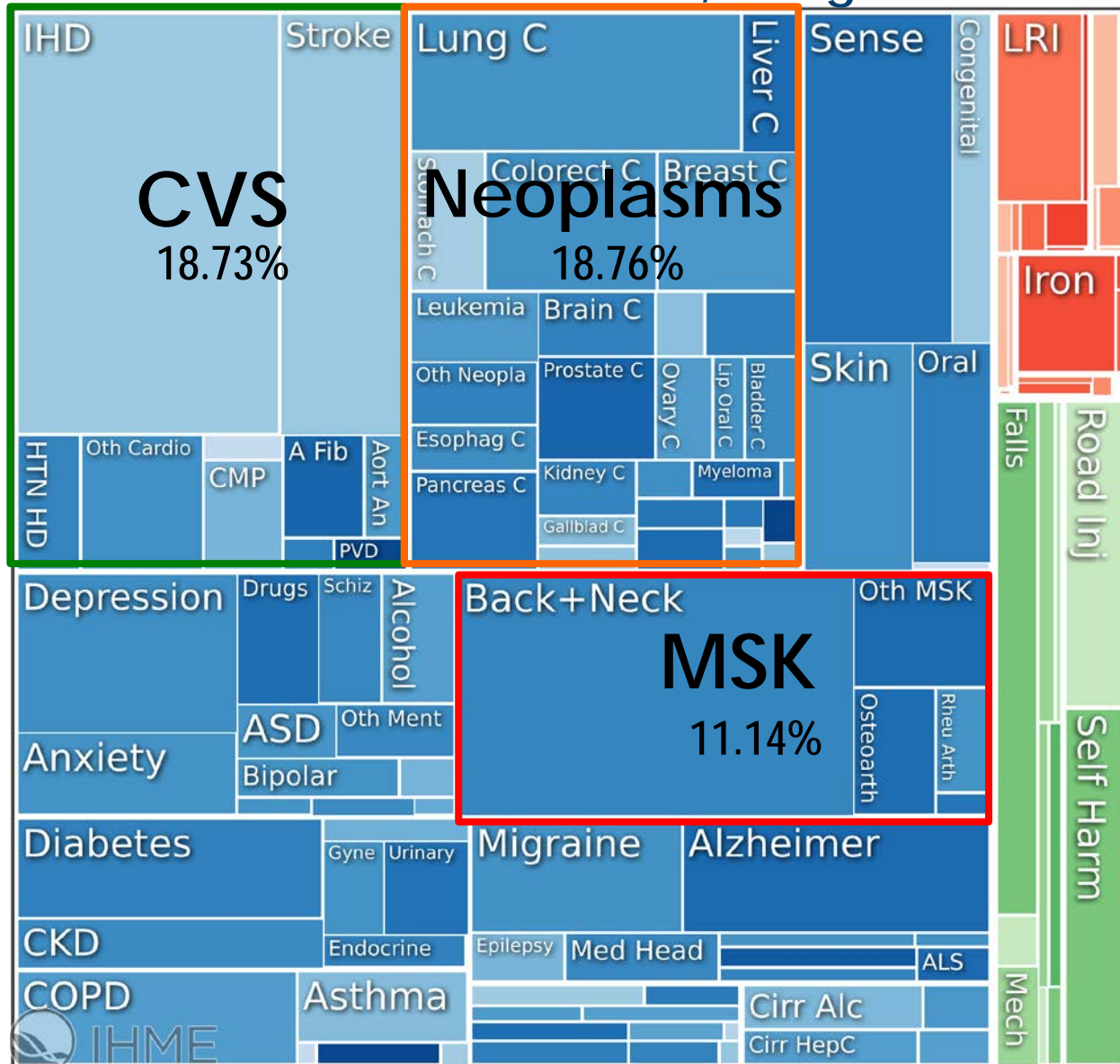


Progressive shift from premature mortality to years lived with disability, from communicable to non-communicable diseases



Musculoskeletal disorders estimated to increase from 4.7% in 1990 to 6.8% (global DALYs) in 2010

Disability Adjusted Life Years (DALYs): EU & EFTA by cause, 2015 both males & females, all ages



Back and neck pain greatest cause of DALYs (8.27%) in EU & EFTA countries



Burden of disability

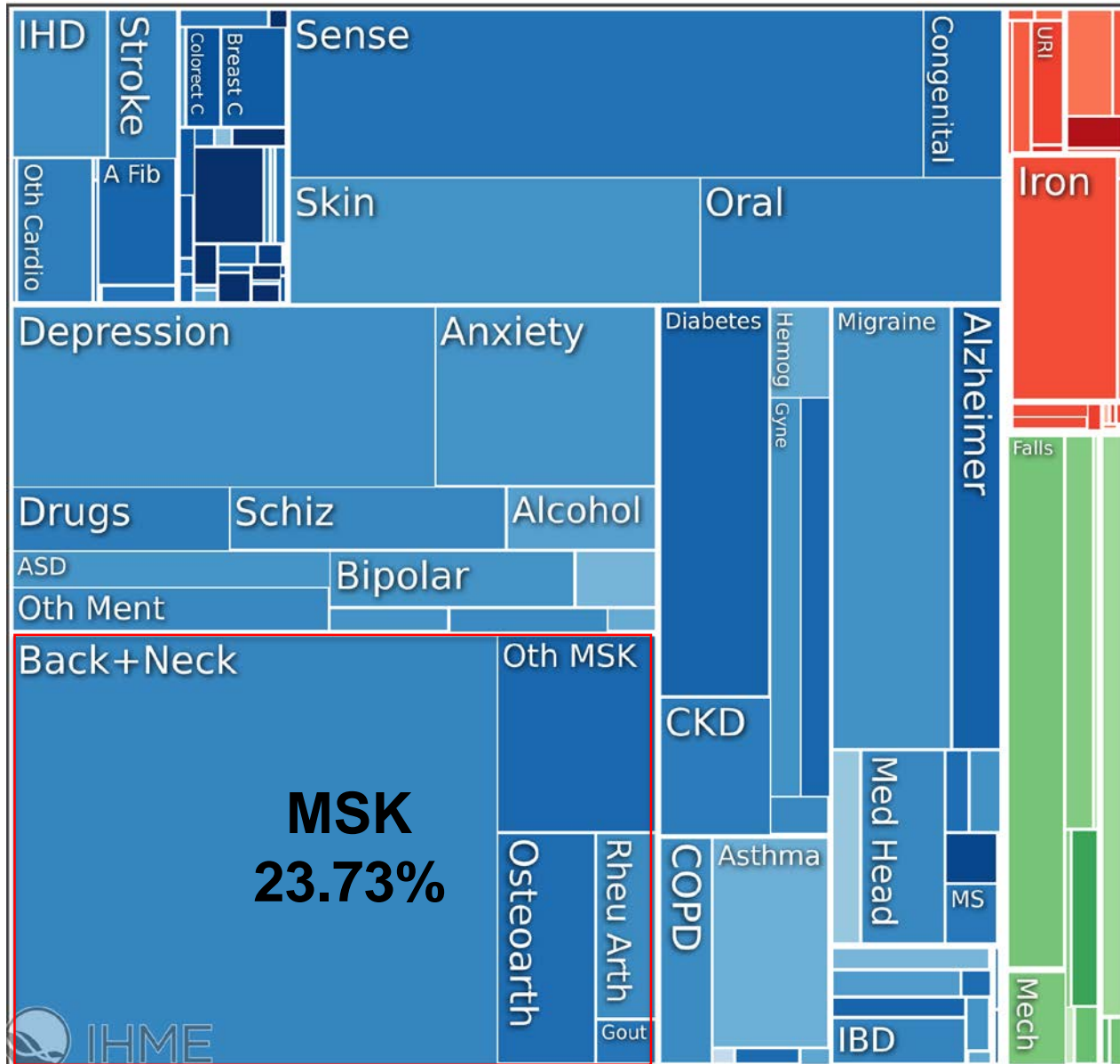
(Years lived with disability)



Years Lived with Disability (YLDs) %: EU and EFTA countries by cause, 2015

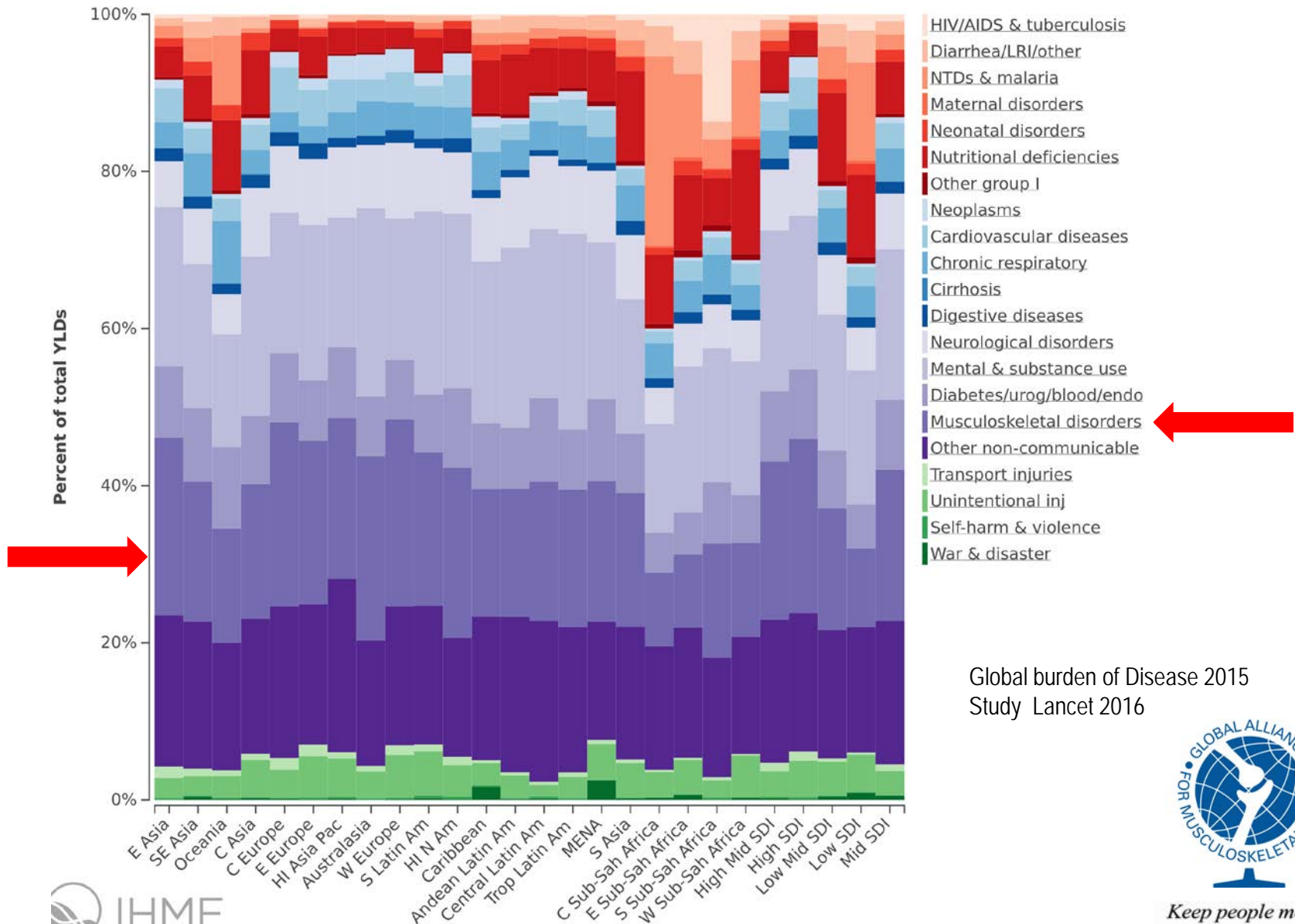
Musculoskeletal conditions are the greatest cause of disability

Back and neck pain greatest cause of YLDs (17.84%)



Musculoskeletal conditions are the greatest cause of disability worldwide and 1st or 2nd in most regions

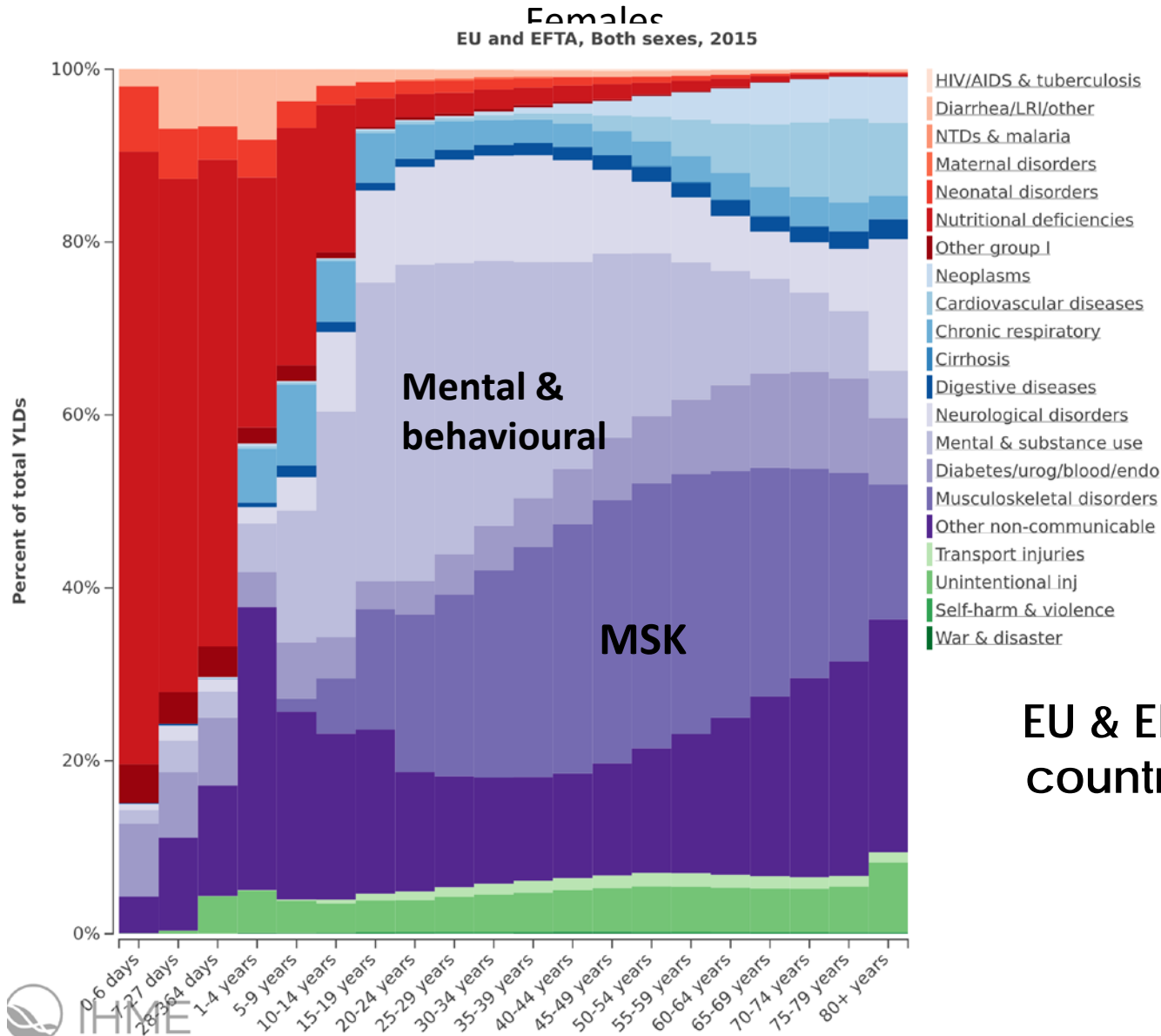
Both sexes, All ages, 2015



Global burden of Disease 2015
Study Lancet 2016

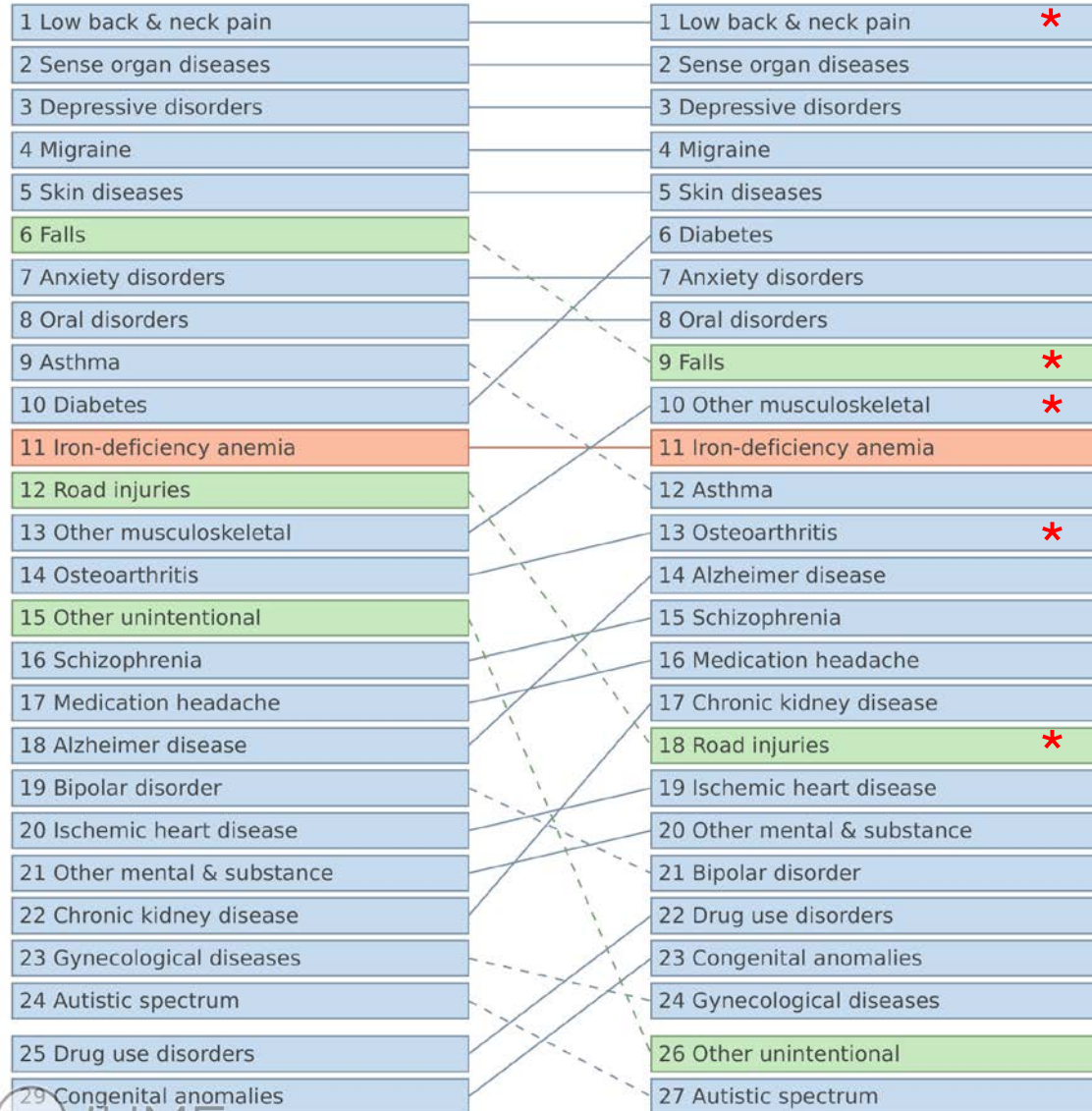
Musculoskeletal conditions are the major cause of disability at all adult ages

Percentage of years lived with disability (YLDs) in 2015 for Cause and Age, both Males &



Change in ranking of Years Lived with Disability (YLDs) attributable to leading causes and risks between 1990 and 2015

EU and EFTA
Both sexes, All ages, Percent of total YLDs



Back pain, neck pain, other MSKs and OA are leading causes of disability. Falls and road injuries are a major causes of MSK problems (fractures) and subsequent disability

EU & EFTA Countries

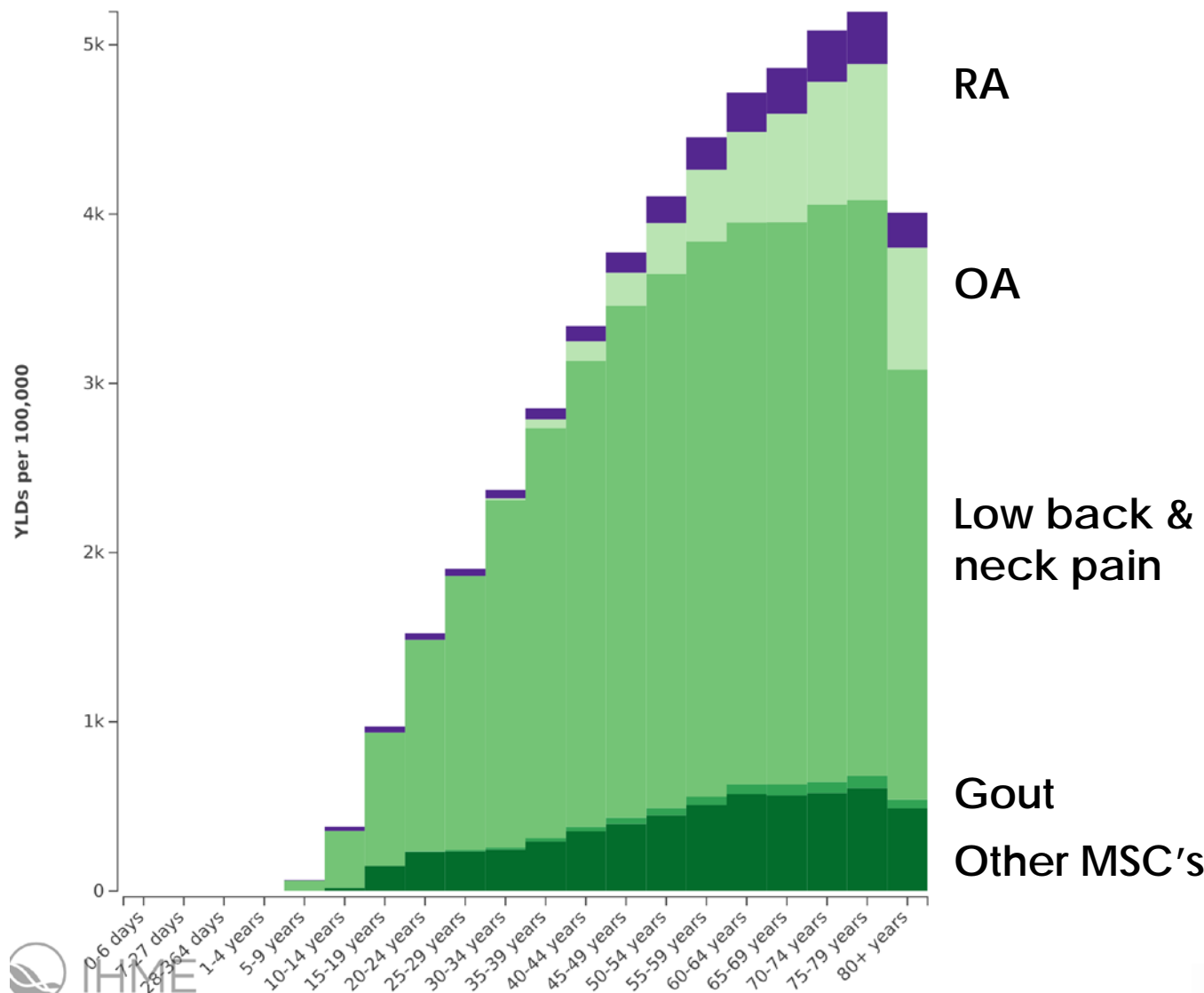


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Disability attributed to musculoskeletal disorders increases with age

Years Lived with Disability (YLD) 2015 by age

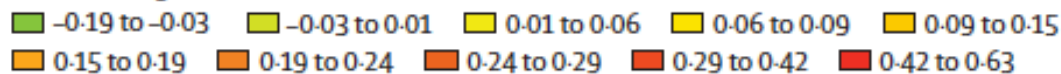
EU and EFTA, Both sexes, 2015



Leading causes of global age-specific YLDs in 2015

	1	2	3	4	5	6	7	8	9	10
Early neonatal	Iron	NN sepsis	PEM	Haemog	Other inf	Diarrhoea	NN preterm	Congenital	Endocrine	NN enceph
Late neonatal	Iron	PEM	Diarrhoea	Congenital	Haemog	NN preterm	Other nutr	NN enceph	Other inf	Epilepsy
Post neonatal	Iron	Diarrhoea	PEM	Haemog	Skin	Other NTD	Congenital	Other inf	NN preterm	Endocrine
1-4 years	Iron	Skin	PEM	Diarrhoea	Sense	Asthma	Haemog	Other NTD	Congenital	Otitis
5-9 years	Iron	Skin	Asthma	Sense	Haemog	Other NTD	Conduct	Malaria	ASD	Anxiety
10-14 years	Iron	Skin	Conduct	Anxiety	Asthma	Migraine	Sense	Depression	Back & neck	Haemog
15-19 years	Skin	Depression	Iron	Back & neck	Migraine	Anxiety	Sense	Conduct	Other MSK	Asthma
20-24 years	Depression	Back & neck	Skin	Migraine	Iron	Other MSK	Anxiety	Sense	Other mental	Drugs
25-29 years	Back & neck	Depression	Migraine	Skin	Iron	Other MSK	Anxiety	Sense	Drugs	Schiz
30-34 years	Back & neck	Depression	Migraine	Skin	Iron	Sense	Other MSK	Anxiety	Schiz	Gynae
35-39 years	Back & neck	Depression	Migraine	Sense	Other MSK	Skin	Iron	Anxiety	Diabetes	Schiz
40-44 years	Back & neck	Depression	Sense	Migraine	Other MSK	Diabetes	Skin	Iron	Anxiety	Schiz
45-49 years	Back & neck	Depression	Sense	Diabetes	Other MSK	Migraine	Skin	Iron	Anxiety	Schiz
50-54 years	Back & neck	Sense	Depression	Diabetes	Other MSK	Migraine	Skin	Osteoarth	Anxiety	Schiz
55-59 years	Back & neck	Sense	Diabetes	Depression	Other MSK	Migraine	Osteoarth	Skin	Oral	Anxiety
60-64 years	Back & neck	Sense	Diabetes	Depression	Other MSK	Osteoarth	Oral	Skin	Migraine	COPD
65-69 years	Sense	Back & neck	Diabetes	Depression	Other MSK	Osteoarth	Oral	COPD	Skin	IHD
70-74 years	Sense	Back & neck	Diabetes	Depression	Oral	Other MSK	Osteoarth	COPD	IHD	Skin
75-79 years	Sense	Back & neck	Diabetes	Alzheimer's	Depression	Oral	Osteoarth	Other MSK	COPD	IHD
≥80 years	Sense	Alzheimer's	Back & neck	Diabetes	Falls	IHD	Osteoarth	Depression	COPD	Oral

Rate of change 2005-15



The future

The burden of musculoskeletal conditions is increasing

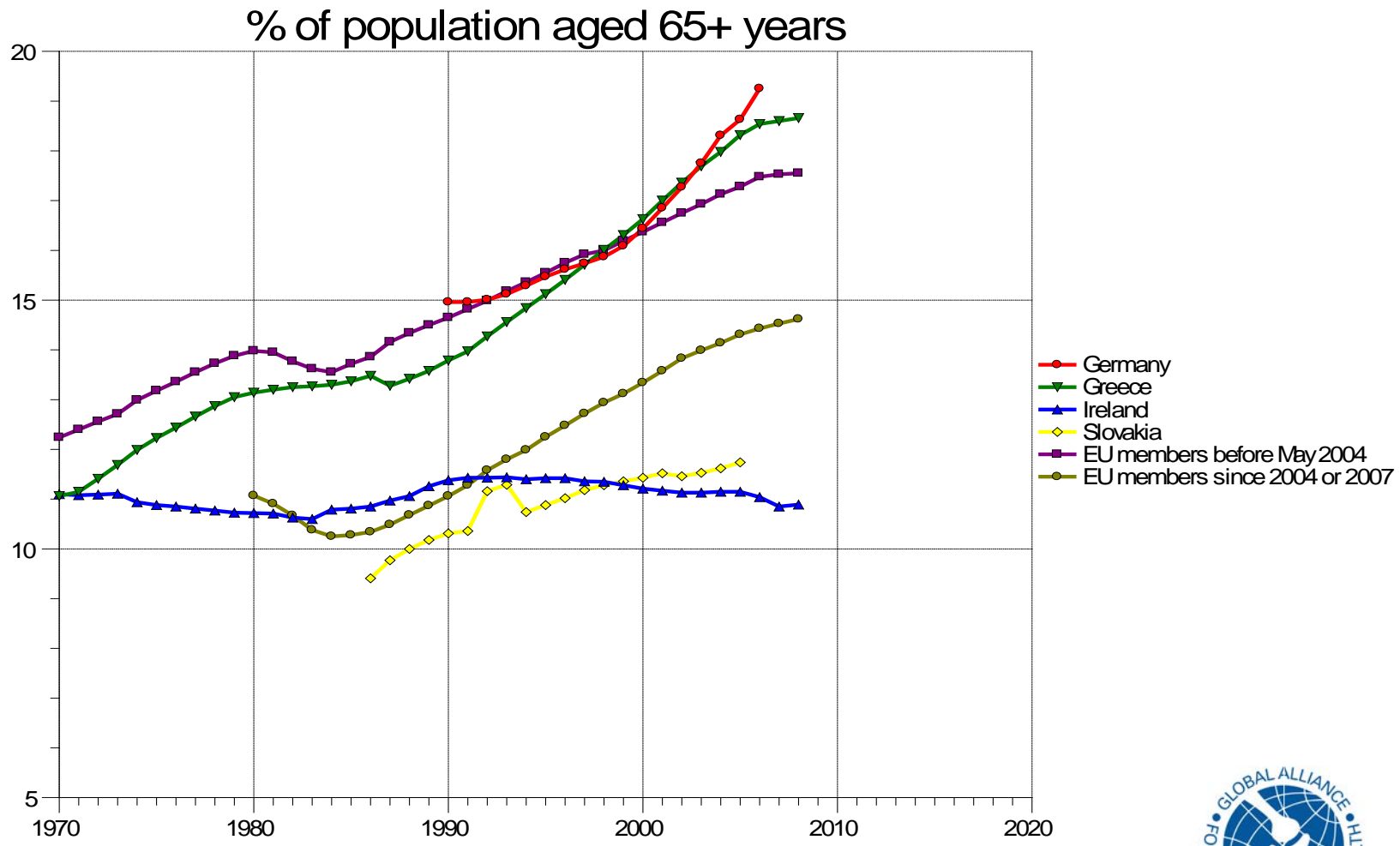
Why?

- Growing and ageing population
- Changes in lifestyle
 - Physical activity
 - Obesity



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The population across the EU is ageing



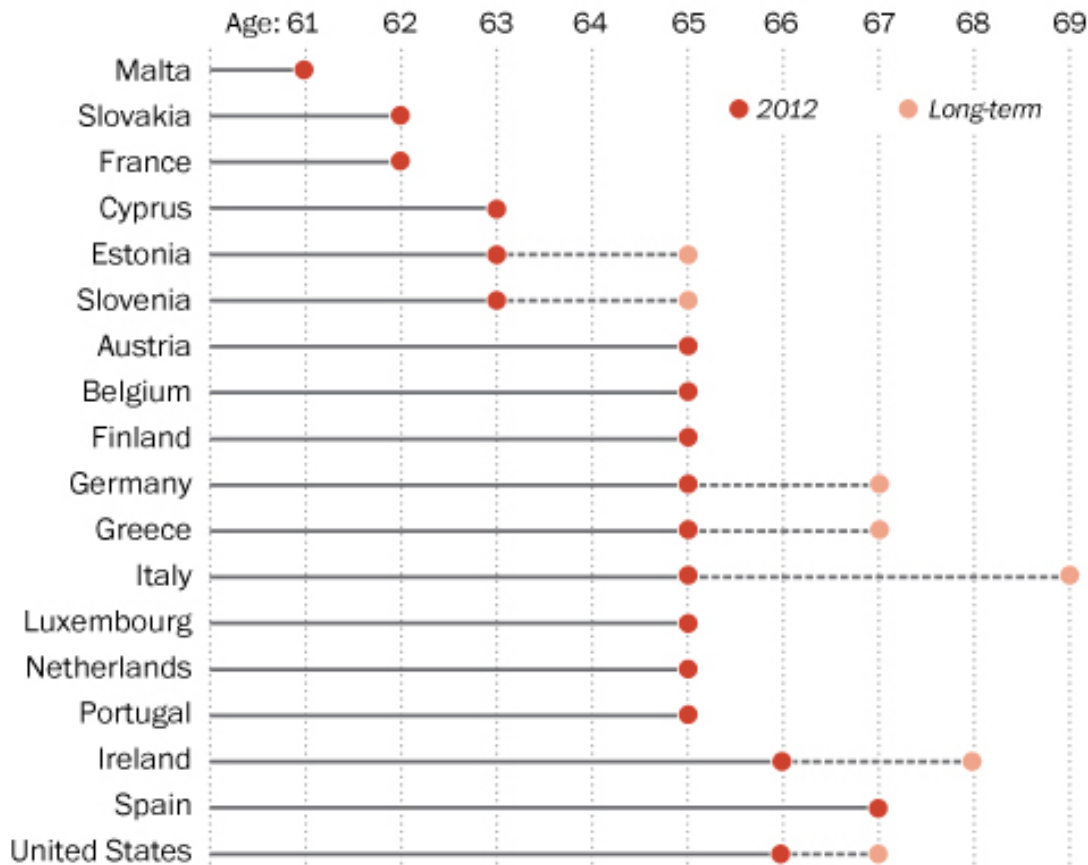
WHO Health for All Database 2010 <http://www.euro.who.int/en/what-we-do/data-and-evidence/databases/european-health-for-all-database-hfa-db2>





BUT 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.

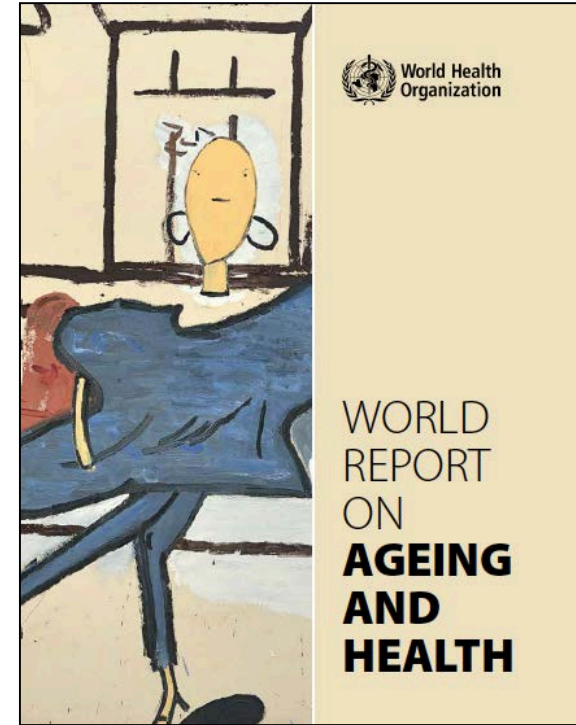


Keep people moving



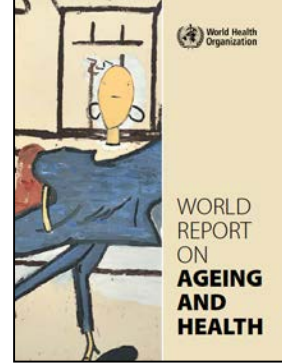
WHO World Report on Ageing and Health

- In response to the rapid ageing of populations WHO has put in place a number of related initiatives.
 - *World Report on Ageing and Health* to summarise what is currently known
 - *Global Strategy and Action Plan on Ageing and Health* to guide the response of Member States.
- Global Alliance for Musculoskeletal Health contributed a background paper on **Musculoskeletal Health and Ageing** and is helping deliver the WHO Global Strategy and Action Plan to ensure it considers the challenges of mobility, dexterity and pain in older people.

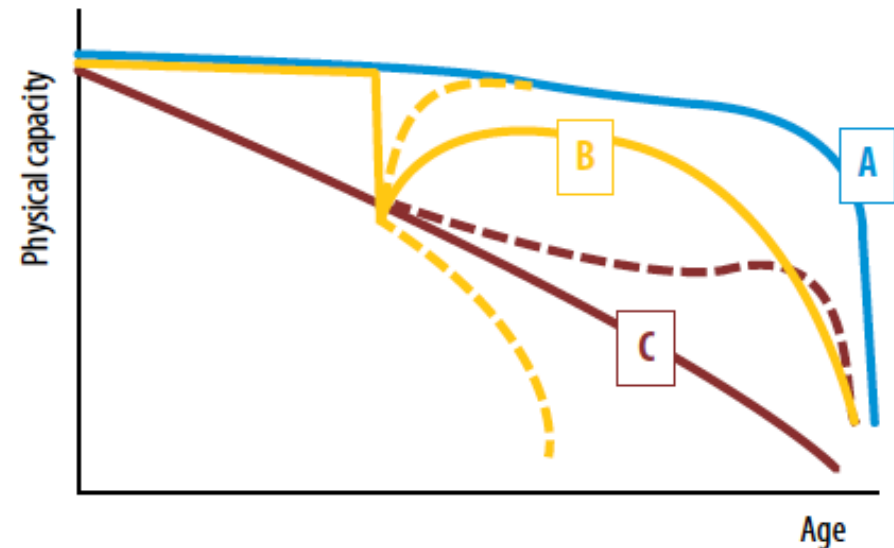


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Ageing and health

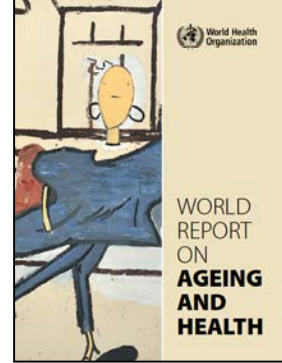


- Healthy ageing throughout the lifecourse depends on maintaining **functional ability**
- **Functional ability = intrinsic capacity** ↔ environmental characteristics
- Reserves of functional ability contributes to a person's **resilience**.
- **Intrinsic capacity = physical + mental capacities** of an individual
- The optimum trajectory is for a person to have full physical and mental capacity until the end of life
- The ability to move around is an important component of functional ability
- If someone has an event such as an MSK conditions, the sooner they are restored to their trajectory then they have best chances of maintaining their physical capacity and being independent in the short and long term



- A. Optimal trajectory, intrinsic capacity remains high until the end of life.
 - B. Interrupted trajectory, an event causes a decrease in capacity with some recovery.
 - C. Declining trajectory, capacity declines steadily until death.
- The dashed lines represent alternative trajectories.

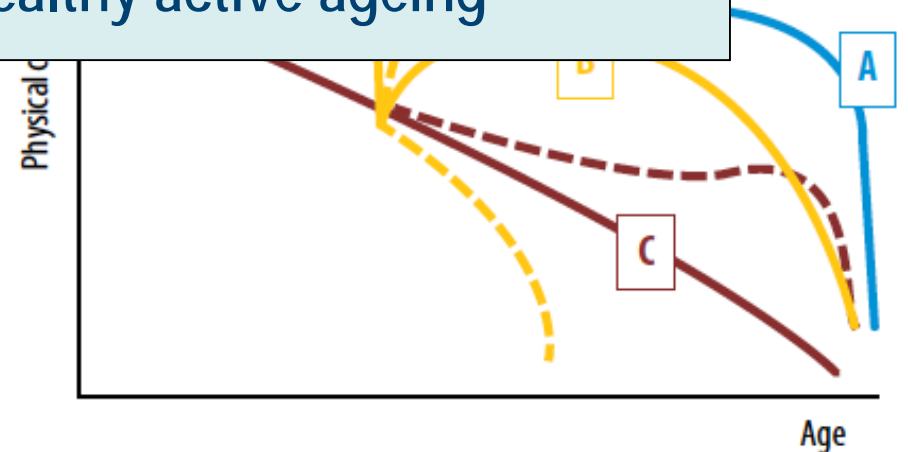
Ageing and health



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- Reserves of functional ability contributes to a person's **resilience**.
- **Intrinsic capacity** = physical + mental capacities of an individual

Optimising and maintaining musculoskeletal health is therefore central to healthy active ageing

- The ability to move around is an important component of functional ability
- If someone has an event such as an MSK conditions, the sooner they are restored to their trajectory then they have best chances of maintaining their physical capacity and being independent in the short and long term



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The Global Alliance for Musculoskeletal Health

Call for Action

We call for explicit plans by governments, health policy makers at regional level and the WHO to deal with the large and growing burden of musculoskeletal conditions on individuals and society that consider

- Promotion of a lifestyle that will **optimise musculoskeletal health** at all ages
- Preventing musculoskeletal disorders and injuries
- **Identify** and treat those who are **at highest risk**
- Accessible, timely, safe, appropriate **treatment to control symptoms and prevent unnecessary disability**
- Accessible and appropriate **rehabilitation to reduce any disability**, including self management
- **Equity** for all sectors of society
- Enabling people to be **economically independent**
- **Education and Research** to advance knowledge and care

Sign the e-petition
www.bjdonline.org

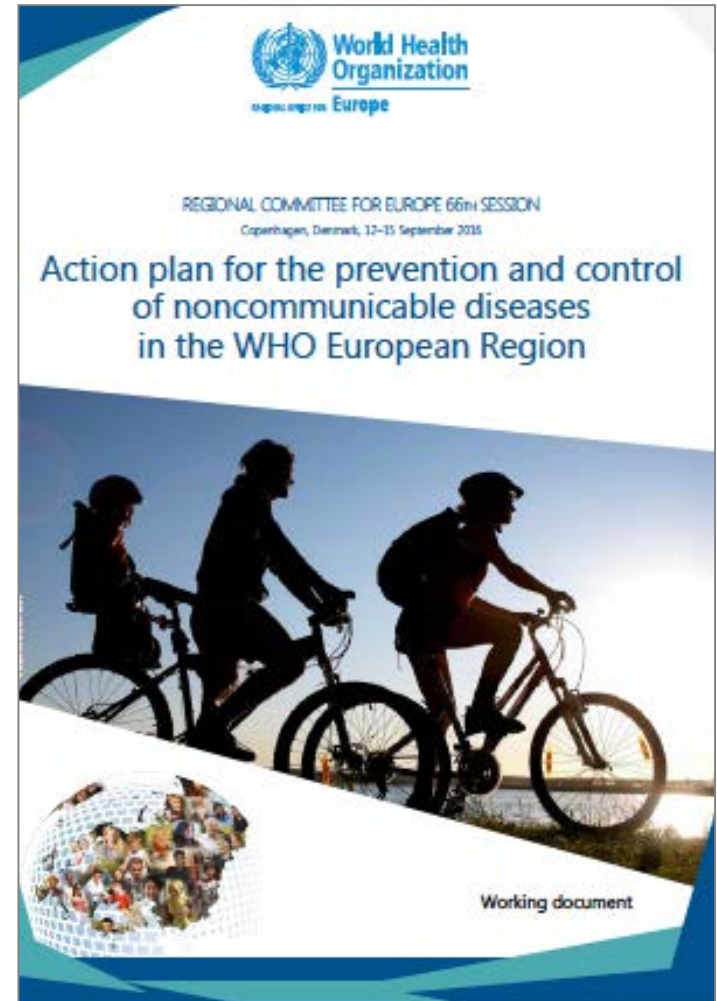


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WHO Europe Action Plan for NCDs

Actions recommended:

- promoting musculoskeletal health at all ages to improve physical function by increasing physical activity, reducing obesity and avoiding injuries;
- improving musculoskeletal health across the life-course
- building musculoskeletal health systems that allow timely access to person-centred care of musculoskeletal conditions, focusing on early intervention to restore and maintain function, and that enable people to self-manage their musculoskeletal conditions; and increase awareness of what can be achieved; and
- strengthening surveillance; and develop a skilled and diverse workforce relevant to musculoskeletal health.



September 2016



Keep people moving



Working Together



The Global Alliance for Musculoskeletal Health

of the Bone and Joint Decade

"Keep people moving"



