The findings and conclusions in this report are those of the authors and do not necessarily represent the views of the National Institute for Occupational Safety and Health.
Overview of Webinar

• Aging Demographics (Bermang)
• OSH Outcomes and Age (Jim)
• NIOSH Center for Productive Aging (Jim)
• What is Productive Aging? (Bermang)
• Strategies for Productive Aging (Juliann)
• Case Study, Tools, & Resources (Juliann)
• Discussion & Questions
Poll Question #1
At What Age Do You Become an Older Worker?

• Age Discrimination in Employment Act (U.S.): 40+ years
• European perspective: 45+ years
• AARP: 50+ years
• U.S. Census: 55+ years
• Eligibility for select social programs:
  • e.g., Medicare (U.S.) and Old Age Security (Canada): 65+ years
• Generational: e.g., Baby Boomers: 52 – 70 years
• It depends on the occupation or industry.
• It’s in the “eye of the beholder.”
Change in the Age Composition of the U.S. Population, 1900 - 2050

Source: Census Bureau
Growth rate (in percentage) of age groups between 2006 and 2011, Canada

Notes:
2009 (updated postcensal estimates).
2010 (preliminary postcensal estimates).
Proportion of persons aged 65 and over and children aged 14 years and under, Canada, 1971-2031
Percentage of population aged 65 or over by country

![Bar chart showing percentage of population aged 65 or over by country.](chart)

Source: UN Population Division, Ageing and Development Database 2014
By 2024, 25% of U.S. Workers Will Be Aged 55+ years, and 8% Will Be Aged 65+ years.


Source: U.S. Bureau of Labor Statistics
In 2015, 22.6% of U.S. Workers Were Aged 55+ years

Poll Question #2
Two Contrasting Views of Aging

All would live long, but none would grow old.

-- Benjamin Franklin (1705 – 1790)

Aging as a process of decline and loss.

Aging as a process of development and growth.
Aging As Decline & Loss

- Almost all types of biological functioning decline with age.
- Risk of disability and chronic health conditions increase with age.
- Recovery following a health problem can be more challenging with age.
- **Caveat**: enormous individual differences, decline/loss may not necessarily affect work-related activities.
Aging As Development & Growth

• Crystalized intelligence tends to increase with age and may counterbalance loses/declines.

• Emotional health tends to be stable across the working life and may actually improve.

• Motivation and perspective may gradually shift and improve as one gets older.

• Caveat: amount of growth may depend on your environment; requires a long-term perspective.
Work-related Variables and Their Association with Age

- Job performance (across occupations) ? $0$
- Job satisfaction/job commitment ? $+$
- Work-related accidents/injuries ? $+$ and $-$
Rate of Fatal and Nonfatal Occupational Injuries/Illnesses as a Function of Age

* Fatal injuries: rate per 100,000 full-time equivalent workers; Nonfatal injuries: rate per 1,000 full-time equivalent workers.

**Source:** National Electronic Injury Surveillance System (NEIS-Work), United States, 2004; and Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries, United States, 2005.
Work-related Variables and Their Association with Age

- Job performance (across occupations) ?
- Job satisfaction/job commitment ?
- Work-related accidents/injuries ?
- Return to work following injury?
- Ability to learn new information ?
- Back pain ?
- Health care costs ?

0
+ and -
+ and +
- and ?
0 and +
+
Health Conditions Among Workers Age 55 and Older
(Data from 2002 Health and Retirement Study)
Work-related Variables and Their Association with Age

- Job performance (across occupations)?
- Job satisfaction/job commitment?
- Work-related accidents/injuries?
- Return to work following injury?
- Ability to learn new information?
- Back pain?
- Health care costs?
Summary

• The impact of aging is gradual and complex.

• Of concern: severe/fatal injuries, falls, recovery from injuries/illnesses, keeping skills current, chronic health conditions

• Of promise: higher job satisfaction, risk adverse, stable/improving crystallized intelligence and institutional knowledge, dependability and strong work ethic
So What? Implications of Age-related Changes for Organizations

• Primary prevention is paramount.
• Work environment matters.
• An expanded, more “holistic,” view of OSH is needed.
NIOSH Center for Productive Aging and Work

• Develop NIOSH-wide research goals on the aging workforce
• Build and expand upon collaborations with outside partners
• Expand knowledge on interventions and best practices
• Develop a broad range of useful translational products on the aging workforce
Productive Aging

Productive aging is an approach that emphasizes the positive aspects of growing older and how individuals can make important contributions to their own lives, their communities and organizations, and society as a whole.

--Robert N. Butler

(minimize the losses, maximize the growth)
Four Attributes of Productive Aging Applied to Work

• Life span perspective.
• Comprehensive and integrated approach to occupational safety and health.
• Emphasis on outcomes that recognize the priorities of both workers and employers.
• Supportive work culture for multi-generational issues.
• The aging process is:
  • Multidirectional and involves both losses and gains.
  • Characterized by plasticity
  • Multidimensional
  • Contextual
• **Total Worker Health®**
  - Policies, programs, and practices that integrate protection from work-related safety and health hazards with promotion of injury and illness prevention efforts to advance worker well-being

• **Work Ability**
  - Involves conducting an organizational assessment in working conditions, employee health, professional skills, and psychosocial factors
## Worker and Organization

### Worker-Centered Outcomes
- Maintenance of individual physical and mental health
- Safe work environment
- High level of job satisfaction
- Ability to make contribution to the organization
- Ability to meet needs outside of work
- Fair treatment and respect

### Organization-Centered Outcomes
- Lower health care costs
- Reduced workplace injuries, disability, and worker's compensation costs
- Low turnover and absenteeism
- Maintenance or improvement in overall productivity of workforce
- Recruitment and retention of experienced workers
- Transfer of expertise between generations
• WW II, 1925-1945
• Baby Boomers, 1946-964
• Generation X, 1965-1980
• Millennials, 1981-2001
Poll Question #3
Strategies for an Aging-friendly Workplace

- Work environment
- Organizational policies
- Society & Community
- Aging Worker
Strategies to Enhance Productive Aging\(^1\): Targets of intervention

- **Worker**
  - Provide health and lifestyle interventions
  - Invest in training and building worker skills
  - Avoid prolonged, sedentary work
  - Build institutional knowledge

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Strategies to Enhance Productive Aging: Targets of intervention

• Work Environment
  • Manage hazards
  • Provide and design ergo-friendly work environments
  • Manage lighting, noise, walking/working surfaces
Strategies to Enhance Productive Aging: Targets of intervention

• Organization
  • Proactively manage reasonable accommodations and return-to-work
  • Require aging workforce management skills training for supervisors
  • Prioritize workplace flexibility
  • Utilize intergenerational teamwork & mentoring strategies
  • Match tasks to abilities
Strategies to Enhance Productive Aging: Targets of intervention

• Society & Community
  • Retirement laws
  • Health care costs
  • Society Security
  • Job training programs
Strategies to Enhance Productive Aging: Targets of intervention
BMW List of Solutions

- Wooden flooring
- Rest breaks
- Time for stretching
- Orthopedic footwear
- Adjustable worktables
- Job rotation according to physical demands of task
- Large-handled gripping tools

→ Even seemingly small changes can have a big impact if implemented properly.
### Strategies to Enhance Productive Aging: Targets of intervention

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<th>Type of Goal</th>
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<th>When It Will Finish</th>
<th>Challenges &amp; Responses</th>
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Strategies to Enhance Productive Aging: Considerations

• Choose goals that are large enough to make an impact, but manageable enough to be accomplished.
• Needs go far beyond an educational curriculum
• May be difficult to get organizations to commit to a systematic approach
• Intergenerational conflicts are real, but can be advantageous.
• Classroom model has limited reach, especially during an economic downturn or technological changes.
Additional Resources

- NCPAW home page
  - https://www.cdc.gov/niosh/topics/productiveaging/
  - Office of Total Worker Health®
    https://www.cdc.gov/niosh/twh/

- Designing the Age Friendly Workplace
  - https://agefriendlyworkplace.squarespace.com/

- Finnish Institute of Occupational Health (FIOH) Work Ability Index

- EU-OSHA Healthy Workplaces for All Ages E-guide
Discussion and Questions