The steadily increasing (healthy) life expectancy is worth a celebration. Ageing is a very individual process.
OSH IN THE CONTEXT OF AN AGEING WORKFORCE

Outline:

- New demographic challenges for OSH
- New Vision on the reciprocal relationship between work and health
- Understanding employment participation
- Results State-of-the-art review for safer and healthier work at any age
- Conclusions
  - Conclusions review report
  - Contribution to knowledge
  - Implication of the findings
AGEING BOTH AN OPPORTUNITY AND A CHALLENGE
AGEING: TIME FOR CELEBRATION!

and time to extend working life?
LARGE DIFFERENCE BETWEEN HIGH AND LOW EDUCATED GROUPS

Levensverwachting in als goed ervaren gezondheid (CBS)

- basisonderwijs: 53,2/53
- vmbo: 61,2/61
- havo/vwo/mbo: 65,4/67,6
- hbo/universiteit: 72,6/72,6

Levensverwachting zonder chronische ziektes (CBS)

- basisonderwijs: 41,6/36,8
- vmbo: 45,3/39,3
- havo/vwo/mbo: 46,6/40,7
- hbo/universiteit: 52,9/46,9
DEMOGRAPHIC CHANGES

Age and OSH

Toal: 500 million

Age

0-14
15-64
65-79
80+

2010
12% 14%
69% 65%
16% 15%

2060
10% 14%
17% 18%
58% 55%

Total: 517 million

Millions of persons

25 15 15 25 15 25 15 25
EMPLOYMENT PARTICIPATION OF OLDER WORKERS (55-64) 2013
UNDERSTANDING EMPLOYMENT PARTICIPATION
LIFE COURSE PERSPECTIVE: PERSON JOB FIT

- Starter
- + 3-5 jaar
- + 5-10 jaar

Vitality & health
Skills
Motivation
Job design
Skills/Abilities/Health
Values/Needs/Demands
TWO KEY CONCEPTS

Sustainable work

Work oriented

Work ability

Individual oriented
FRAMEWORKS TO UNDERSTAND EMPLOYMENT PARTICIPATION OF OLDER WORKERS

Health
Job characteristics
Skills and knowledge
Social factors
Financial factors

Age, Gender, Education, Employment status

Ability
Motivation
Opportunity

Healthy Productivity Sustained Employment

TNO

FIOH

Eurofound

LidA

Society: culture legislation education policy social and health policy
A NEW VISION ON HEALTH IN RELATION TO PARTICIPATION IN SOCIETY AND WORK

- WHO since 1948: Health is a state of **complete physical, mental and social well-being** and not merely the absence of disease or infirmity.

- Huber et al 2011: Health is **the ability to adapt and self-manage** in the face of social, physical and emotional challenges (concept of positive health).

- Florence Nightingale 1893: Health is not only to be well, but to be able to use well every power we have.
A NEW VISION ON HEALTH IN RELATION TO PARTICIPATION IN SOCIETY AND WORK

The capability approach (Senn 1999, Nussbaum 2011):
- Health in this view is not so much an end in itself but a capability to participate in society and a means for success and development.
- Emphasizes both the individual abilities and resources and the support in the social environment so that the abilities are actually developed.

Sustainable employment: on the one hand a work situation that protects and facilitates workers and on the other hand the ability, attitude and motivation of workers to exploit these opportunities (van der Klink 2014)
HEALTH IN RELATION TO PARTICIPATION IN WORK

1. Poor work (specific work related risks) may be a threat for good health (protection)
2. Good work is an important source for good health (promote health and accommodate those with complaints to participate)
3. Health and vitality is an essential part of Human Capital (dual interest)
4. Good work contributes to self management skills essential for a healthy lifestyle
5. A focus on disease instead of functioning may hamper work participation
SUMMARY

Demographic changes

decreased proportion of the population that is employed

Sustainable work
Motivated workers
Skilled workers
Healthy workers
RESULTS STATE-OF-THE-ART REVIEW
CONTENTS OF THE REVIEW

1. Individual work ability, age and sustainable work
2. OSH risks and sustainable employment
3. Sustainability of work in different sectors
4. Gender, age and sustainability
5. The multifaceted nature of sustainable work and OSH interventions
6. Return-to-work and rehabilitation
7. Health promotion and workplace interventions
The relationship between OSH issues and older workers in the context of sustainable work.

Key areas for improvement:

- Improving the sustainability of work in jobs which have high physical demands
- Prolonging working life
## 1. AGE-RELATED CHANGES AND THEIR IMPACT ON WORK

### Physiological changes

**Examples of physical changes and their consequences:**

<table>
<thead>
<tr>
<th>Physiological Change</th>
<th>Potential to impact on work?</th>
<th>How can change be mediated?</th>
<th>Considerations in the workplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction in aerobic power by approximately 10% per decade</td>
<td>Yes, particularly for highly physically demanding jobs. Not for sedentary or less demanding work</td>
<td>Maintaining physical activity throughout working life</td>
<td>Ensuring physically demanding work is designed to fit all</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Enabling equal access to health promotion activities</td>
</tr>
<tr>
<td>Reduction in muscle strength and endurance. More apparent post 65 years</td>
<td>Yes, where high levels of strength are required</td>
<td>Increasing levels of physical activity at any age to maintain strength and endurance</td>
<td>Ensuring work demands does not exceed ability</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ensuring work is designed to fit all workers</td>
</tr>
<tr>
<td>Both postural balance and functional balance reduce with age</td>
<td>Yes, in higher risk environments when working on different levels</td>
<td>Potential training effect for those that use balance as part of their job (e.g. Construction, Firefighters)</td>
<td>Ensuring risk reduction measures are taken to mitigate effects including evaluation of the use of medicines</td>
</tr>
<tr>
<td>Mobility reduces with age but this is unlikely to have a major impact during working life</td>
<td>No</td>
<td>Maintaining physical activity throughout working life to maintain mobility</td>
<td>Required workplace adaptations for those with disabilities</td>
</tr>
<tr>
<td>The skin thins with age</td>
<td>Yes, particularly in jobs where the skin may be exposed to chemicals or other hazards</td>
<td>Minimising exposure by other protective measures</td>
<td>Suitable risk reduction measures in place</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wearing gloves or other PPE</td>
<td></td>
</tr>
<tr>
<td>Hearing changes with age but this may not occur during working life. May be influenced by noise-induced hearing loss</td>
<td>Yes, can impact on communication in the workplace</td>
<td>Ensuring a hierarchy of control measures are in place to reduce exposure to noise</td>
<td>Ensure auditory signals are clearly discriminable and audible</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ensuring hearing protection is in place for all of working life so that any change is minimised</td>
<td></td>
</tr>
</tbody>
</table>
1. AGE RELATED CHANGES AND THEIR IMPACT; FACTS AND FIGURES

- Older workers have lower physical capacity (part fact part fiction)
  - Less muscle volume; force; speed; slower recovery; mostly not needed
  - Less vision; hearing; tactile; balance;
  - Less frequent sick leave but longer;
- Older workers perform less due to psychological changes (fiction)
  - As experience and skill provide a compensatory effect.
- Older workers learn less well: Most fiction
  - Less spacial orientation; reaction time; multi-tasking;
  - Slower in learning new skills
  - Less confidence; other methods
- Large differences in functional decline
  - Between jobs, sectors etc and between individuals, experience to compensate
  - Little consequences except for demanding jobs
- Interaction with fitness, lifestyle and working conditions
- Several function the client prefers an older person
1. AGE RELATED CHANGES AND THEIR IMPACT
THE ROLE OF HEALTH IN AN AGEING WORKING POPULATION

Ageing is related to a reduction in general health and more health problems
Health is one of the main determinants of work ability
Decreased general health/health problems are the main determinants of exit from work

Sustainable work
Self management skills
Lifestyle behaviour

Participation in work
1. AGE RELATED CHANGERS AND THEIR IMPACT

- Older workers should be seen as part of a diverse workforce rather than seeing them as a separate group (*also emphasize advantages*);
- There are changes to physiology and psychology in relation to age but this does not necessarily impact work ability; health behaviors also have *an important* role.
- Work ability is influenced by both personal and workplace factors
- Skill level and *substantial* training are also important factors in ability to work
- Future gaps that need to be addressed include improved interventional research in relation to health behaviours to identify which have the greatest impact on extending working lives; *impact assessment*
2. OSH RISKS (PROTECTION) AND SUSTAINABLE EMPLOYMENT

- Risks listed: Noise, Ionising radiation, thermal intolerance, biological and chemical hazards, physical load, shiftwork, psychosocial risks (mediated by support), flexible work; (dialogue)
- Fatigue risks
- Some OSH risks are different for older and younger workers
- Some specific OSH risks younger workers are exposed to (i.e., silica exposure) may threaten their work ability at a later age
- Safety risks are larger for younger workers; older workers may have more serious accidents and take longer to recover
- All workers during their working career should be considered in the risk assessment (sustainable work)
- Personalised and multifaceted interventions, dialogue
3. SUSTAINABILITY OF WORK IN DIFFERENT SECTORS

- Classical risks (protection), contingency work, safety critical work, shifts,
- *Integrated risk assessment*

There are a number of sector-specific interventions available that can be used as models for other sectors (i.e., Public service unions). At the current time these are often focused on areas of perceived higher risk.

There is little evidence available for smaller companies and this gap should be addressed.
4. HEALTH PROMOTION AND WORKPLACE INTERVENTIONS

- Occupational health, workplace health promotion and ergonomics have been seen to have a positive impact for older workers.
- Making ergonomic changes within the workplace may have a positive effect on all workers.
- Ensuring diversity should be considered within the risk assessment and prevention process.
- Insufficient knowledge on effective interventions.
5. CONCLUSIONS REVIEW REPORT

Key conclusions for safer and healthier work at any age:

- Age-related physiological and psychological changes may influence work ability, but many of these changes can be mediated by changes in lifestyle, workplace or work organisations.

- Improved prevention for all will promote
  - Reduction in early exit from work for disability reasons
  - Healthy older workers and healthy retired workers
  - A life course approach is needed for maintenance of safety and health throughout working life.

- Specific measures for older workers
  - Targeted interventions taking an individualised approach
  - Elimination of older worker myths and discrimination
  - Continuous OSH training throughout working life.
REFLECTION
OVERALL REFLECTIONS ON REPORT

- All-in-all nice overview of the challenges we are facing due to the demographic change (OECD)
- Broad perspective – wider context is included (training/skills, culture, age discrimination etc.); not done before (MYBL report); more relevance
- A little loose on methods and scientific underpinning
- When you are broad it is more difficult to converge in sharp conclusions: less informative, executive summaries;
- Less focus on *effects of* specific interventions and policy elements
REFLECTIONS I

Conceptual frame work

- Adopt the **new definition of health** and shift focus from disease to function and participation with consequences for prevention
- Do not forget the **specific workrelated health threats** worth EU coordination
- Adopt an integrated ‘working life’ course perspective which acknowledges the different routes to sustainable jobs (**person job fit**)  
- Focus on capabilities: abilities, motivation and opportunity (worker, work, policy)
- Focus as part of the life course perspective on ‘work’ as a living lab to learn **self management skills** to stay both healthy and qualified

Overall policy

- **Evaluate effect** of specific policies such as labour market policies, incentives for sustained employment, OECD, MYBL
REFLECTIONS II

Prioritise through Impact assessment

› Develop an impact assessment model to prioritise interventions for the most effect on sustainable careers (the best value for money)
› Develop a measure to assess the effect on gained DAPLY’s (*disability adjusted productive life years*)
› Facilitate use of that by individual employers and networks of regional or sector employers *to estimate the potential return on investment*

Future world of work

› Differentiate between *the world of high and low educated workers*
› Pay more attention to fast changing *digitisation of the future of work* (smart working) and the effects for all workers in particular older workers (fast proces of destruction and creation of jobs)
REFLECTIONS III

Interventions:
• Specific sector and risk focussed interventions (prioritise; positive examples)
• Focus on integrated interventions
• Multifaceted but also **personalised** (the answer to differences in ageing between persons)
• Emphasize generic tools that focus **on dialogue** (*i.e.* motivational interviewing), **company culture**, **learning behaviour and self management skills**
• Invest in employer vision and activities (earning and learning company)
• Develop self help sets for those outside regular employment
Aims to:

- Diagnoses age-related job load in 4 OSH topics
  - Musculoskeletal
  - Environmental
  - Psychosocial
  - Perceptive-cognitive
- Prioritize risk factors by weighing them (exposure x probability x effect)
- Recommend interventions to create sustainable jobs

Methods

- Expert tool
- Methods:
  - Interviews
  - Observations
  - (Questionnaire)
  - Expert session to evaluate the job (consensus)
Zoez-TNO Duurzaam inzetbaarheid van kwetsbare groepen
Policy:

• Overview in tables (OECD)
• In addition to description, focus on quantified insight in explanation of differences, relationships, effects;
• Try unravel the different circumstances and policy effects
• Present more in depth analyses of specific policy actions and their effects; what did it lead to
THANK YOU FOR YOUR ATTENTION
CONTRIBUTION TO KNOWLEDGE

- Thorough analysis of the consequences of demographic change
- Nice overview of age-related differences which hopefully might contribute to the widespread phenomenon of age discrimination
- Differences between younger and older workers in OSH risks