

The Aging Workforce

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Objectives

Provide you with an opportunity to:

- Gain perspective on the realities of the aging workforce – replacing myths with facts.
- Learn about research on older worker injuries and disability.
- Adopt a Strategy for Progress
- Receive practical ideas.

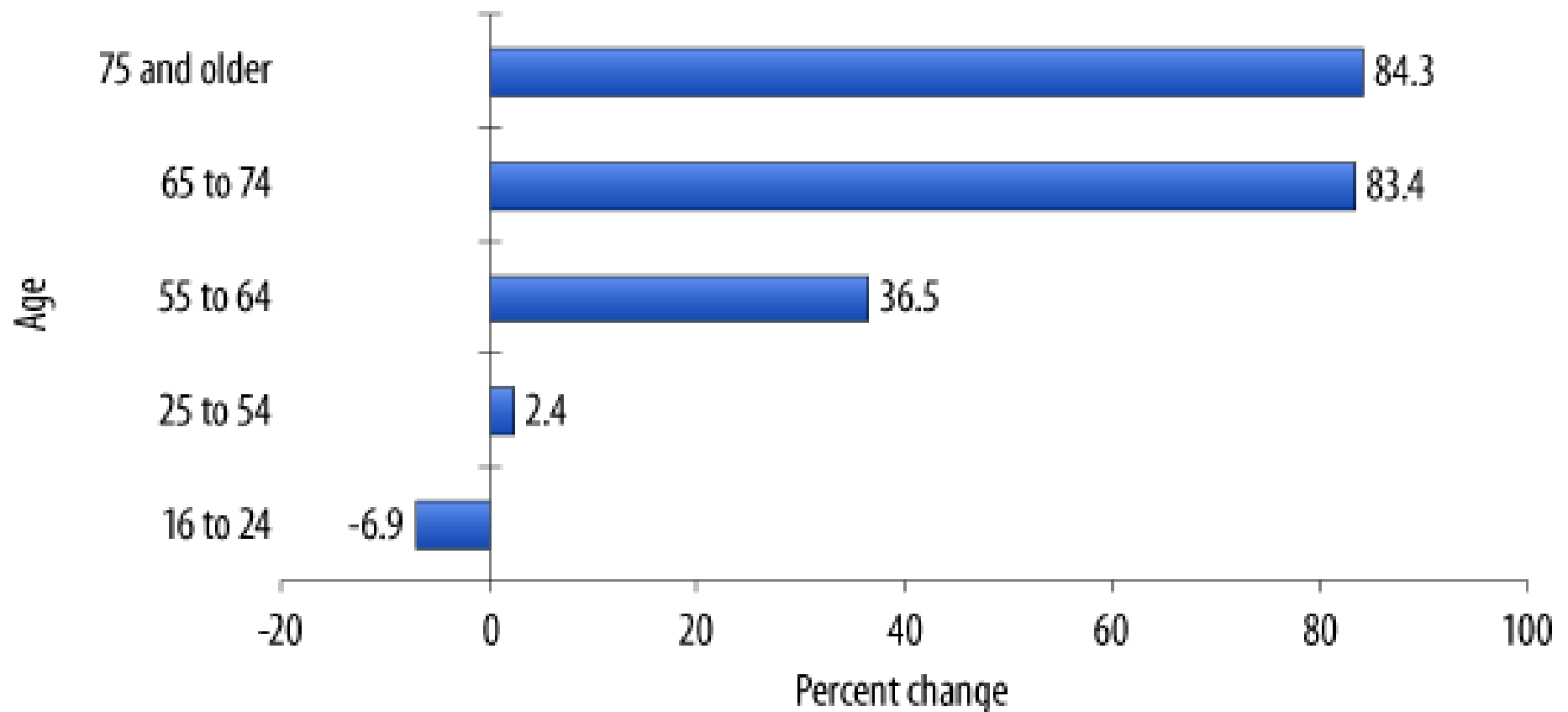
Who Are “Older” Workers?

- Aging in the 20's
 - Vision – by the 40's
 - Scientists: > age 50-55
 - Aging effects manual laborers > 40
 - Seniors 65 or older
 - Age Discrimination in Employment Act (ADEA): Any worker over age 40
 - Defined by AARP as 50+
 - Defined by WHO as over 55
- Mildred Health, at 100-years-old in Oct, 2008 - works 30 hours a week at the Overton Observer in Overton, Nebraska



Aging Workforce

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



Why is the population of older workers increasing?

- Baby boom 1946 – 1963 (47-64 in 2010)
- ↑ life expectancy: death – chronic disease
- ↑ retirement age
- ↓ savings/need \$
- ↓ health insurance availability
- Stay Mentally Active
- Be Productive/Useful
- Stay Physically Active
- Help People
- Do Something Fun
- Social contacts

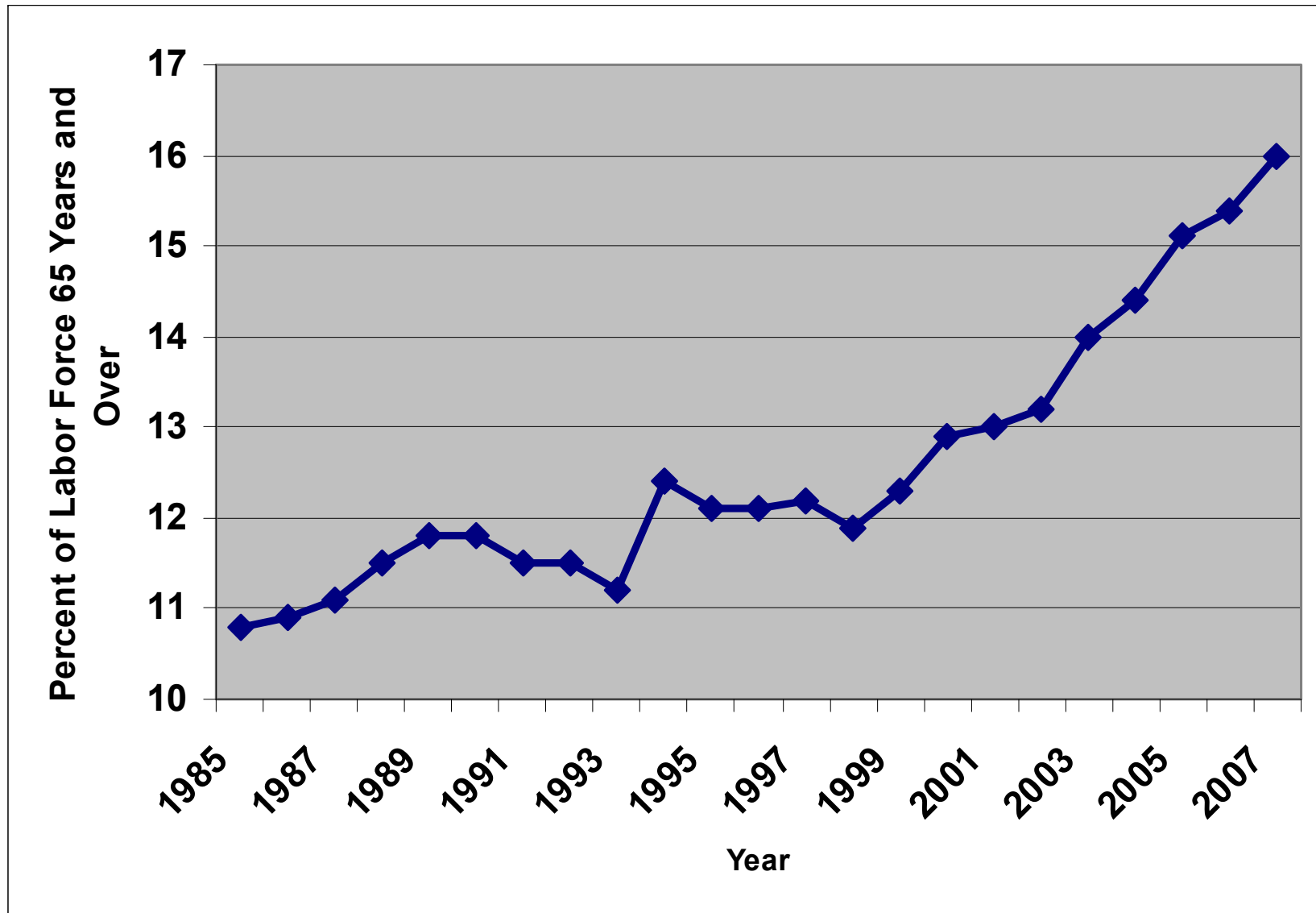


The percent of 65+ individuals who are working or looking for work today is:

- A. The highest it has ever been.
- B. The lowest it has ever been but will be increasing.
- C. About what it was in the early 1970's ✓
- D. About what it was in the late 1940's

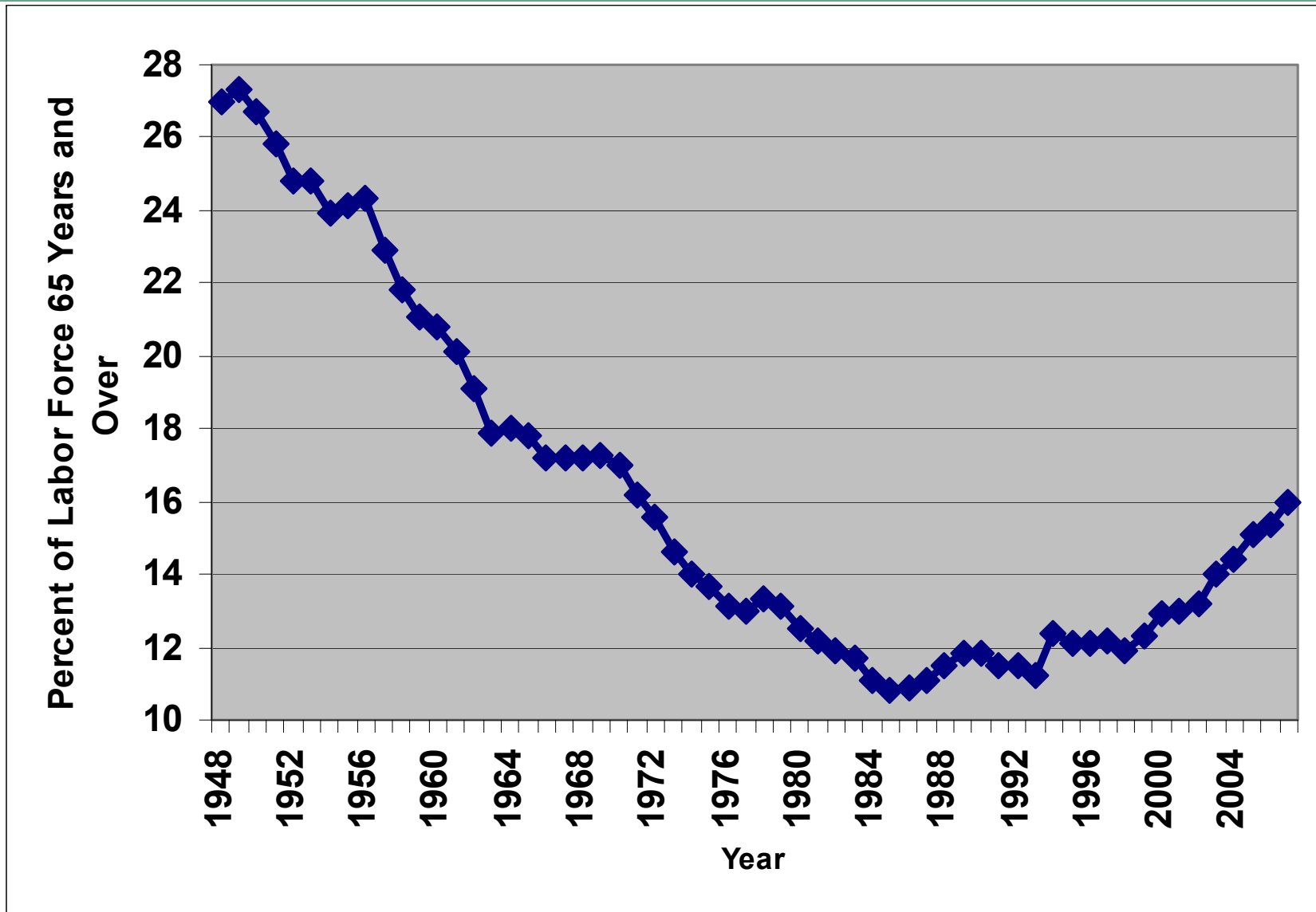
Percent of Labor Force Participation 65 Years and Over

Source: Bureau of Labor Statistics



Percent of Labor Force Participation 65 Years and Over

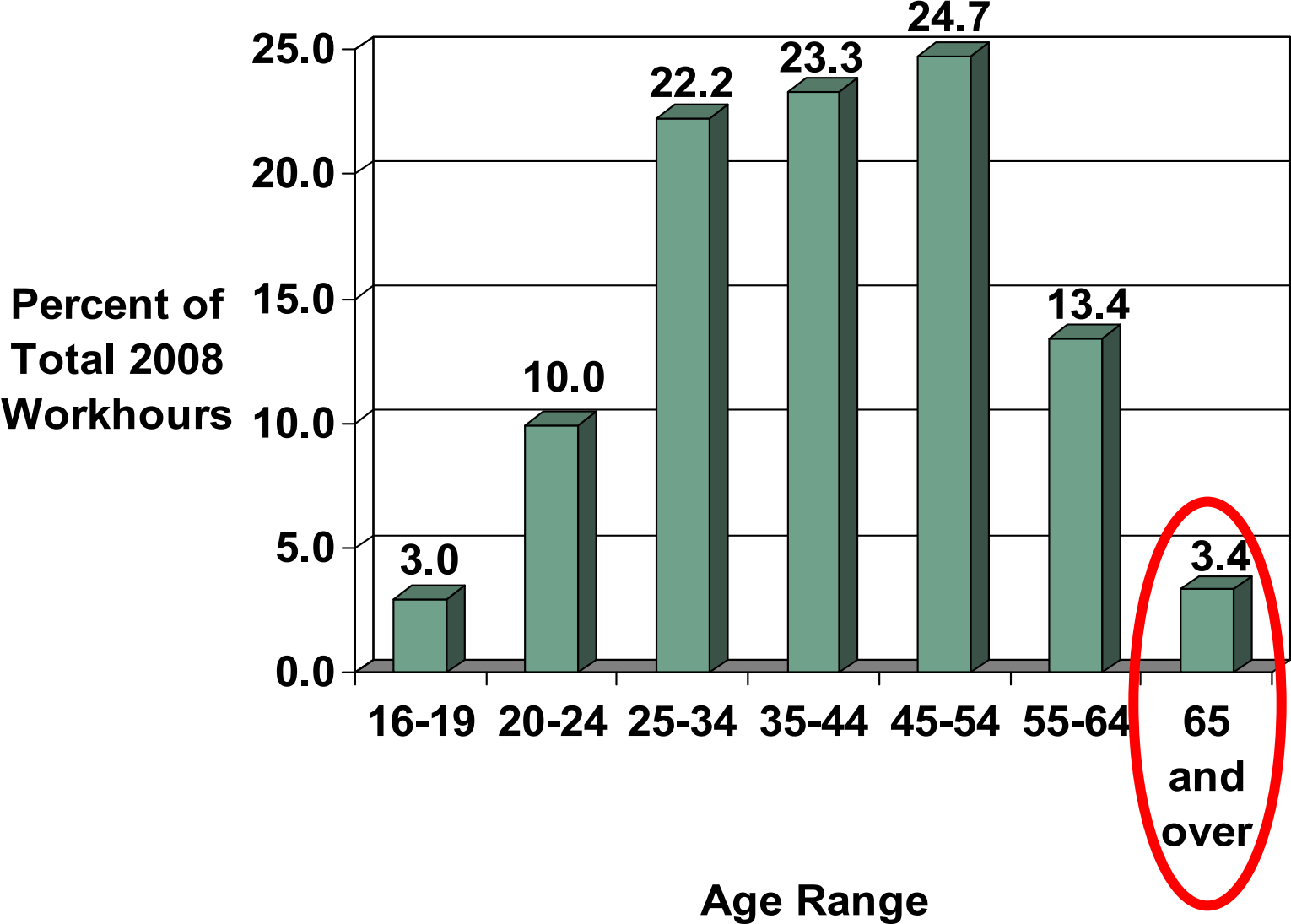
Source: Bureau of Labor Statistics



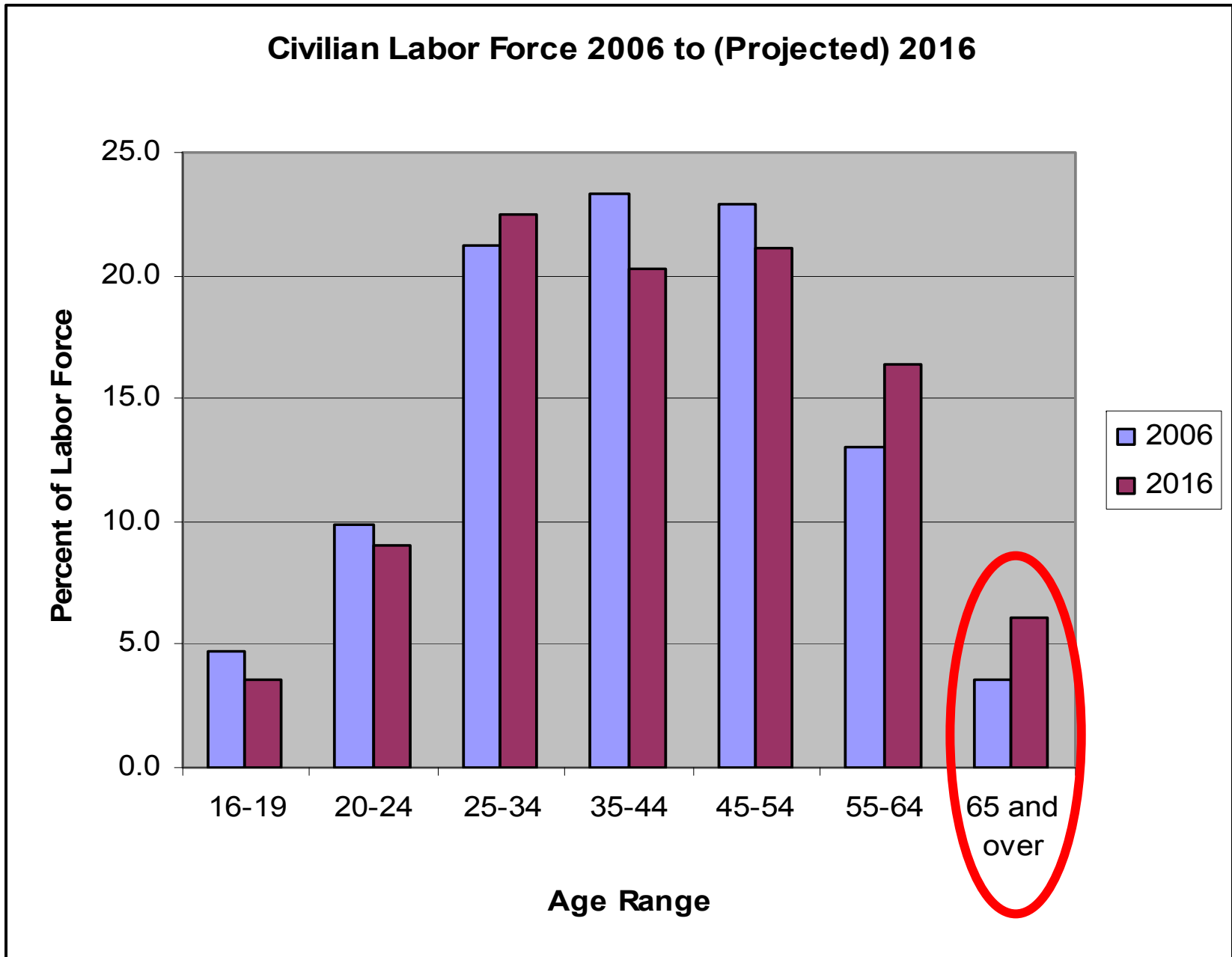
The percent of 65+ workhours as a percent of all hours worked today is:

- A. Over 25%. ✓
- B. 20-25%. ✓
- C. 10-19% ✓
- D. 5-9% ✓
- E. Under 5% ✓

Percent of Total 2008 Workhours By Age Range



Source: American Time Use Survey



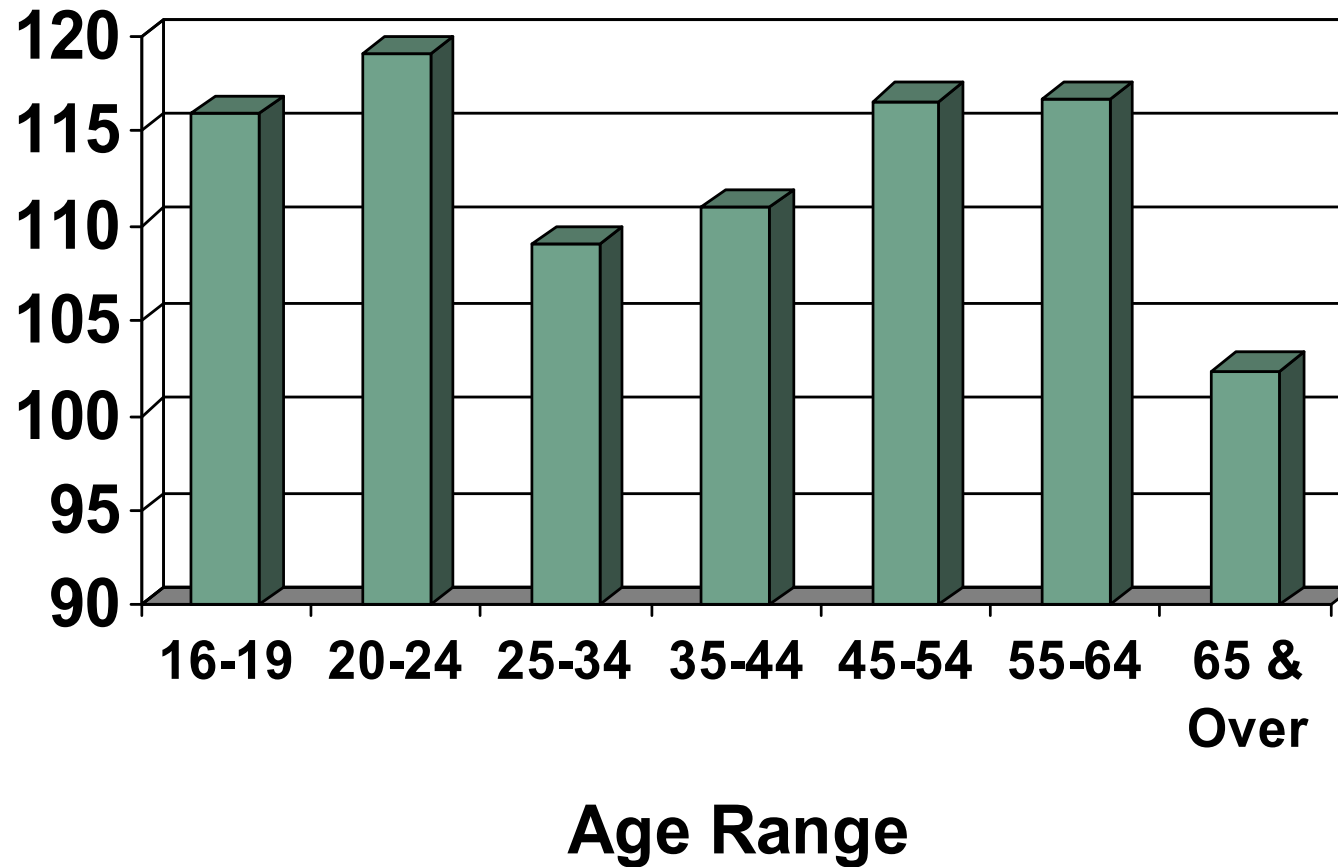
Source: Toossi, Mitra, 2007. Labor force projections to 2016: More workers in their golden years. Monthly Labor Review, November 2007, Table 4.

Workers 65 and older have the **lowest** rate of “lost time” injuries.

A. True ✓

B. False

Nonfatal Occupational Injuries and Illnesses with Days Away from Work Per 10,000 FTE (2008)



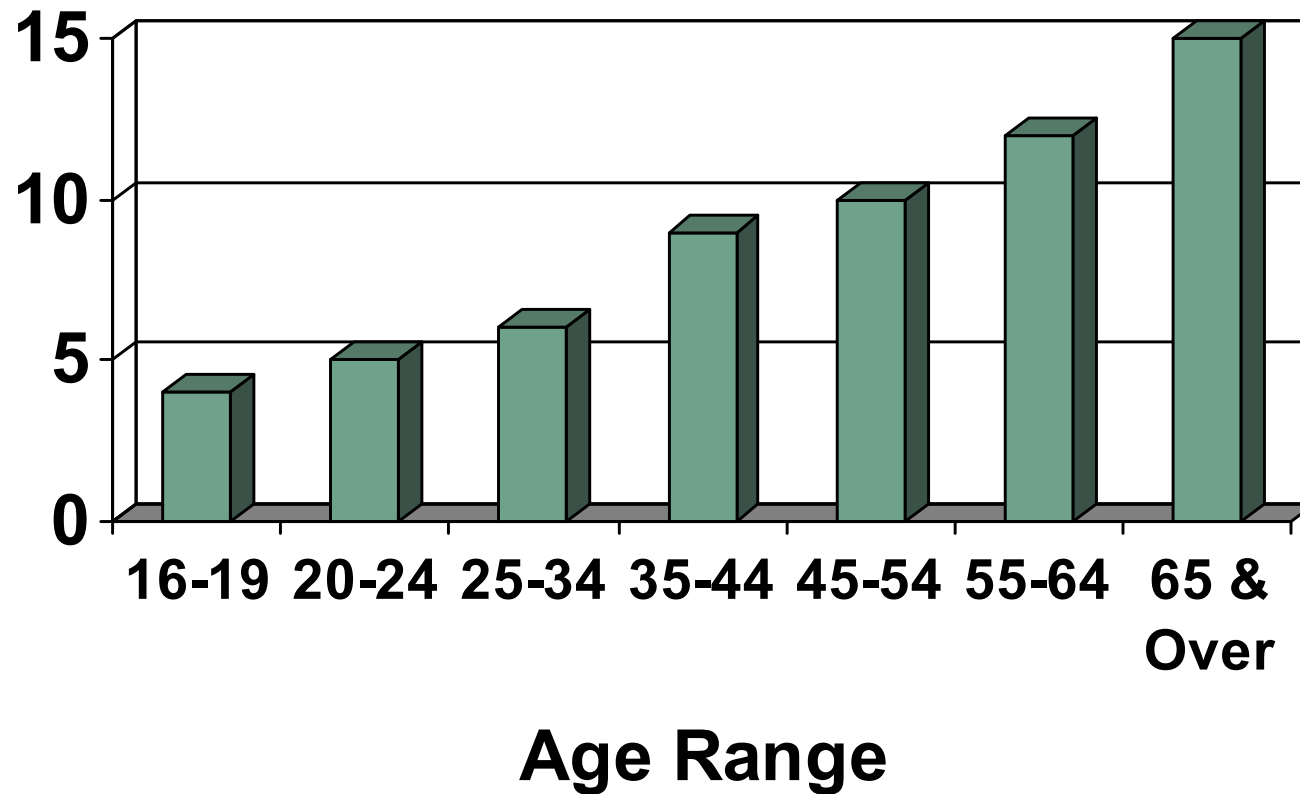
Source: Bureau of Labor Statistics

Workers 65 and older have the longest median days away from work due to injury.

A. True ✓

B. False

Median Days Away From Work for Nonfatal Occupational Injuries and Illnesses with Days Away from Work (2008)



Source: Bureau of Labor Statistics

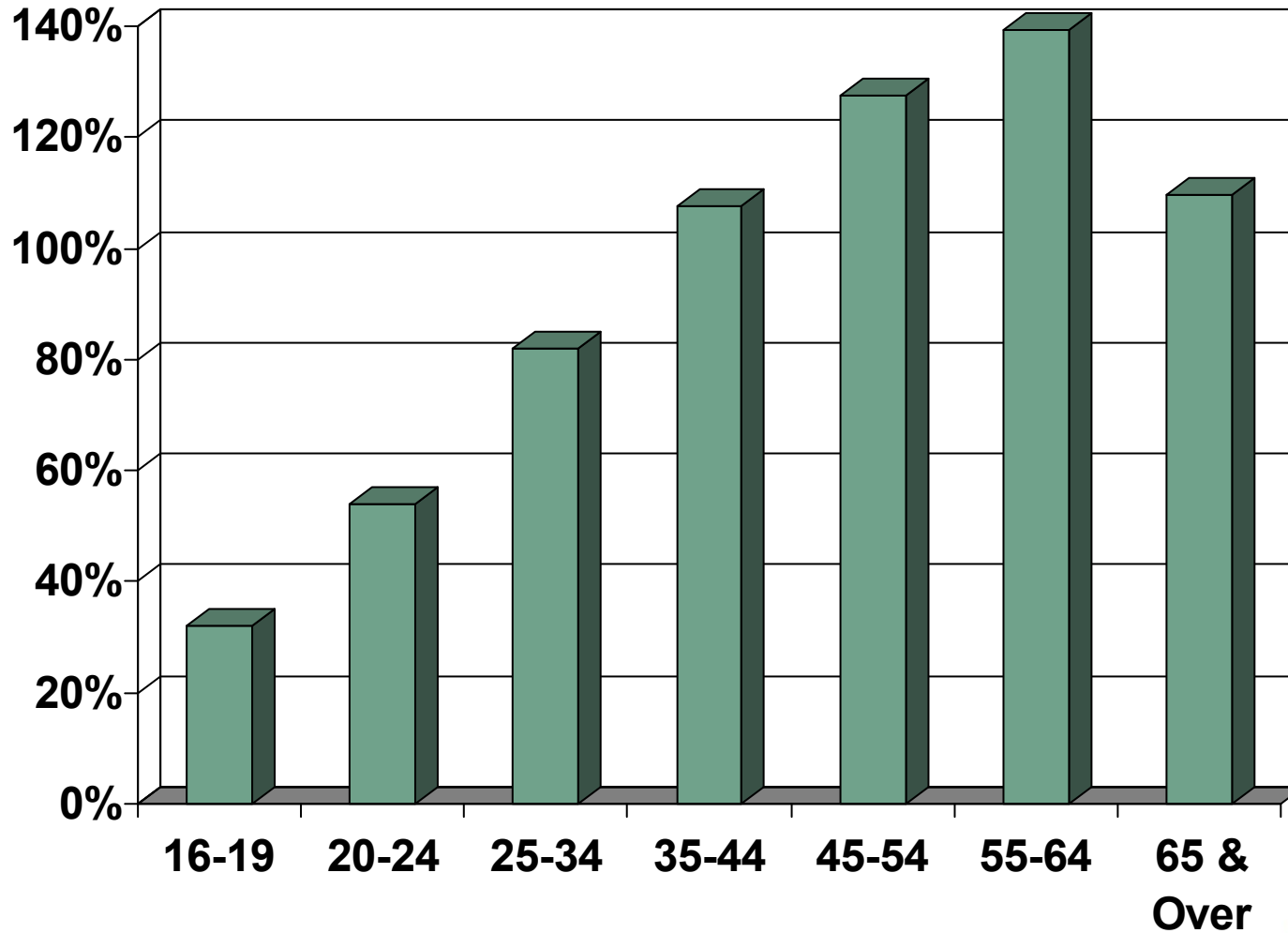
Workers 65 and older have the highest average claim cost.

A. True

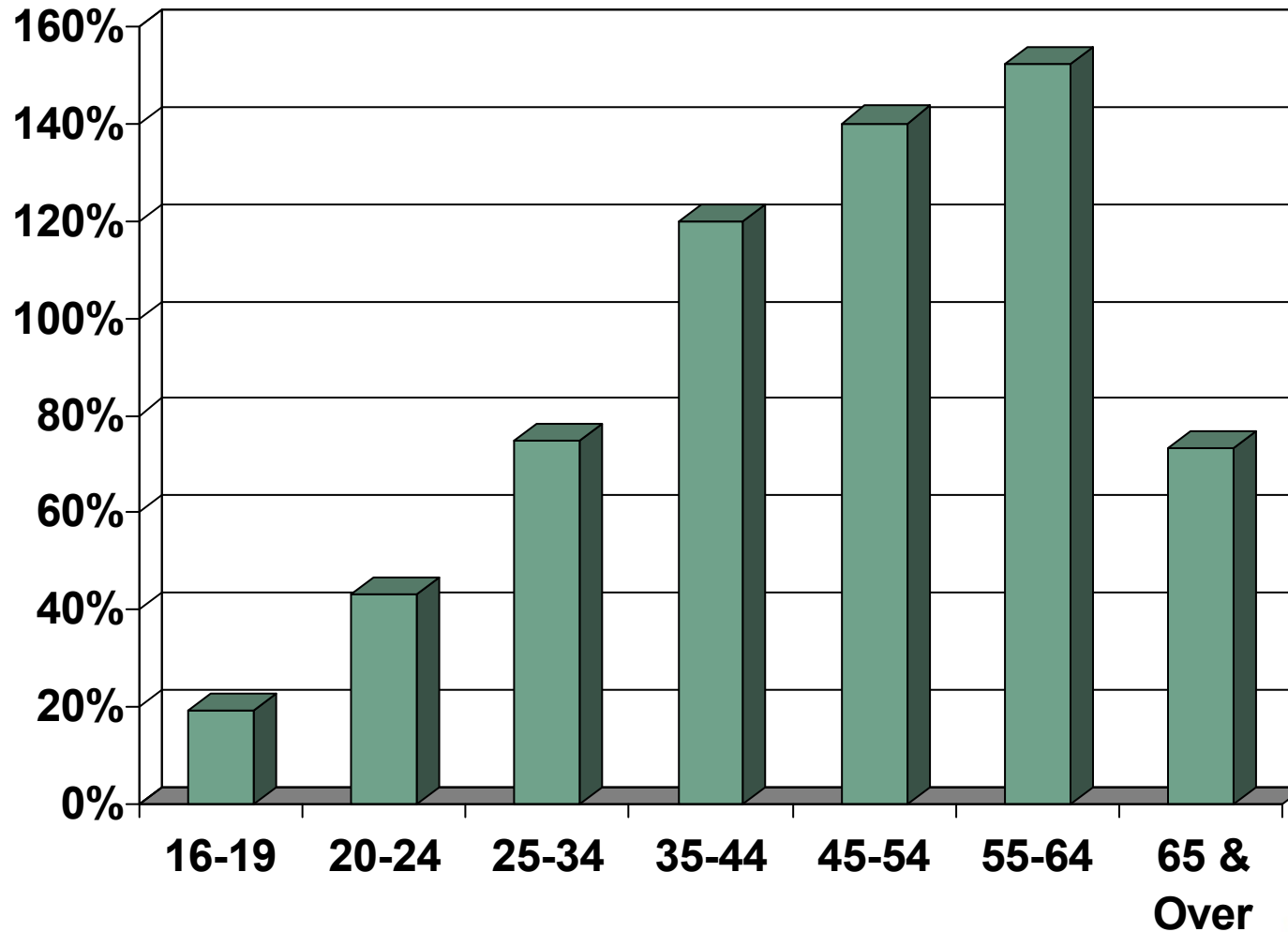
B. False



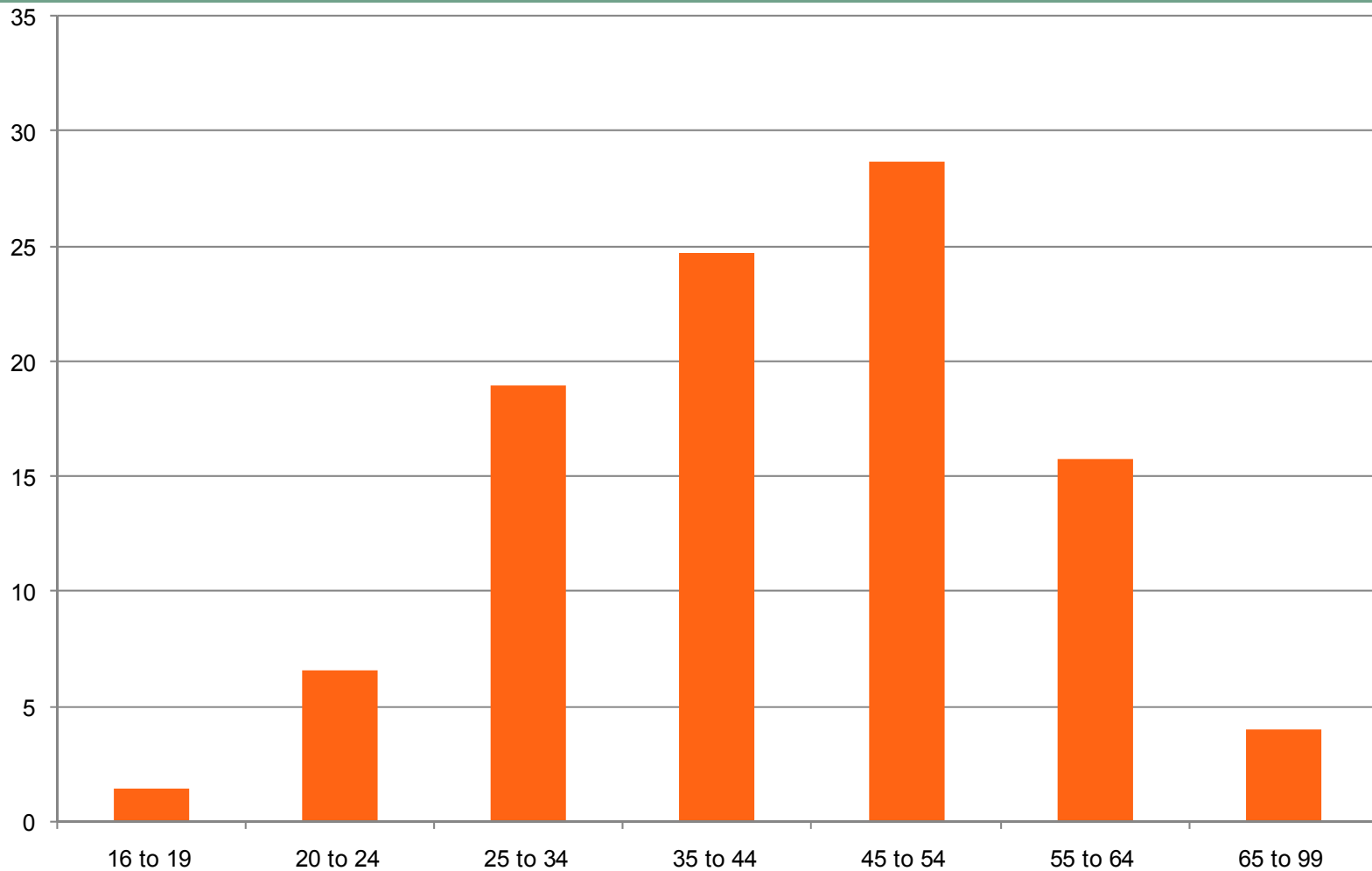
2008 Average Claims Costs by Age Range



2006 Average Claims Costs by Age Range



2008 (LM) Incurred Total Cost by Age Range



**How much time should
be put into less than 5%
of all Incurred Losses?**

Credible Insurance Industry Researchers:

- Douglas Tattrie, Glenn Gotz, Te-Chun Liu. 2000. Workers' Compensation and the Changing Age of the Workforce. Workers Compensation Institute. December 2000.
 - **“..growing number of older workers....will have little effect on WC costs”**
- Wolf, M.H. 2010. Claims Characteristics of Workers Aged 65 and Older. NCCI Study, January, 2010.
 - **“Indemnity severity is less for older workers...”**
 - **“There is a distinct (downward) break in indemnity severity between ages 60–64 and 65 and older.”**
 - **“Frequency is less for older workers”**



Big Conclusion #1:

The magnitude of impact of increasing older workers may be greatly exaggerated.

**What do we know about
older workers?**

Professional Safety, 2010 (L.S. Perry)

- **Strength** at 60 ↓ to 75% (Aniansson & Gustafsson, 1981)
- **Flexibility** at “retirement” 20% poorer than young (Shephard, 1987)
- **Balance** ≥ 65 – 9% report balance problems
- **Sight**
 - Nighttime legibility distances 65% lower for drivers over 60 (Sivak, Olson, and Pastalan, 1981)
 - Dynamic Visual Acuity decrements affect 30% of working population (Haight, 2003)
- **Hearing** – 1/3rd have declines between 65-75, more men than women. Threshold Shifts: @50yo – 10db, @60yo - 25db and @70yo – 35db
- **Physiological** Declines in:
 - Max Oxygen uptake (Shephard, 1987)
 - 25% decline in Maximum Ventilation by 65, 50% by 75 (Shephard, 1987)
 - Maximum Heart rate drops (Shephard, 1987)
 - “Poor myocardial contractility may lead to lower ceiling of blood pressure...Older people, are thus vulnerable to a loss of consciousness from postural hypotension (Shephard, 1987)”
- **Others**: Increased Fatigue, low tolerance to extreme temperatures, low tolerance to shift work, decline in high-speed problem-solving or repetitive tasks, disenfranchisement (employer disconnects) and disengagement (older worker disconnects).
- **5 Pages of Limitations – 1 Page of Ergonomics!**

Are older workers forgetful?

Declines in:

- Episodic
- Source
- Flashbulb

Less Change in:

- Semantic
- Procedural
- Implicit

Source: APA Online, *Memory Changes in Older Adults*,
<http://www.psychologymatters.org/memchanges.html>, Accessed 11 Sept 2006.



Do older workers have a hard time learning?

- Not exactly.
- 50%
- Increased context
- Training completion

Source: Fisk, et al., 2004. Designing for Older Adults. Boca Raton, FL: CRC Press.



Are older people less creative?

- No.
- 80% of the most workable and worthwhile production improvements come from workers over age 40 (about 50% of the current workforce).

Source: Myths About Older Workers. From:

http://www.dwd.state.wi.us/dws/programs/populations/olderworker/Myths_about_Older_Workers.pdf, AARP.

Are older workers as productive as younger workers?

- Difficult to measure.
- Experience, quality and efficiencies
⇒ MORE.
- Max Physical Capacity

Do older workers have decreased physical capabilities?

Yes:

- Lose Height – 1”
- Max Strength - 25%
- Reaction time - 50%
- Also reduced:
 - Vision
 - Max HR
 - Max O₂
 - Google, “Teen Mosquito” – first link
- 65% of people 65+ have 2 or more chronic conditions that interfere with life activities

Some Good News!

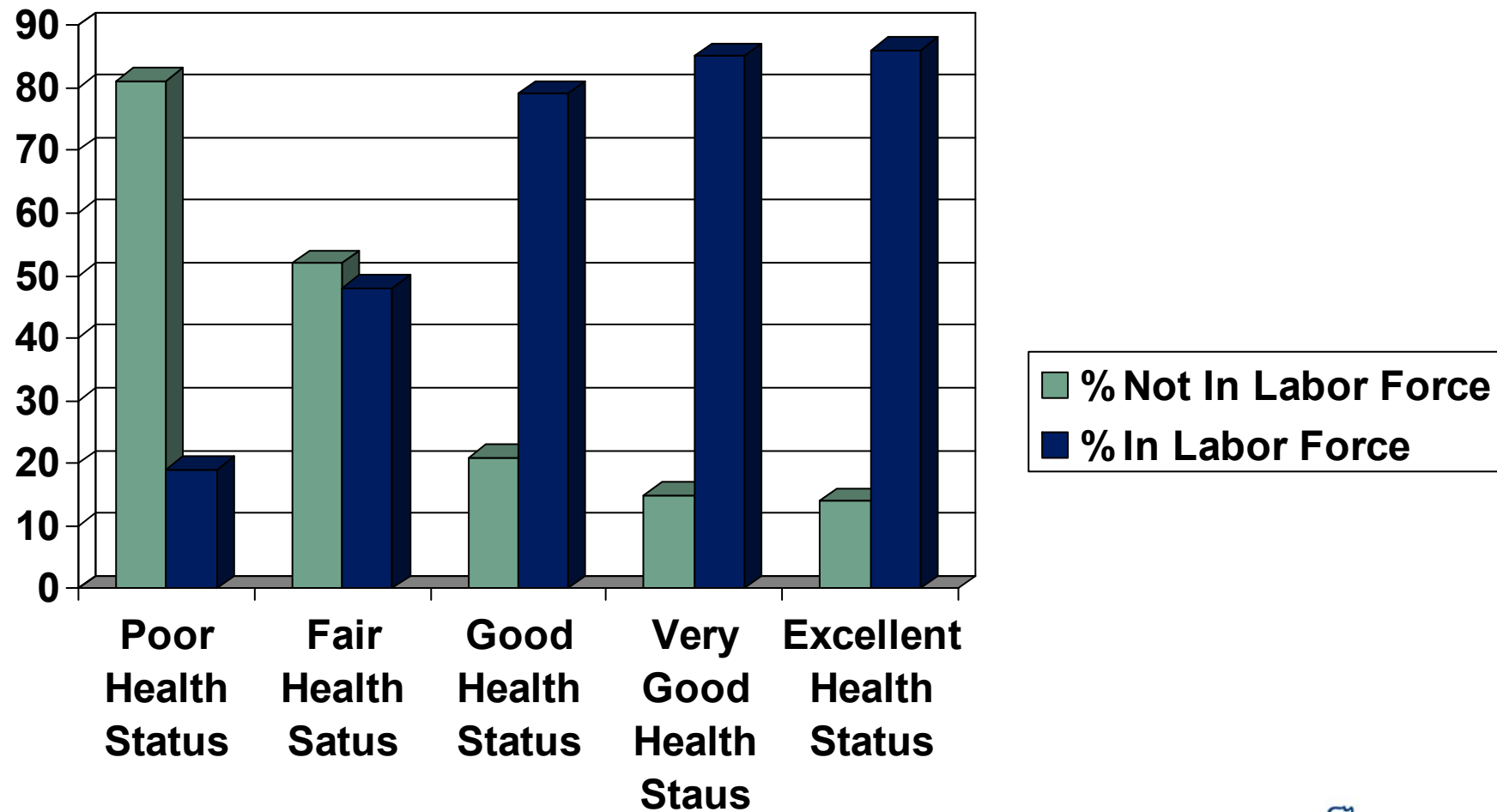
- **Individual variability**
- Erroneous Data
 - **Real-world work.**
 - **Non-workers**



Ruth Frith
100-year-old Shot Put
World Record Oct, 2009

Health Status and Labour Force Status of Older Working-Age Australian Men

Cai and Kalb, 2009



Some Good News!

- Individual variability
- Erroneous Data
 - Real-world work.
 - Non-workers
- Sub-max endurance and continuous-work capacity
- Declines = DISUSE!
 - 60 to 70-year olds - muscle fiber recruitment and coordination.



Ruth Frith
100-year-old Shot Put
World Record Oct, 2009

“To put it simply, just because a worker is age 62, it doesn’t mean he is less physically capable on the job than his age-24 counterpart.”

Dr. Glenn Pransky,

Director, Liberty Mutual Center for Disability Research
Research to Reality, Quarterly Review, 2009, Vol.12(2)

Cliff Young

- 1983
- Sydney to Melbourne
- Over 500 miles
- Beat the previous record...
- By TWO DAYS...
- At age 61
- <http://tinyurl.com/CliffYoung>



Burt Munro

- 1962 @ age 63
 - Bonneville Salt Flats
 - World Record 178.97mph
- 1967 @ age 68
 - Bonneville Salt Flats
 - World Record 183.59mph
- All with heart trouble!
- 2005 movie, “The World’s Fastest Indian”



George Brunstad

- 3 Days after his 70th birthday...
- Swam the English Channel!
- Oldest person to swim the English Channel
- (Matt Damon's Uncle)

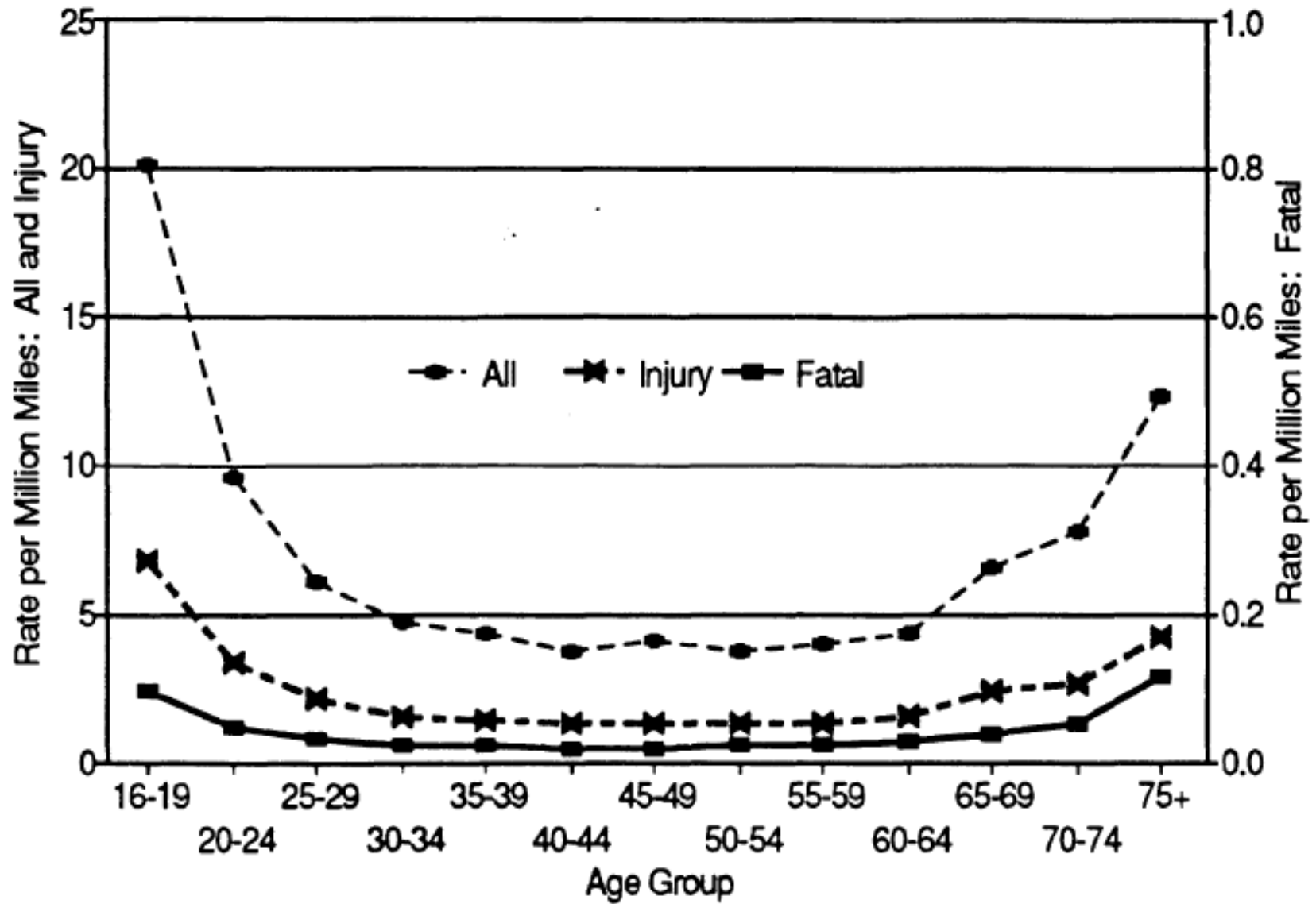


Commercial Pilots 1993 FAA Study

- **3,306 Commuter Air Pilots**
- **Age → LESS Crashes, Errors, Risk!**
- **Sudden Health Events (e.g., heart attack) RARE and NOT predicted by medical screening; WEAK age-relatedness**
- **FAA Conclusion: Mandatory Age 60 retirement**
- **Dec 13, 2007 – Age 65!**
- **June 18, 2009 – Continental Captain**



Mileage-Based Crash Rates by Driver Age



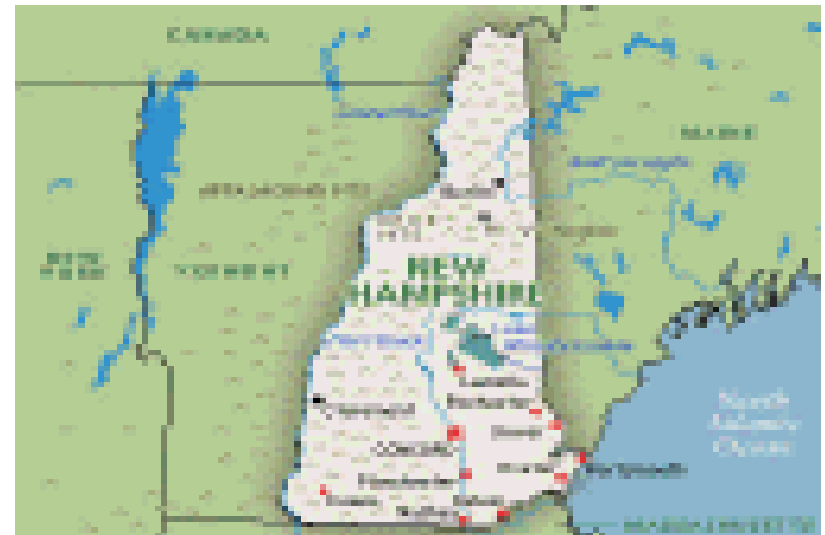
Massie and Campbell, 1993

Some MORE Good News!

- Crash Rate – *Much Lower for Commercial Drivers*
- Fewer non-injury absences
- Experience/compensatory strategies = productivity
- Experience trumps cognitive decline in workers
- Many OW still in high cognitive demand jobs

Older Worker Study Pransky, et al., 2004

- All workers age > 55 with LT WC claim in 2001 in NH (n=1540)
- Matched (same gender / injury type) with younger workers



The secret of staying young is to live honestly, eat slowly, and lie about your age. – Lucille Ball



Older Worker Study - Results

Pransky, et al., 2004

- Older workers pre-injury more satisfied w/ job, greater employment attachment, and fewer RTW problems
- Job tenure, job satisfaction, and treatment satisfaction account for more of variance in outcomes and problems in RTW
- Age + prior injury were not strong contributors to the model (except for financial impact of the injury, where age had a PROTECTIVE effect for older workers.)
- Importance of workplace attachment and response to injury equal to or greater than severity or medical issues

Big Conclusion #2:

Adverse Outcomes for older workers may be greatly exaggerated.

A Suggested Strategy for Improvement

- 1. Evaluate your organization's perception of older workers and recognize the adverse consequences of unhelpful perceptions, if necessary.**

Problems with Negative Perceptions

- Can focus attention away from hazard reduction, management responsibility and program development.
- Can lead to perceptions that older workers cannot be returned to modified work effectively, leading to prolonged disability.
- Can lead to self-perceptions by older workers that they are getting too old to do the job safely, and thus prolong disability.

Growing older is not upsetting; being perceived as old is. – Kenny Rogers



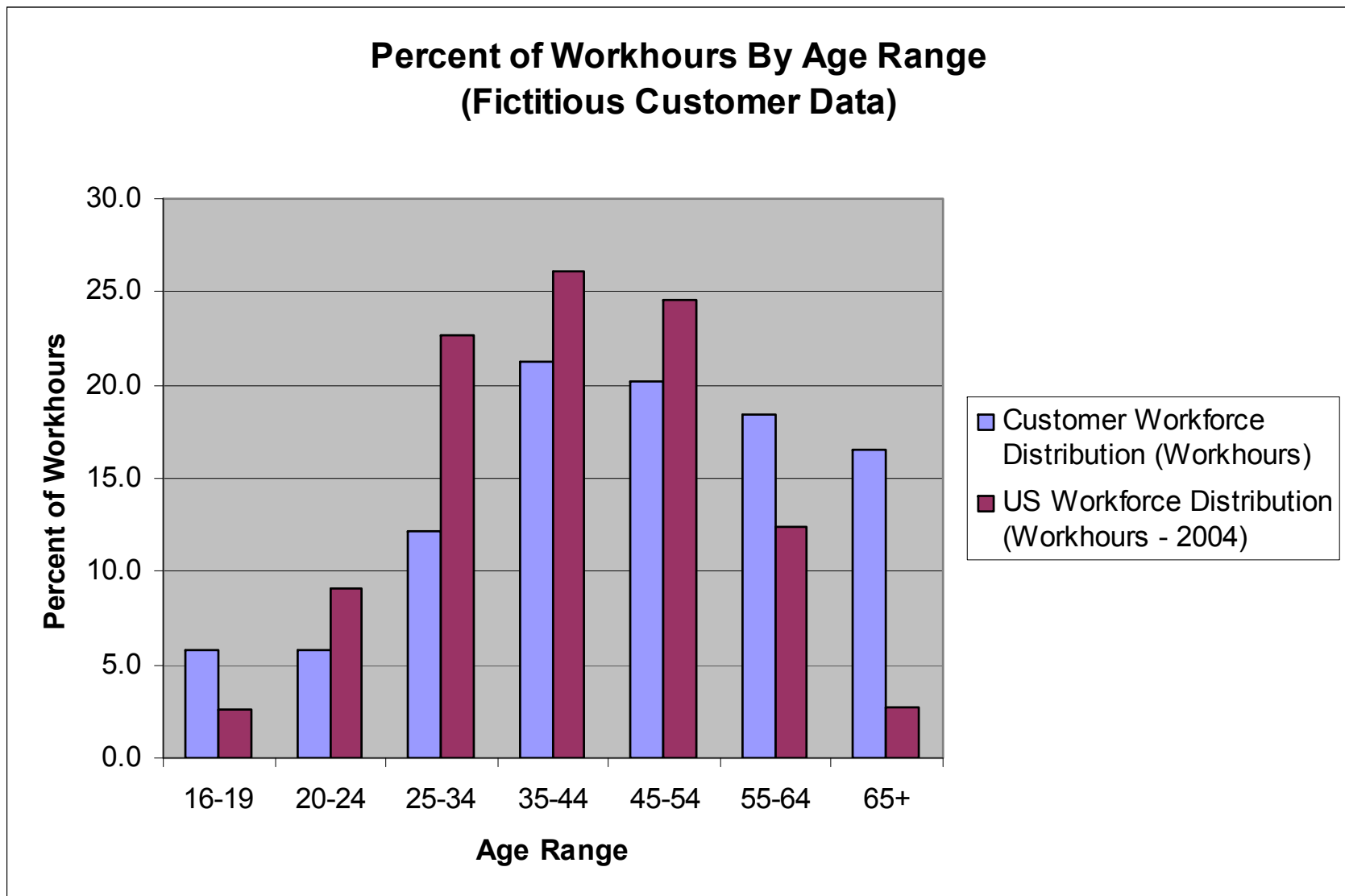
A Suggested Strategy for Improvement

1. Evaluate your organization's perception of older workers and recognize the adverse consequences of unhelpful perceptions, if necessary.
2. **Analyze your Losses to Determine any Age-related trends.**

Analyzing Age-Related Trends

- **The Distribution of Your Workforce**: Puts into perspective the volume of workers/workhours by age range and if this differs significantly from US data.
- **The Distribution of Your Volume of Claims/Costs**: Shows where efforts to reduce overall claims volume/cost, must be focused.
- **The Distribution of Your Claim Rates**: Reveals any age ranges with a disproportionate rate compared to other age ranges and compared to US data.

How does YOUR distribution compare?



A Suggested Strategy for Improvement

1. Evaluate your organization's perception of older workers and recognize the adverse consequences of unhelpful perceptions, if necessary.
2. Analyze your Losses to Determine any Age-related trends.
3. **Emphasize controls for leading loss areas.**
 - A. Focus on:
 1. ACTUAL Sources
 2. Ranked Potential Risks
 - B. Exposures leading to loss for all employees will be exposures for older workers too!
 - C. Usually: Musculoskeletal Pain, Slips and Falls

Keep the Focus on Good Ergonomics

- Highly physically demanding jobs have more risk and older workers capabilities may decline for maximum efforts.
- Reducing or eliminating **high force, high repetition** and **extreme awkward working posture tasks** will lead to risk reduction for older workers (and all workers).
- Recognize that aging may affect visual capabilities and needs.

Aging Considerations Medical Conditions and MSD

- 65% of people 65+ have 2 or more chronic conditions that interfere with life activities.
- Some of the signs and symptoms of work related MSD are similar to age related medical conditions.
 - Degenerative joint diseases and arthritis
 - Cartilage more susceptible to stresses
 - Ligaments and other connective tissue less elastic .
 - Diabetes
 - ‘Chronic inflammation’
 - Eye
 - Presbyopia, Cataracts, Glaucoma, Macular degeneration



Older Workers and Vision

- Around age 40, changes (presbyopia) take place that can affect vision.
- If not recognized, some older workers will have trouble seeing the computer monitor (blurry) and may adopt non-neutral postures (leaning forward, tilting head) that can contribute to back, neck and shoulder stress.
- Regular vision checks for computer users are important but especially so for workers over age 40.

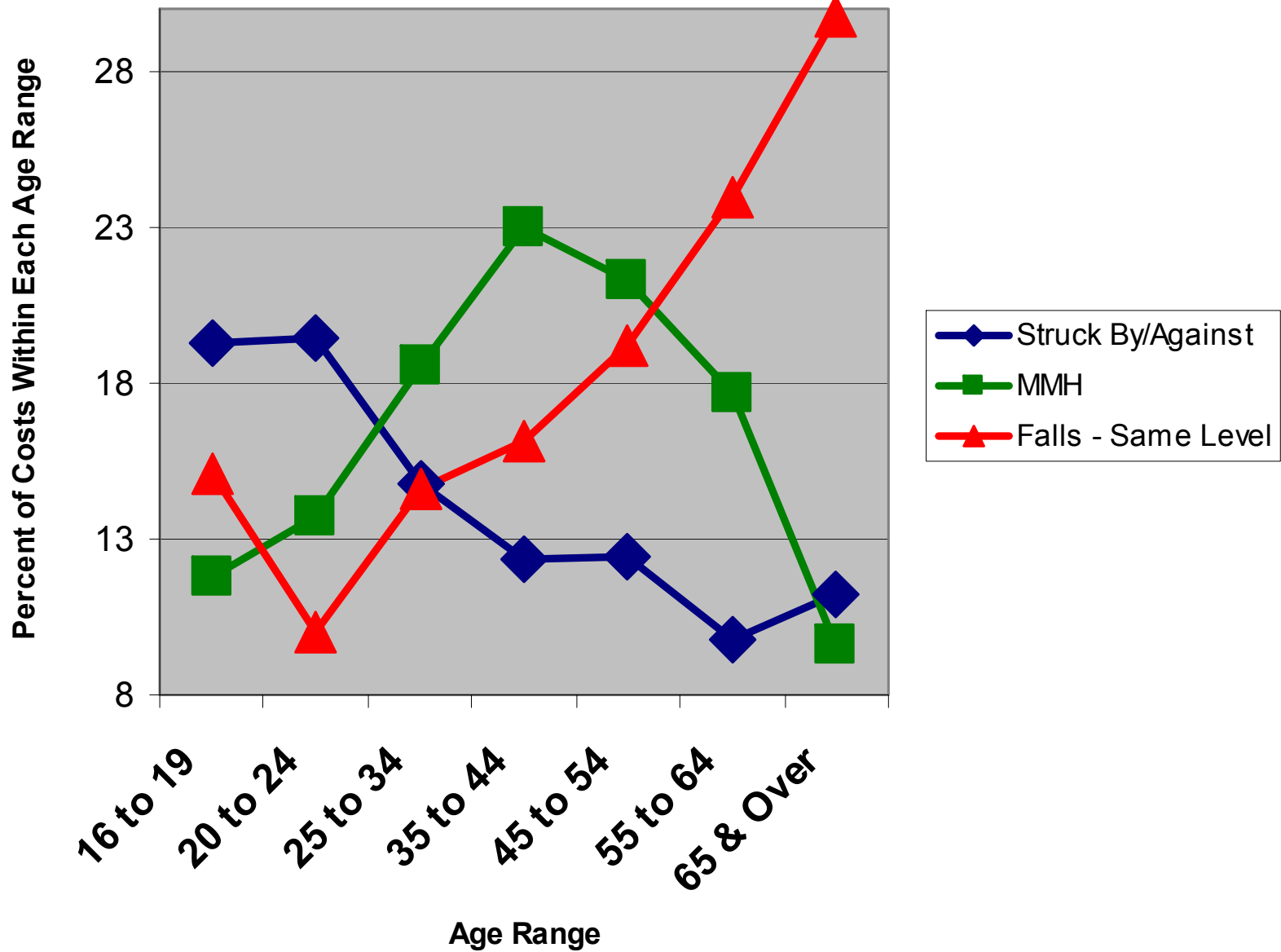


**Vision Changes
with Aging**

A Suggested Strategy for Improvement

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3. Emphasize controls for leading loss areas.
4. **Examine slips and falls controls in more detail.**

2008 Percent of Claims Cost by Type within Each Age Range (Liberty Mutual)



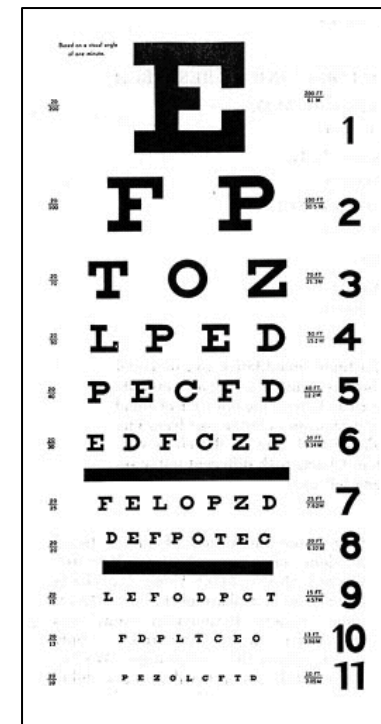
Big Conclusion #3:

If there are any aging worker safety issues, there is one primary issue to focus on:

Same-Level Slips and Falls.

Age and Slips & Falls

- Slipperiness Perception.
- Visual detection of hazards
- Contrast sensitivity (diabetes, other illnesses)
- Dark adaptation (slow/incomplete)
- Glare sensitivity
- Color sensitivity
- Strength and reaction time
- Recovery from slips.
- >65 = fracture.



↑ Glare & dark adaptation

← High contrast



The 10 Aspects of Same-Level Falls Prevention:

- Floor Materials/“Treatments”
- Contaminants
- Floor Cleaning Protocols
- Tripping Hazards
- Footwear
- Lighting
- Stairs and Ramps
- Mats
- Incident Reporting
- Training and Signage

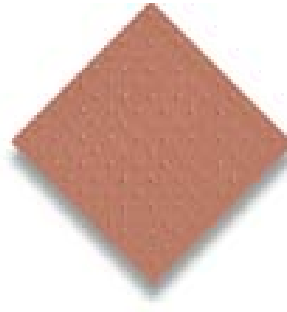
Performance



Unsealed Brushed Concrete



Quarry Tile with Embedded Grit



Textured Glazed Ceramic Tile with Raised Points



Carpeting

Excellent to Good Slip Resistance, BOTH Wet and Dry



Textured Porcelain Pavers



Quarry Tile without Embedded Grit



Textured Rubber Tiles or Sheets

Good Slip Resistance Dry, Fair Wet



Terrazzo



Diamond Plate



Hardwood Floors



Vinyl Composition Tile (also Glazed ceramic or porcelain)

Good to Fair Slip Resistance Dry, Poor Wet

Contaminant Control – Three Key Strategies:

- **Potential Contaminants are Controlled at the SOURCE (By Design).**
- **Generous (adequately large, plentiful, and accessible) trash receptacles are emptied before they are full.**
- **An effective spill clean-up program has been established, including a “clean-as-you-see” policy.**







Slip-Resistant Footwear



- No universal standard on what is slip-resistant
- Look for “Slip Resistant” (On the shoe itself or on the box/descriptive literature)
- Oil-Resistant, Non-Marking, Skid-Resistant is not the same!
- Tread material
 - Softer rubber outsole conforms to floor surface
- Tread design
 - Large contact area (no large gaps between contact surfaces)
 - Lots of crisscrossing groves.



A Suggested Strategy for Improvement

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3. Emphasize controls for leading loss areas.
4. Examine slips and falls controls in more detail.
5. **Strengthen ERTW practices.**

Supervisor Training to Optimize Response to Worker Injuries*

Shaw, et al., 2006

- **Food Processing Plant**
- **4 hours of Content :**
 - **Communication skills & Respect of Injured worker**
 - **Ergonomic Accommodations for Injured Workers**
- **Videotaped scenarios – good and bad**
- **47% reduction in new LT Claims**
- **18% reduction in prior open claims**
- **80% reduction in new LT indemnity costs!**

*Received NIOSH's 2008 National Occupational Research Agenda (NORA) Innovative Research Award for Worker Health and Safety



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5. Strengthen ERTW practices.
6. **Educate yourself on age effects (and non-effects) and ways to adapt the workplace.**

ADAPTATIONS to the Workplace

- Don't single out "older" workers!
- Lighting!
- Vision Correction
- Work Scheduling
- Walking Paths
- Hearing Adaptations
- Computer Issues
- Training Issues
- Chronic Illnesses
- Wellness

More ADAPTATIONS

- Training – no problems?
- Training Problems? Consider several strategies
 - Time
 - Instruction
 - Practice
 - Peer trainers (Generational Communication)
 - Case – and real-life based
 - Event-based instruction
 - Training room ***lighting*** and large fonts,
 - Lists
 - Minimize steps

A Suggested Strategy for Improvement

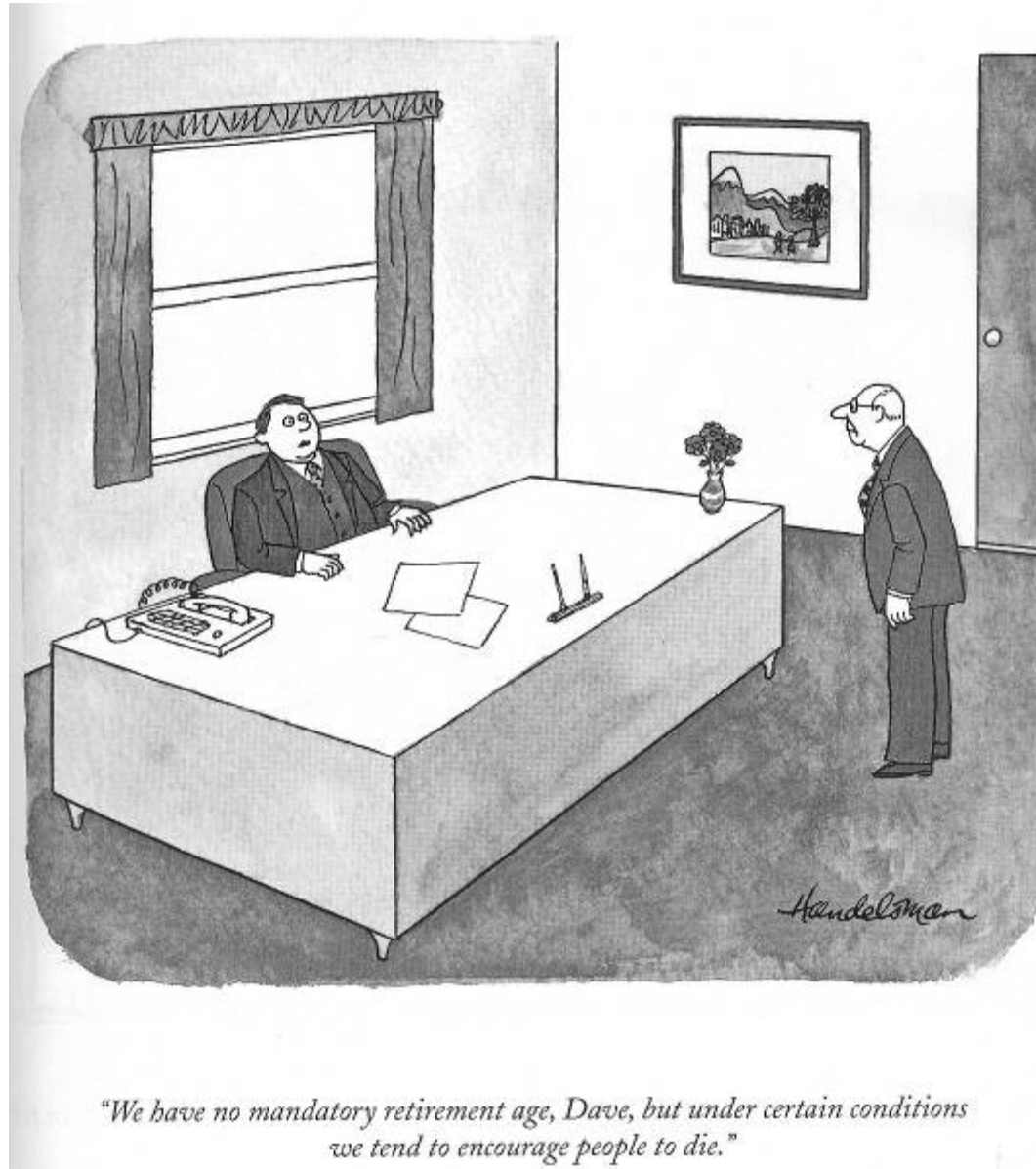
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6. Educate yourself on age effects (and non-effects) and ways to adapt the workplace.
7. **Manage the workforce through long-range planning and policy development.**

MANAGE the Workforce

- Career progression or Job Lock? - training/education/mentoring?
- Heavy jobs → ?
- New Hires – early?
- Retirement plans - voluntary and positive.
- Flexible hours/benefits.
- Attract, utilize, reward.

Retirement at sixty-five is ridiculous. When I was sixty-five I still had pimples.
– George Burns





Source: Mort Gerberg, 2007, Last Laughs

A Suggested Strategy for Improvement

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3. Emphasize controls for leading loss areas.
4. Examine slips and falls controls in more detail.
5. Strengthen ERTW practices.
6. Educate yourself on age effects (and non-effects) and ways to adapt the workplace and manage the workforce through long-range planning and policy development.
7. Maintain your plan on one "digestible" page that will serve as a short and long-term Roadmap to progress.

Conclusions

- Don't overreact
 - Keep the magnitude of the aging workforce in perspective.
 - Do you even really have an aging workforce “issue”?
- Recognize that older workers are a strength, not a weakness
- Implement adaptations and improvements for ALL workers (everyone benefits) – HR, Legal

I might be (am!) more concerned about:

- Obesity and Sedentary lifestyles
- Musculoskeletal Pain
- Retiring Skill
- Supervisor Response to Worker Pain
- Impact of Work Scheduling

