Advancing health and well-being in the aging workforce

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Assistant Professor
UConn Health Center
Center for the Promotion of Health in the New England Workforce (CPH-NEW)
Carl Geiger, Stanley Works
Retired at age of 66

Steve Cavallari, Fuller Brush
Retired at age of 58
School bus driver until 70

John Cavallari
Aetna/Travelers
The Hartford
State Dept of Labor
Still working at 64

Jenn Cavallari
Pfizer
CA Dept of Health
Polaroid
Harvard
UConn Health
Retirement??
References and Resources


Learning Objectives

• Describe worker age trends
• Identify health and safety concerns for older workers
• Identify how to advance the health and well-being of workers (Total Worker Health™, CPH-NEW)
• Learn about each others’ approaches to the aging workforce
Pop Quiz

• How old is your workforce?
• Most workers compensate for age-related losses using strategies and skills related to their expertise or experience. Have you seen this in your workplace?
• What interventions has your employer implemented to address the needs of aging workers?
Take Home Back to Work Messages

- Workforce is getting older
- Aging workers are a diverse group
- Interventions exist, but there is no ‘one size fits all’ approach
- Consider interventions with a focus on worker well-being identified and implemented with an active participatory approach
Increasing US population median age

The number of people age 65+ will more than double, increasing from 13% of total population in 2010 to 21% of total in 2050.

Increasing US population median age

**Median Age: 1900 to 2050**
(For information on confidentiality protection, nonsampling error, and definitions, see www.census.gov/prod/cen2010/doc/sf1.pdf)

Why the increase in older persons?
- Increase in life expectancy
- Decline in fertility
- ‘Baby Boom’ generation

Just how old is an older worker?

Am I considered an older worker?
Just how old is an older worker?

- **>40 years old** – legally protected from age discrimination
- **≥55 years old** – used by Bureau of Labor Statistics (BLS)
- **≥62 years old** – social security
- **≥65 years old**
There is extreme diversity among older workers:
- Social contexts of their lives
- Resource and income

Chronological age matters very little
Demographic trends of older workers
Workers aged ≥65 yrs

Workers aged ≥65 yrs

## Age To Receive Full Social Security Benefits

<table>
<thead>
<tr>
<th>Year of Birth*</th>
<th>Full Retirement Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1937 or earlier</td>
<td>65</td>
</tr>
<tr>
<td>1938</td>
<td>65 and 2 months</td>
</tr>
<tr>
<td>1939</td>
<td>65 and 4 months</td>
</tr>
<tr>
<td>1940</td>
<td>65 and 6 months</td>
</tr>
<tr>
<td>1941</td>
<td>65 and 8 months</td>
</tr>
<tr>
<td>1942</td>
<td>65 and 10 months</td>
</tr>
<tr>
<td>1943--1954</td>
<td>66</td>
</tr>
<tr>
<td>1955</td>
<td>66 and 2 months</td>
</tr>
<tr>
<td>1956</td>
<td>66 and 4 months</td>
</tr>
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</tr>
<tr>
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<td>66 and 8 months</td>
</tr>
<tr>
<td>1959</td>
<td>66 and 10 months</td>
</tr>
<tr>
<td>1960 and later</td>
<td>67</td>
</tr>
</tbody>
</table>
Workers aged \( \geq 55 \) yrs

Projected percentage change in labor force by age, 2006-2016

<table>
<thead>
<tr>
<th>Age</th>
<th>Percent change</th>
</tr>
</thead>
<tbody>
<tr>
<td>75 and older</td>
<td>84.3</td>
</tr>
<tr>
<td>65 to 74</td>
<td>83.4</td>
</tr>
<tr>
<td>55 to 64</td>
<td>36.5</td>
</tr>
<tr>
<td>25 to 54</td>
<td>2.4</td>
</tr>
<tr>
<td>16 to 24</td>
<td>-6.9</td>
</tr>
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</table>

Source: U.S. Bureau of Labor Statistics
What is the average age of your workforce?

Has it increased over the last decade?
Why are older workers staying in the workplace?

Phenomenon not completely understood
– Living longer and healthier
– Poor economic climate
– Changes in retirement:
  • (contribution plans, 401ks)
  • (defined benefits, pensions)
– Healthcare costs
Age of workforce departure differs by industry

FIGURE 2-2  Survival function by industry for men.

Age of workforce departure differs by industry

FIGURE 2-2 Survival function by industry for men.

Conceptions of retirement are changing

Old school
- Go to school, pick a career
- Get a good job and stick with it
- Retire enjoying a life of leisure with no paid employment

New school
- School
- Job 1
- Job 2
- Job 3…
- *Part-time* Job 8

Repeat as necessary

Identifying the health and safety needs of older workers
Skeletal muscle and aging

• Gradual loss of muscle mass
• Increase in time required to repair damaged tissue

Workers may experience:
• Decrease in capacity for exertional tasks
• Increased risk of falls and balance maintenance (although research is among frail)

Max physical strength is reached at age 20-30. Declines occur gradually at 40-50 and more rapidly thereafter

Silverstein AJIM 2008
IOM 2004 Report
Normative effects of aging produce declines

- Bone density
- Pulmonary oxygen uptake, exercise capacity
- Hearing
  - High frequency loss, difficulty in speech recognition, localizing sounds in space
- Visual acuity
  - Reduced acuity, diminished color discrimination and depth perception
- Resistance to heat and cold stress
Impacts of age on cognitive function

Memory in youth is active and easily impressible; in old age it is comparatively callous to new impressions, but still retains vividly those of earlier years.

Charlotte Bronte

meetville.com
**Fluid intelligence**, the capacity to think logically and solve problems in novel situations, independent of acquired knowledge. It is the ability to analyze novel problems, identify patterns and relationships that underpin these problems and the extrapolation of these using logic. (decreased with age)

**Crystallized intelligence** is the ability to use skills, knowledge, and experience. It does not equate to memory, but it does rely on accessing information from long-term memory. Crystallized intelligence is one’s lifetime of intellectual achievement, as demonstrated largely through one's vocabulary and general knowledge. (increased with age)
FIGURE 5-3 WJ III cognitive clusters by age.

Chronic Diseases by Age

<table>
<thead>
<tr>
<th>TABLE 2—Common Chronic Diseases or Conditions Present in the Workforce, by Age</th>
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<tbody>
<tr>
<td>Age &lt;45 Years</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>Asthma</td>
</tr>
<tr>
<td>Depression</td>
</tr>
<tr>
<td>Anxiety</td>
</tr>
<tr>
<td>Musculoskeletal pain</td>
</tr>
<tr>
<td>Diabetes</td>
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Source. Adapted from Munir et al. and Hymel et al.18a,18b

Heart disease, cancer, stroke, chronic obstructive lung disease and diabetes cause almost 70% of deaths in US

Silverstein AJIM 2008
Do age-related declines matter?

“…workers even with diminished physical or cognitive function continue to work effectively as they age”

- Most jobs do not require performance at full capacity
- High variability in declines in older persons
- Laboratory does not equate to daily life

Silverstein AJIM 2008
Most workers compensate for age-related losses using strategies and skills related to their expertise or experience.

What is your experience?
What is the relationship between age and performance?
What is the relationship between age and performance?

I don’t know.

Do you?
What is the relationship between age and performance?

I don’t know.

Do you?

In general, most studies have found no performance-related age-trends
FIGURE 5-4 Automobile crashes by age.
Older workers have lower overall rate of job-related injury, but their rate of fatal injuries is much higher.

Loepke et al. JOEM 2013
According to BLS, days away from work due to an injury increases consistently with age.
<table>
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<th>Examples</th>
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| 1. Age and an ORF are independent risks for occupational disease | Work-related psychosocial factors → WMSDs | A. Age and psychosocial factors are both a risk for WMSDs  
B. Age and outdoor work are both risks for macular degeneration | 45,46 |
| 2. Age modifies an ORF–occupational disease association | Physical job demands → Age → Injury | Risk of injury associated with physical job demands (e.g., vibration, high force, awkward postures, high-pace work, high physical workload) increases with age ≥ 45 y (after control for other lifestyle factors) | 47 |
| 3. An ORF modifies an age–occupational disease association | Organic solvents → Age → Hearing loss | Hearing acuity decreases with age; organic solvents affect age-related hearing loss | 48–51 |
| 4. Age is a risk for one disease/disease state, an ORF is a risk for another, and the 2 interact | Solvent → Liver disease | Dyslipidemias increase with age; solvent exposure is linked to liver disease; lipid disorders may account for 5%–30% of US cryptogenic hepatocellular carcinoma cases; of relevance are the effects of lipid disease and solvent exposure on workers’ livers | 52–59 |

Note. ORF = occupational risk factor; WMSD = work-related musculoskeletal disease. Bidirectional and unidirectional arrows indicate flow of effect in the models exemplified.

FIGURE 3—Examples of 4 Conceptual Models of the Relationships Between Age and Occupational Risk Factors

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FIGURE 3—Examples of 4 Conceptual Models of the Relationships Between Age and Occupational Risk Factors

How do we know what exposure level is safe?

**Schulte et al. Am J Pub Health 2012**

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**Note. ORF = occupational risk factor; WMDS = work-related musculoskeletal disease. Bidirectional and unidirectional arrows indicate flow of effect in the models exemplified.**

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Interventions for older workers

“If employers are to reap the benefit of the work ethic and experience of older workers, they must design the workplace of the future to meet their needs” … AARP
Multiple levels of influence for addressing the H&S of aging workforce

- Society
- Organization
- Work Environment
- Aging Worker

Silverstein  AJIM 2008
Multiple levels of influence for addressing the H&S of aging workforce

Hierarchy of Controls

- Eliminate or Substitute
- Engineering Controls
- Awareness Means
- Inform
- PPE

Silverstein AJIM 2008
Multiple levels of influence for addressing the H&S of aging workforce

Silverstein AJIM 2008
Programs to meet the needs of aging workers

Social Support

- Community-based support services
- Access to healthcare
- Protection from discrimination

Silverstein  AJIM 2008
Social Measures

- Elder care responsibilities
- Financial health
- Pre-retirement planning
- Transportation assistance
Programs to meet the needs of aging workers

Organization of Work

- Alternative forms of work organization
- Vocational rehabilitation and return to work programs

Silverstein AJIM 2008
Work Organization

- Flexible hours
- Increase worker autonomy
- Job-sharing
- Telecommuting
- Phased retirement

Silverstein  AJIM 2008
Accommodations and RTW Programs

- Americans with Disabilities Act, title 1 aimed at integrating workers with disabilities into the workplace
- Prolonged periods of work disability is seen among older workers low back pain, cardiac patients, trauma patients
- Modified work programs facilitate return to work for workers with temporary or permanent disabilities

IOM 2004 Report
Programs to meet the needs of aging workers

Work Environment
- Ergonomics and human factors engineering
- Exposure limit that protect the most sensitive

Silverstein AJIM 2008
Balance

Workers > 50 may begin to have problems with balance

- Include handrails along travel routes
- Housekeeping to reduce clutter
- Slip resistant walking surface
- Repair uneven or wet floors
- Use color contrast between stairway treads and risers

Silverstein  AJIM 2008
Supporting Vision

- Corrective lenses – in safety glasses?
- Monitors are often placed between 40-60 cm from users
  - Between near- and far- focus distances
  - Gradient glasses /bifocals or computer glasses
- Redesign of safety & road signs
Supporting Vision – Lighting
(although not validated)

• General lighting intensities 50% greater than for young workers
• Task lighting three times greater than general levels
• Placement of task light to the workers’ side and front to reduce shadows
• Increased contrast for stair edges and curbs
• High illuminance fluorescent fixtures to enhance color discrimination

Silverstein  AJIM 2008
Hearing

• Noise reduction
  – Minimize background noise
• Redundant warning signals
  – flashing warning lights
  – cell phones with vibration
• Reduced speech rate on automated systems
• Telephones with amplifying devices

Silverstein  AJIM 2008
Physical Changes

• Use ergonomic principals to reduce physical and psychosocial stressors to reduce the risk of musculoskeletal disorders

• Programs should involve workers

• Some examples
  – Better work postures
  – Patient transfer

NAS IOM 2001 Report
Programs to meet the needs of aging workers

Employee

- Health Promotion
- Disease Prevention and Management
- Training and Skill Development
- Eldercare Support
- EAP

Silverstein  AJIM 2008
Health Promotion Programs for Older Worker

- Education in providing care-giving skills
- Nutritional and dietary interventions for older adults
- Polypharmacy and therapy management programs
- Tailored exercise programs
- Disease screening

IOM Report 2004
“In addressing the health and safety needs of older workers it is important to remember they are not all alike”

IOM Report on Health and Safety Needs of Older Workers, 2004
What interventions has your employer implemented to address the needs of aging workers?
How do we address the diverse needs of aging workers?

How do we integrate interventions across the organization?
Annually, employers report...

- Nearly **4 Million** nonfatal workplace injuries and illnesses\(^1,2\)
- Over **55,000** deaths from work-related injuries and illnesses\(^3\)
The health of workers is tied to the health and productivity of organizations.
Nearly 50% of Americans have one chronic health condition. And, of this group almost half have multiple conditions.\(^5\)

= 10 Million
The estimated annual health cost of obesity in the U.S. is $147 Billion

Prevalence* of Self-Reported Obesity Among U.S. Adults, 2012

*Prevalence reflects BRFSS methodological changes in 2011, and these estimates should not be compared to those before 2011.
By 2020, one in four American workers will be 55 years of age or older.\(^8\)
In 2010...

44% of Americans reported that work is often or always stressful.\(^9\)
With access to 65% of the U.S. adult population...

...workplaces are effective settings for addressing individual health and the health of communities.¹⁰,¹¹
Up to **50%** of employees report that work regularly interferes with responsibilities at home and keeps them from spending time with their families.\(^{12,13}\)

And, **40%** of employees do not take their allotted vacation time.\(^{13}\)
Workers’ risk of disease may be increased by exposure to both occupational hazards and individual risk-related behaviors.
In 2012...

U.S. healthcare spending reached

$2.79 Trillion
References


2. CDC (Centers for Disease Control and Prevention) [2013]. Workers' Memorial Day: April 28, 2013. MMWR 62(16):301. [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6216a1.htm?s_cid=mm6216a1_w].


Total Worker Health™

• a strategy integrating occupational safety and health protection with health promotion to prevent worker injury and illness and to advance health and well-being
Center for Promotion of Health in the New England Workplace (CPH-NEW)

- UMass Lowell
- UConn Health Center
- UConn Storrs
CPH-NEW’s goals include
(From NIOSH Total Worker Health™ Mission)
www.cdc.gov/niosh/twh

1. Implement and evaluate models for improving worker health by combining:
   - Worksite health promotion (WHP)
   - Workplace safety & health (OSH)

2. To promote participatory approaches that engage all levels of an organization in the design of effective, sustainable workplace interventions.
CPH-NEW Healthy Workplace toolkit: PROGRAM GOALS

Promote PARTICIPATION of the workforce in the design of interventions

• Enhances job control, reduces stress
• Uncover root causes of injury, illness, poor health behavior

Design interventions that INTEGRATE workplace health protection (safety) and health promotion.

• Healthier work environment supporting healthier employee behavior
Healthy Workplace Participatory Program Toolkit

- Program start up guides and tutorials
  - Readiness and resource self-assessment
  - Committee formation
  - Assessment and problem identification

- IDEAS intervention planning tool for *integrated health protection/health promotion*
  - *Intervention, Design, and Analysis Scorecard*
Welcome!

Tools to Protect Your Most Valuable Asset

Use this new online tool - the Healthy Workplace Participatory Program - to systematically develop programs that improve employee health, safety and productivity.

Developed by researchers at the Center for Promotion and Health in the New England Workplace (CPH-NEW), the field tested tool includes an interactive assessment and seven-step planning process.

The key to a successful program in any organization is employee participation, especially in the design of interventions. That's why the tools on this site were designed to engage employees at every step in the process. Research shows that employee participation - what we call a participatory design of interventions approach - is key to a long-term, sustainable program.

Interested in onsite training? Please contact us.

Using our materials? Please take our online survey.

How to Use This Online Tool

We encourage you to participate in a full webinar series, including the past webinars, to get up to speed quickly and start using this tool to improve employee health and safety at your organization. On April 15, we began the three-webinar series on Generating Solutions Using the IDEAS Tool.

View past webinars and and register for the IDEAS tools series.

You can use this tool to create a new program or enhance and integrate existing programs.
Interactive Tools

- Worksheets and Quick Reference Guides for Facilitators

Online readiness survey
How Does the IDEAS Tool Work?

Designing interventions with IDEAS is an iterative process.
Recommended participatory program structure
Roles of Steering Committee (SC) & Design Team (DT)

**Steering Committee**
- Selects most feasible/desirable interventions
- Develops or extends interventions to middle management & supervisors & staff
- Helps promote & evaluate all interventions

**Design Team**
- Identifies & prioritizes employee health issues
- Comes up with ideas for workplace interventions
- Proposes best intervention ideas to SC
- Helps promote & evaluate all interventions
- Helps refine interventions, as needed
CPH-NEW Resources

- Website **www.uml.edu/cphnew**
  - Mailing list
  - Quarterly Newsletter
  - CPH-NEWs and Views—fact sheets

- Speakers Bureau

- Pilot grants

- Healthy Worksite Program Toolkit
  - Join our mailing list to get training announcements!
Take Home Back to Work Messages

• Workforce is getting older
• Aging workers are a diverse group
• Interventions exist, but there is no ‘one size fits all’ approach
• Consider interventions with a focus on worker well-being identified and implemented with an active participatory approach
References and Resources


UConn Division of Occupational and Environmental Medicine

- Occupational Safety and Health Core Interest Group (OSH CIG)
  - Listserv, monthly talks and discussion groups
- CPH-NEW Center and Healthy Workplace Participatory Program
- UConn Aging Workforce Study
Please join us in exploring the characteristics of Connecticut’s aging workforce and interventions to improve their ability to work

Speakers:
- Dr. Martin Cherniack, UConn Health
- Ms. Maureen McIntyre, North Central Area Agency on Aging
- A panel of health and safety professionals from CT industries

Interactive discussions:
- Work life balance including eldercare
- Chronic disease and return to work
- Retirement and workforce departure
- Workplace environment

Date: May 13th, 2015
Time: 3:00 PM – 6:00 PM
Location: UConn Health, Edmund and Arlene Grossman Auditorium
          Genetic and Genome Sciences
          400 Farmington Ave, Farmington, CT
          (Free On-Site Parking in Area 2 Lots)

Food and beverages provided
RSVP by May 8 to Jim Gorman, gorman@uchc.edu, 860.679.2369
OLD is the new NEW
For questions or to join our mailing list

Cavallari@uchc.edu