

Aging, Disability and the Workplace – Creating the Conditions for Success

Conference Board of Canada
October 2014

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Outline of talk

- Data on aging and the aging workforce
- Relationship between age and health
- Relationship between age and job performance
- Physical and cognitive abilities of older workers
- What can / should workplaces do?

Aging of the population

... in Western societies

Increase in life expectancy, 1600 - 2000

Oepen and Vaupel, Science 2002; C Finch adaptation

Phase 1

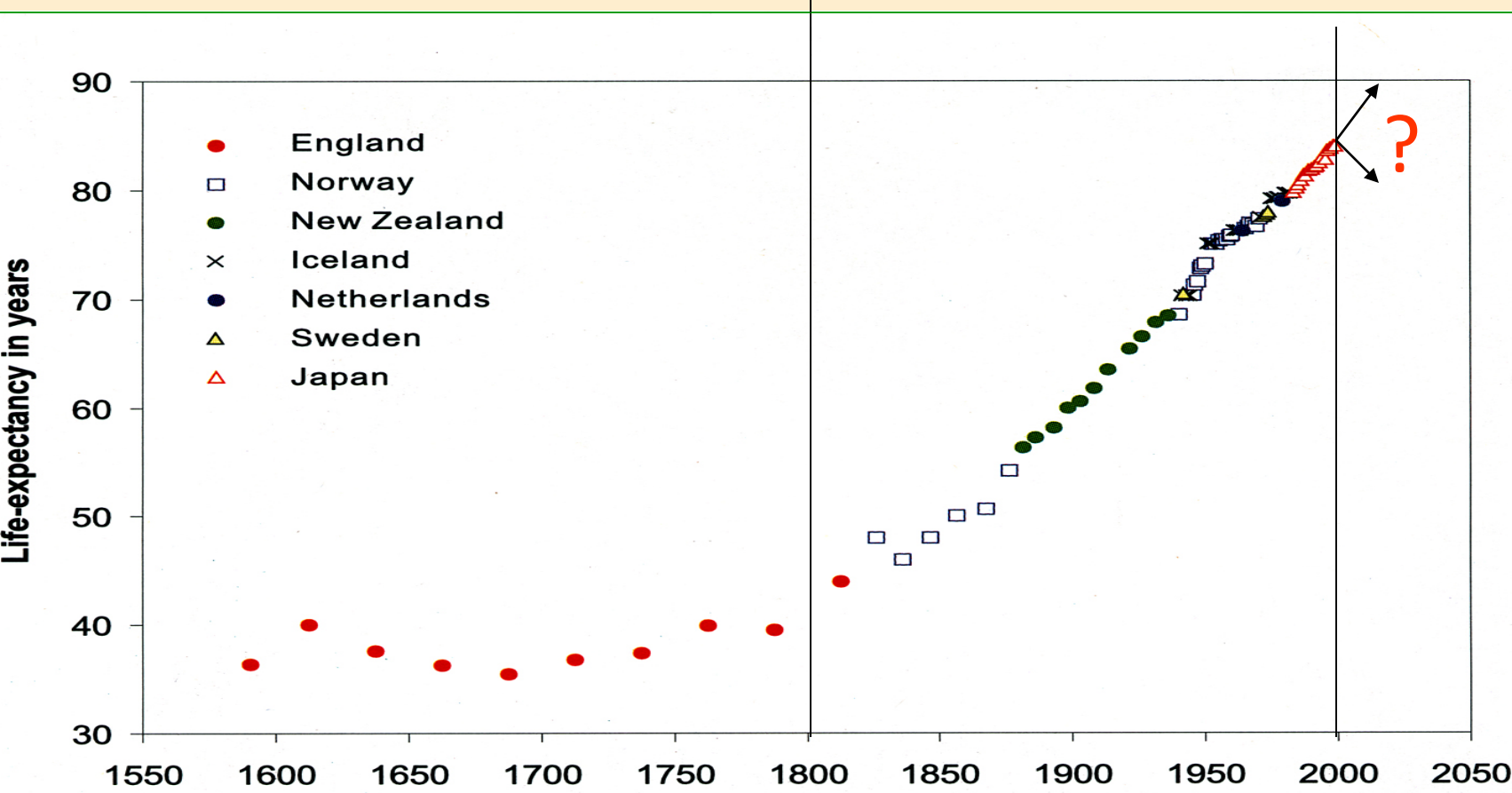
early urban

Phase 2

sanitation-nutrition

Phase 3?

regeneration
modern medicine
Social Policy Innovation



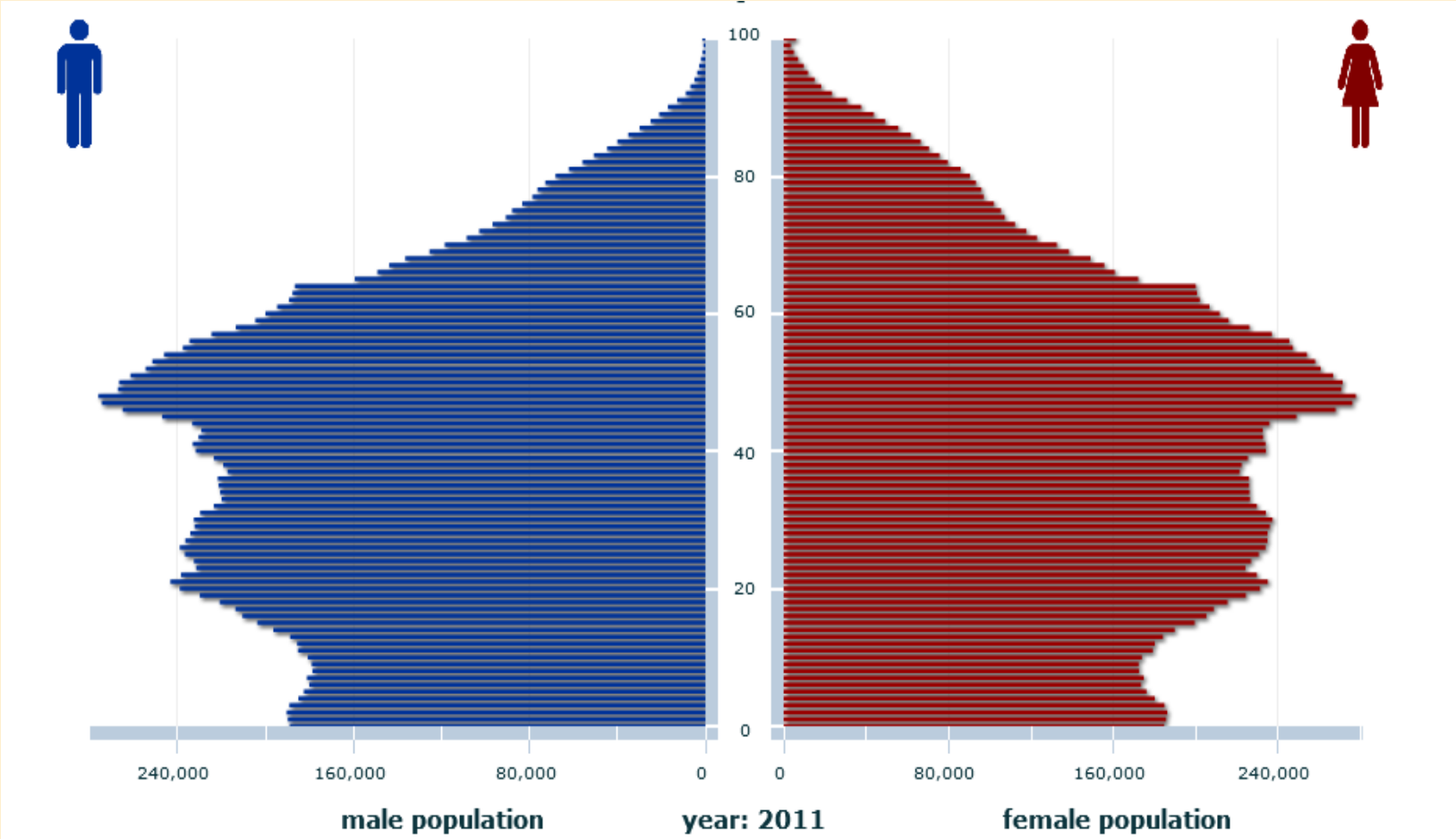
Reason for increases

Reduction in mortality rates

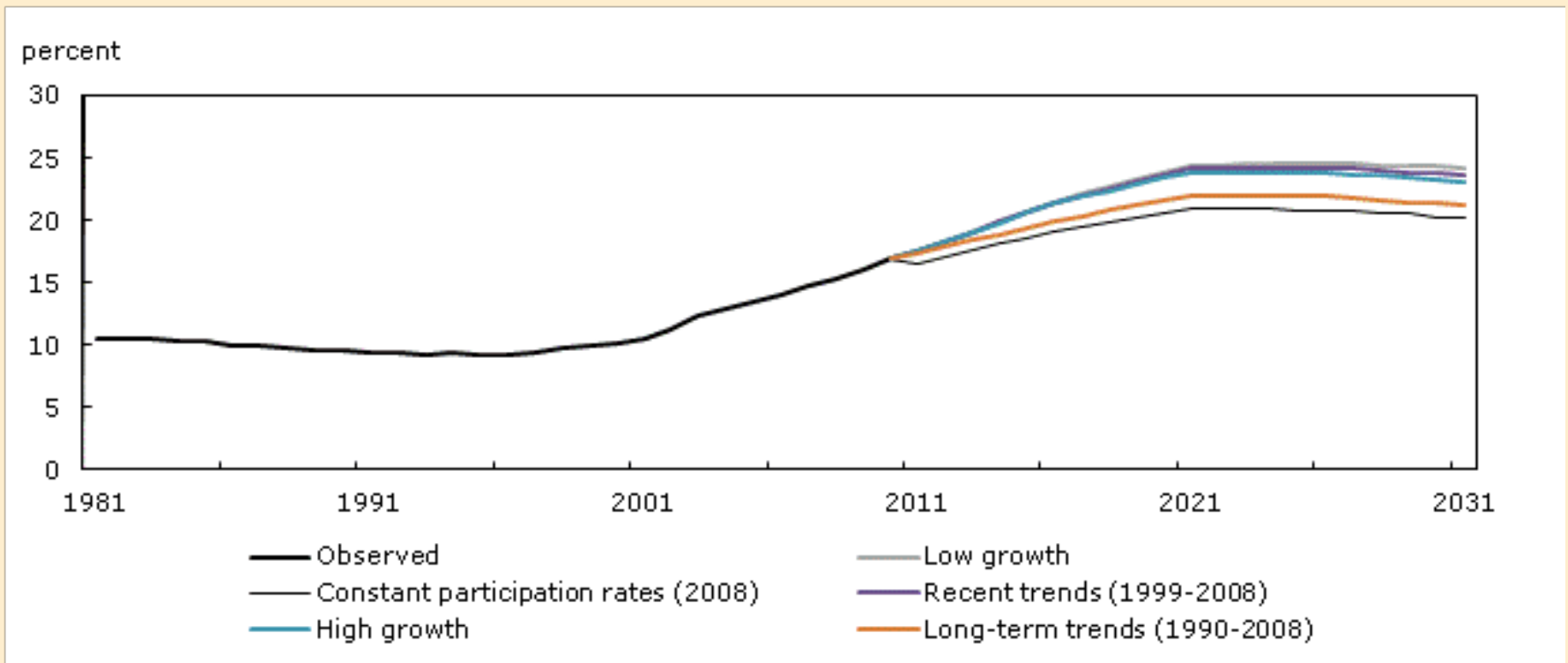
Changes in population *structure* result from ...

- Reduced mortality
- Reduced fertility rates

Canada age 'pyramid' 2011

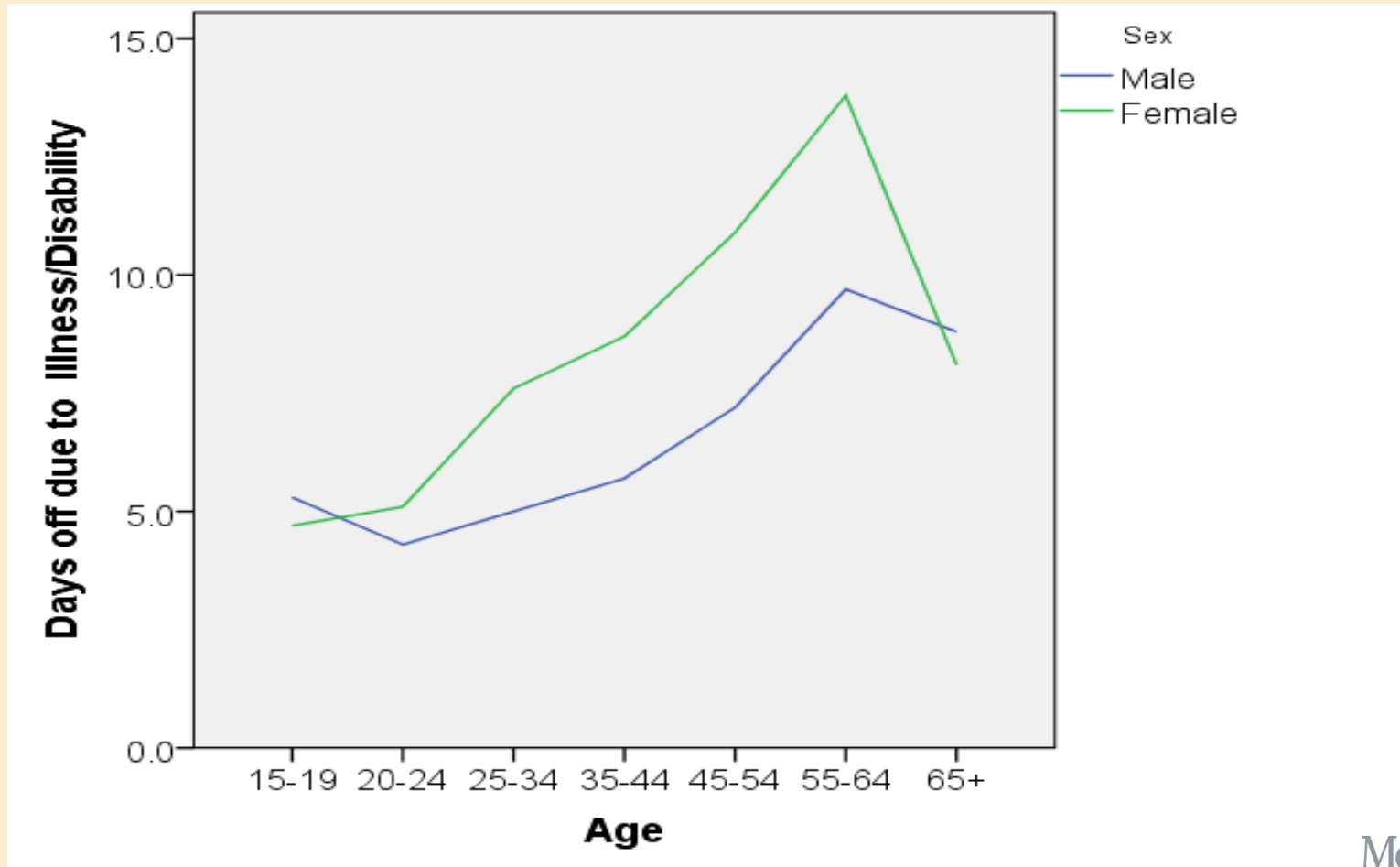


Observed (1981 to 2010) and projected (2011 to 2031) percentage of labour force aged 55 years and over according to five scenarios



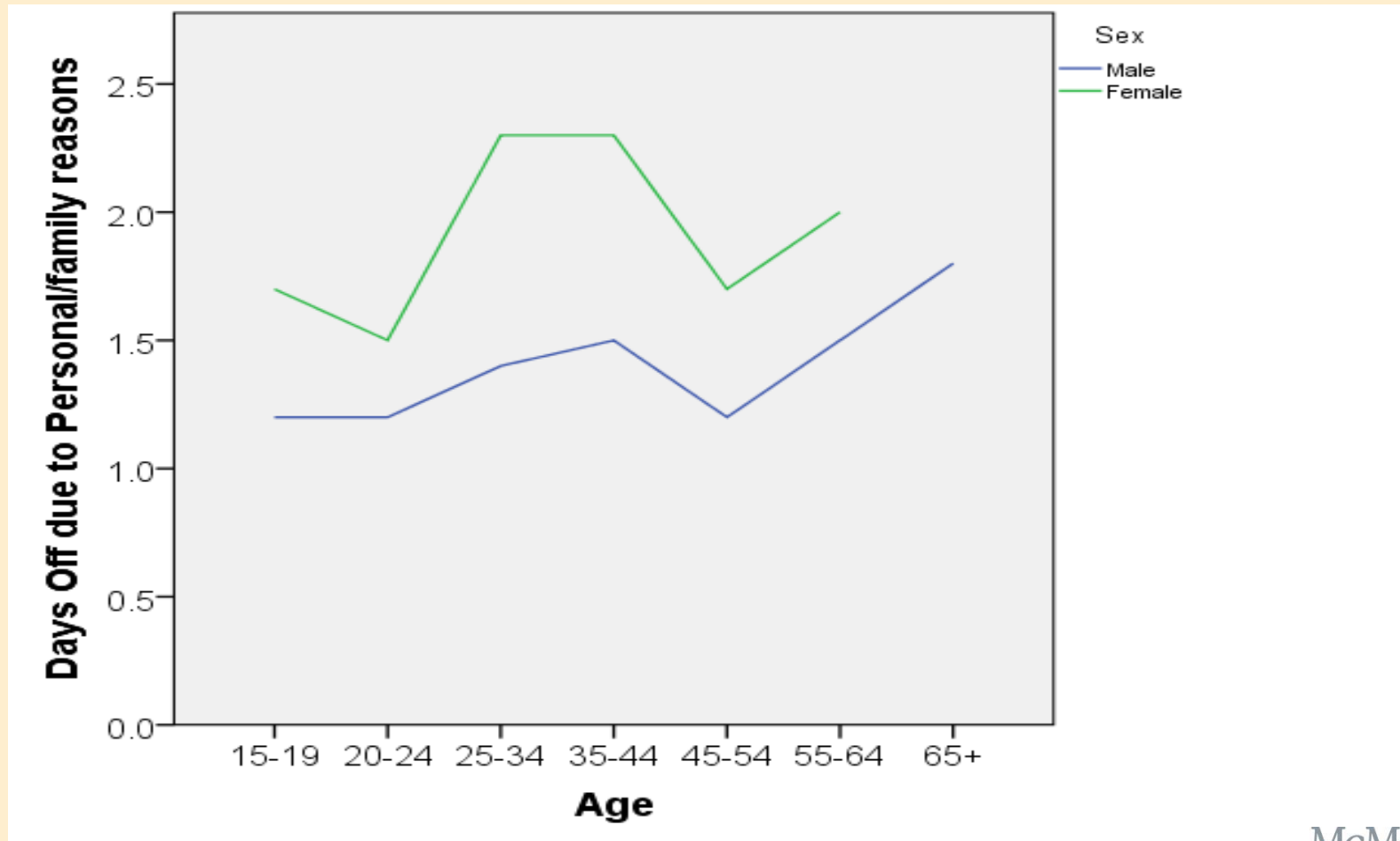
Statistics Canada, 2012

Absence rates due to illness/disability for full time employees, 2011



Source: Statistics Canada

Absence rates due to personal or family responsibilities for full time employees, 2011



Source: Statistics Canada

Implications for work and workforce - 1

- Proportion of population in older age groups is increasing
- Employment rate in older age groups is increasing
- Retirement may be delayed – voluntarily and involuntarily
- Caregiving
 - Formal
 - Informal

Implications for work and workforce - 2

- Need to keep older workers in the workforce to prevent economy from becoming smaller – *but not at expense of young workers*
- Society and organizations need to maintain capability of older workers to be productive

Implications for work and workforce - 3

- Various policy options - e.g., raise the standard pension age
- More (temporary) migrant workers doing dirty, dangerous work
 - Language barriers
 - Less training
 - Less empowerment
 - Fewer rights

Some uncertainties

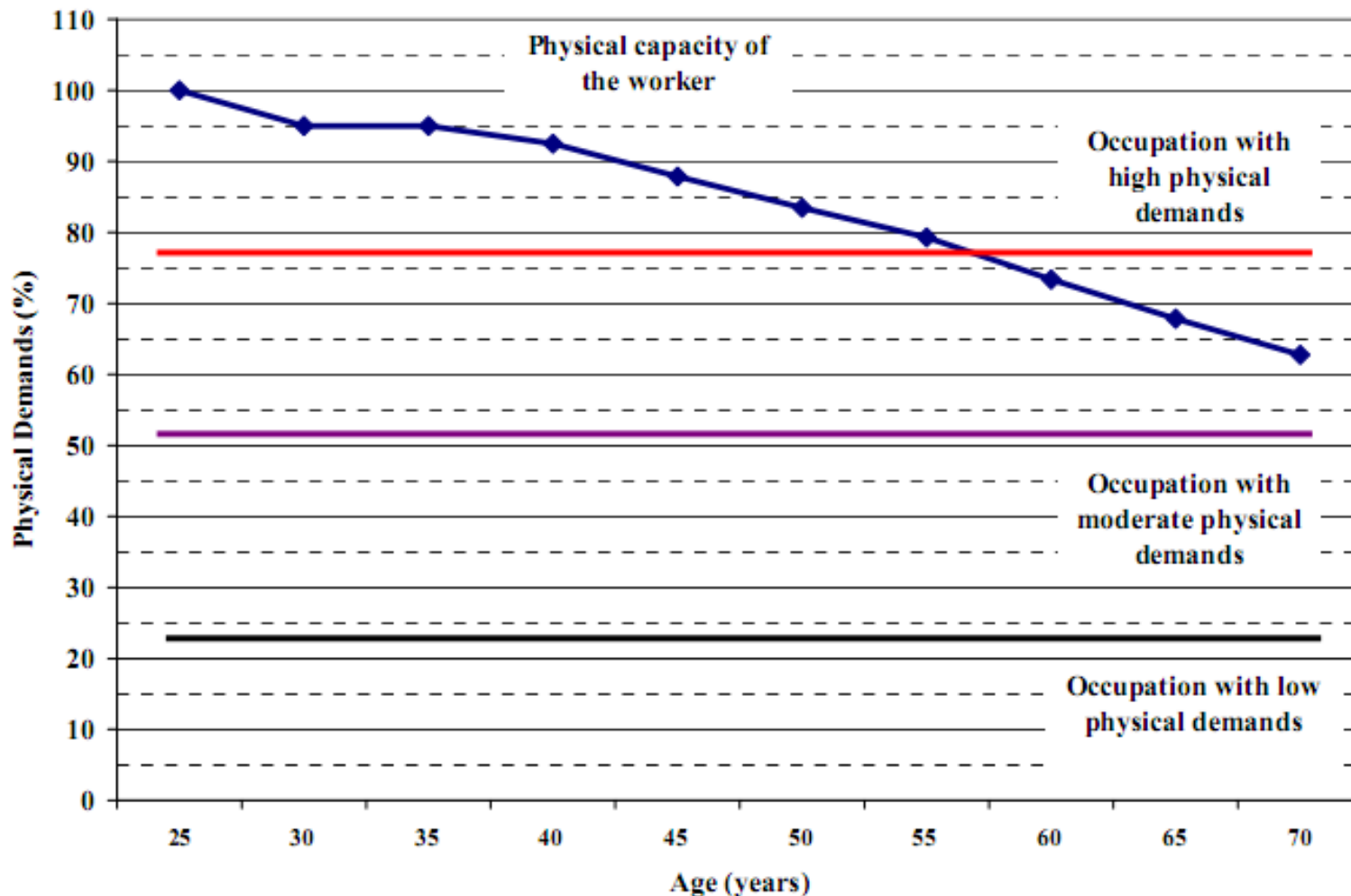
- Types of jobs in future - automation, robots, outsourcing – and where they will be
- How much delayed retirement?
- Demographic trends – fertility, migration, catastrophic events
- Global and local economic situation – levels of (un)employment, etc

Two questions

- What will persuade older workers to stay in employment?
- How to ensure they remain healthy and productive?

Amanda Griffiths, 2009

Hypothetical relationship between age, worker capacity and job demands



What is an 'older worker'?

- Different definitions of age:
 - Chronological
 - Subjective
 - Social age
 - Relative age
 - Legal
 - Biological
- US Age Discrimination in Employment Act
 - Prohibits discrimination against over-40s
- May be chronologically 45+ or 50+ or 55+

Historical views of 'older workers': first part of the 20th Century

- “women begin to break down in their thirties”
- “men [over 40] lack the essential flexibility of body and mind and suffer with impaired health”

Common attitudes of businesses described by Alsaker (1939); cited by Veit (2012)

Relationship between age and health

- and health and safety implications
- and some workplace solutions

Note: Many solutions are simply enhanced good health and safety practice

Sensory changes with (normal) aging - 1

- Hearing
 - Acuity - especially at high frequencies ↓
 - Noise-induced hearing loss irreversible
 - Distractibility ↑

Ensure audible warnings or don't rely on them alone

Decrease noise to avoid distraction

Eliminate possible echos

Avoid high frequency sounds

Sensory changes with (normal) aging - 2

- Vision
 - Flexibility of lens ↓
 - Poorer vision in dark conditions
 - Colour sensitivity ↓
 - Ability to distinguish contrasts ↓
 - Sensitivity to glare ↑

Increase font sizes

Use soft white reader bulbs, glare free screens

Strengthen contrasts, e.g., at edge of stairs, but avoid sudden changes in illumination

Allow for reduced field of vision

Allow for use of glasses (bifocals, trifocals)

Health changes with (normal) aging - 1

- Musculoskeletal system
 - Strength, mobility/flexibility, bone density ↓

Reinforce ergonomic programs

- Cardio-respiratory system
 - Lung function ↓
 - O₂ exchange rate ↓
 - Arteries thicken / harden

Ensure sufficient breaks, rotate tasks, etc

Health changes with (normal) aging - 2

- Reduced thermo-regulation

Limit work in extreme heat or cold

- Skin

- Stretches less easily
- Permeability ↑

Ensure skin protection, prevent trans-dermal exposures

Health changes with (normal) aging - 3

- Sleep problems ↑

Limit need for alertness

- Prevalence of chronic diseases ↑

Determine work limitations

- Possible interactions between medication and workplace exposures

Consider impact of drug and toxic exposure combinations

Health changes with (normal) aging - 4

- Pattern of injuries changes – more slips, trips, falls
Handrails, limit working at heights, better lighting
- Recovery time from injuries / illnesses ↑
Increase accommodation options

Cognitive changes with (normal) aging - 1

- Cognition

- Crystallized cognition ↑
- Fluid cognition, working memory ↓
- Cognitive declines probably start in middle age, more pronounced in late 60's, early 70s

Ensure demands of job are related to cognitive abilities

- Personality

- More conscientious, agreeable

Work and Cognitive Function

- Systematic review by Then et al. (2014)
- Included several long-term cohort studies
- Adjusted for many confounders
- Main result: *High job control and high job complexity both protective against cognitive decline and dementia*

Relationship between age/older workers and 'job performance'

Stereotype of older worker

- Less physically and cognitively able
- More problems with co-workers
- Want more time with families
- Less technologically savvy
- More resistant to change
- More difficult to change

- Hence, lower job performance

Ng & Feldman, 2008

- Challenged this view in systematic review of literature
- Argued that there are more dimensions of 'job performance' than simply 'core task performance'

Extra dimensions of job performance

- Citizenship behaviour
 - Creativity
 - Performance in training programs
 - Organizational citizenship behaviour
 - Safety performance
- Minimum performance
 - General counter-productive behaviours
 - Workplace aggression
 - On-the-job substance abuse
 - Tardiness
 - Absenteeism

Relationship of dimensions with age

Dimension	Benefit to workplace
Core task performance	0
Creativity	0
Training Program Performance	X
General citizenship behavior	✓
Injury rate	✓
General counter-productivity	✓
Aggression	✓
Substance abuse	✓
Tardiness	✓
Absenteeism	✓ / X

Summary of age and job performance

1. On average, age is a weak predictor of job performance
2. Age has inverted U shape relationship with job performance in less cognitively demanding jobs
3. In higher complexity jobs, older workers may perform better than younger workers
4. Exception: this is true if relevant knowledge base does not change rapidly

BUT

5. Much variation between individuals ...

Match individuals to job

- Can't lump together workers based on, e.g., age
- Must establish clear criteria for evaluating and comparing qualified candidate when hiring
- Identify KSA (knowledge, skills, abilities) to do the job
- E.g., evaluate shift tolerance

Caution

- Much of what's 'known' is based on cross-sectional studies, i.e. '*survivors*'
- Greater variation in health at older ages than at younger ones

What else can/should employers do - 1

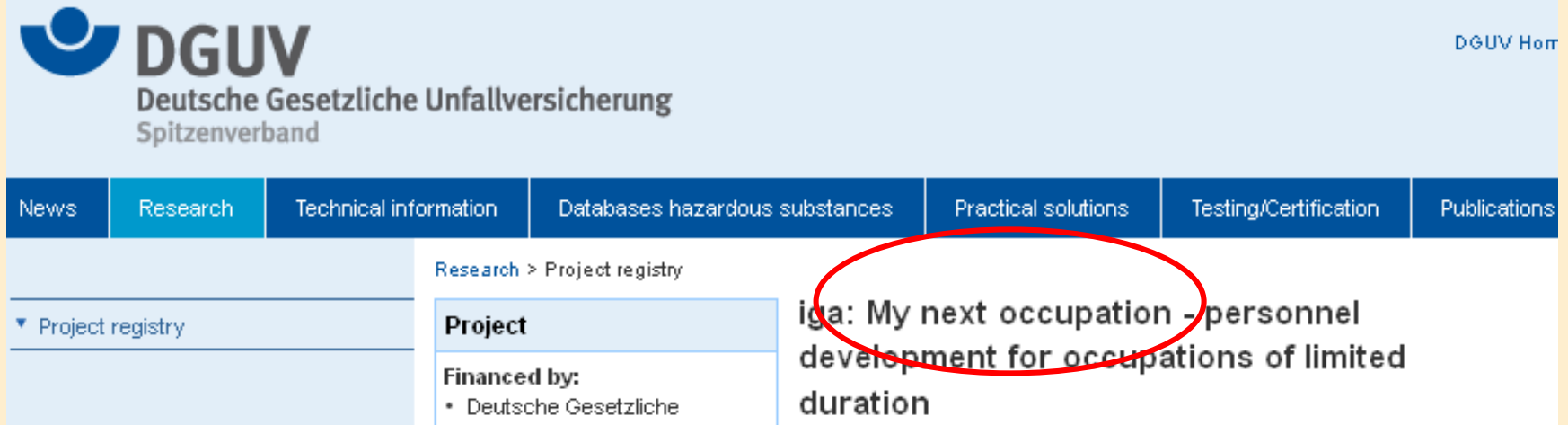
- Create part-time / flexible work, job-sharing, alternative schedules
- Accommodate disabilities / chronic diseases
- Set up comprehensive Return to Work programs
- Improve psycho-social conditions (e.g., job 'enlargement' to increase job control)
- Encourage / promote continuing education and training

Ctd ...

What else can/should employers do - 2

- Create culture of respect for older workers
- Show younger managers how to deal with older subordinates
- Help older workers maintain autonomy , adapt jobs to their physical and mental abilities
- Health promotion
- Support for transition to retirement

German project



The screenshot shows the DGUV (Deutsche Gesetzliche Unfallversicherung Spitzenverband) website. The navigation menu includes News, Research, Technical information, Databases hazardous substances, Practical solutions, Testing/Certification, and Publications. The 'Research' menu is expanded to show 'Project registry'. A specific project entry is highlighted, titled 'iga: My next occupation - personnel development for occupations of limited duration'. The project is financed by 'Deutsche Gesetzliche'. The title 'iga: My next occupation - personnel development for occupations of limited duration' is circled in red.

- Identify jobs that people leave early
- What career advice will prevent early retirement, unemployment at older ages
- What general lessons can be learned

Possible content of wellness programs for older workers

- Degenerative arthritis
- Sleep disorders
- Hypertension
- Glucose intolerance
- Screening for certain diseases
- Hearing and visual loss
- Abuse and bullying of older adults
- Vaccines
- Caregiver stress

Based on: Wallace and Fisher, 2009

What else can/should employers do - 3

RECRUIT, RETAIN, RETRAIN

(Harper & Marcus, 2006)



Canadian Longitudinal Study on Aging (CLSA)

Parminder Raina, McMaster University, Hamilton

Christina Wolfson, McGill University, Montreal

Susan Kirkland, Dalhousie University, Halifax

CLSA: Overview

50,000 women and men aged 45 - 85 at baseline

n=20,000
Randomly selected within
provinces

n=30,000
Randomly selected
within 25-50 km of 11 sites

Questionnaire
• By telephone

Questionnaire
• In person, in home

Clinical/physical tests
Blood, urine (consent)
• At Data Collection Site

Interim contact, follow up every 3 years for 20 years

Data Linkage (consent)

Summary

- Populations are aging, workforces likely to get older
- (Some) Physical and mental declines occur with age
- Effects of declines can be mitigated with workplace changes
- Need to be aware of effects of aging to manage change in workforce
- Plan now for future

Contact

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Canadian Longitudinal Study on Aging:
www.clsa-elcv.ca