

# Work and Health: Future Challenges and Opportunities



**Congressional Office of Compliance**  
**Future of Safety and Health in an Aging Workforce**  
**October 26, 2010**

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**National Institute for Occupational Safety and Health**  
**Centers for Disease Control and Prevention**  
**US Department of Health and Human Services**

# Some Unknowns: 21<sup>st</sup> Century Workforce

## Immigration

- Will nations change policies to encourage or discourage immigration?
- Will wage competition increase?

## Outsourcing

- Does it portend a global workforce?
- How do employers taken on global health issues?

## Re-careering

- Will more workers remain in the workforce and take on an “encore” career?
- Who will manage associated chronic health conditions?
- Will hurdles to continued work at older ages be removed?

# **Selected Workforce Challenges**

**Limited availability of workers**

**Chronologically gifted**

**Health-challenged younger workers**

**Innovative Employment Arrangements**

**Global Competition for Workers**

**Encore Careers vs. Retirement**

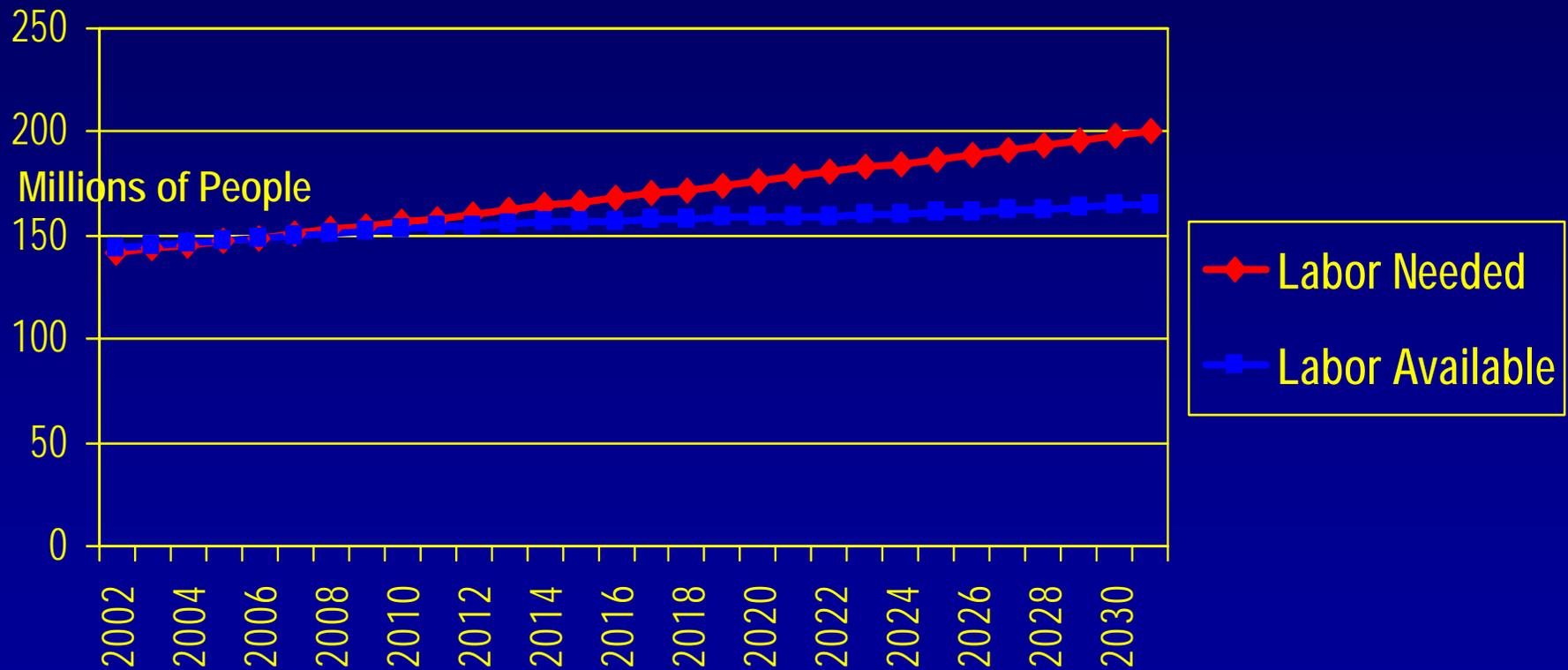
**Age-Related Challenges for Occupational Health and Safety**

**Social Benefits & Age Discrimination**

**Responsibility for the Health of Workers**

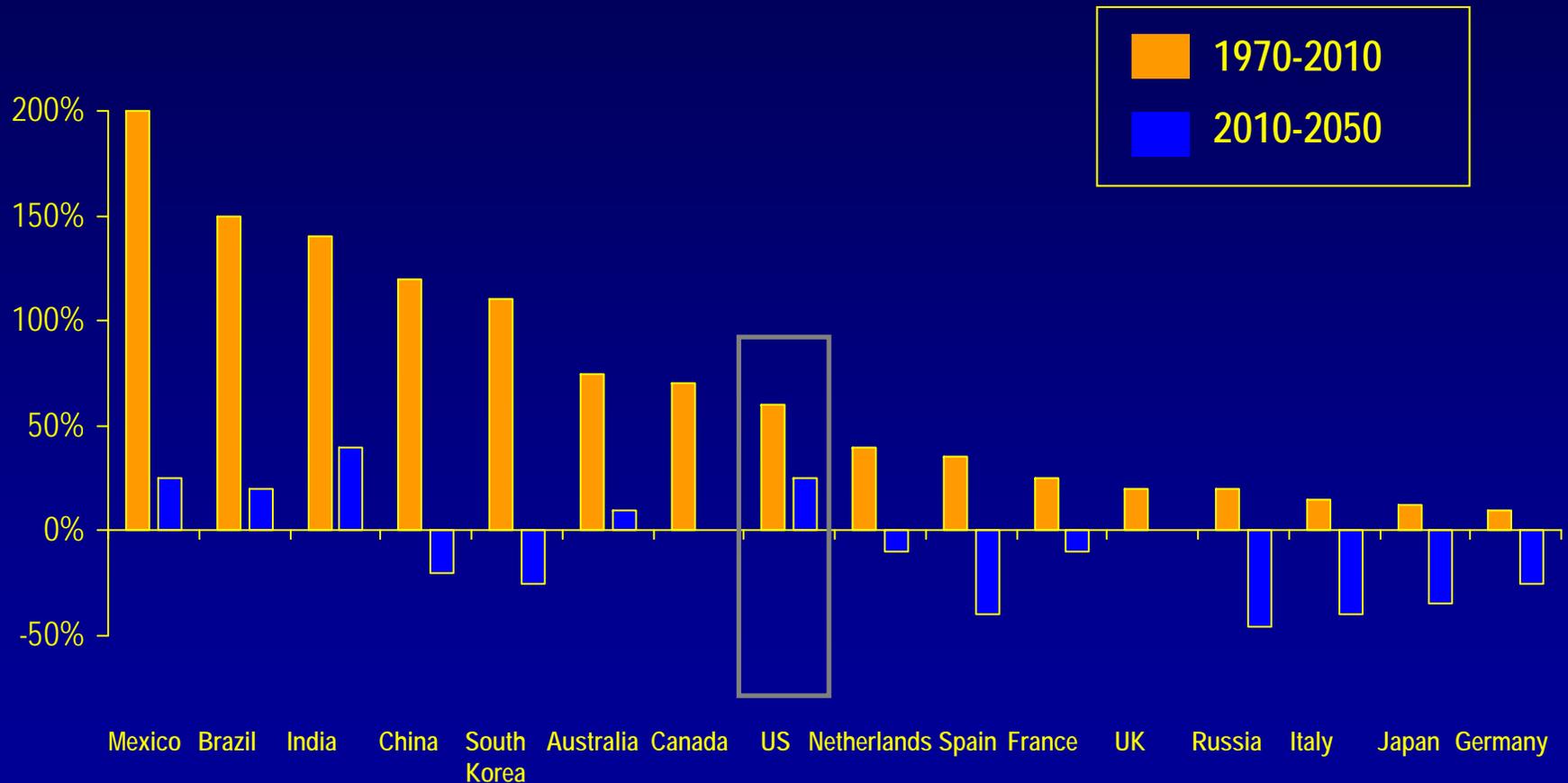
# Growing Shortage of U.S. Workers

Expected Labor Force and Labor Force Demand



Source: Employment Policy Foundation analysis and projections of Census/BLS and BEA data.

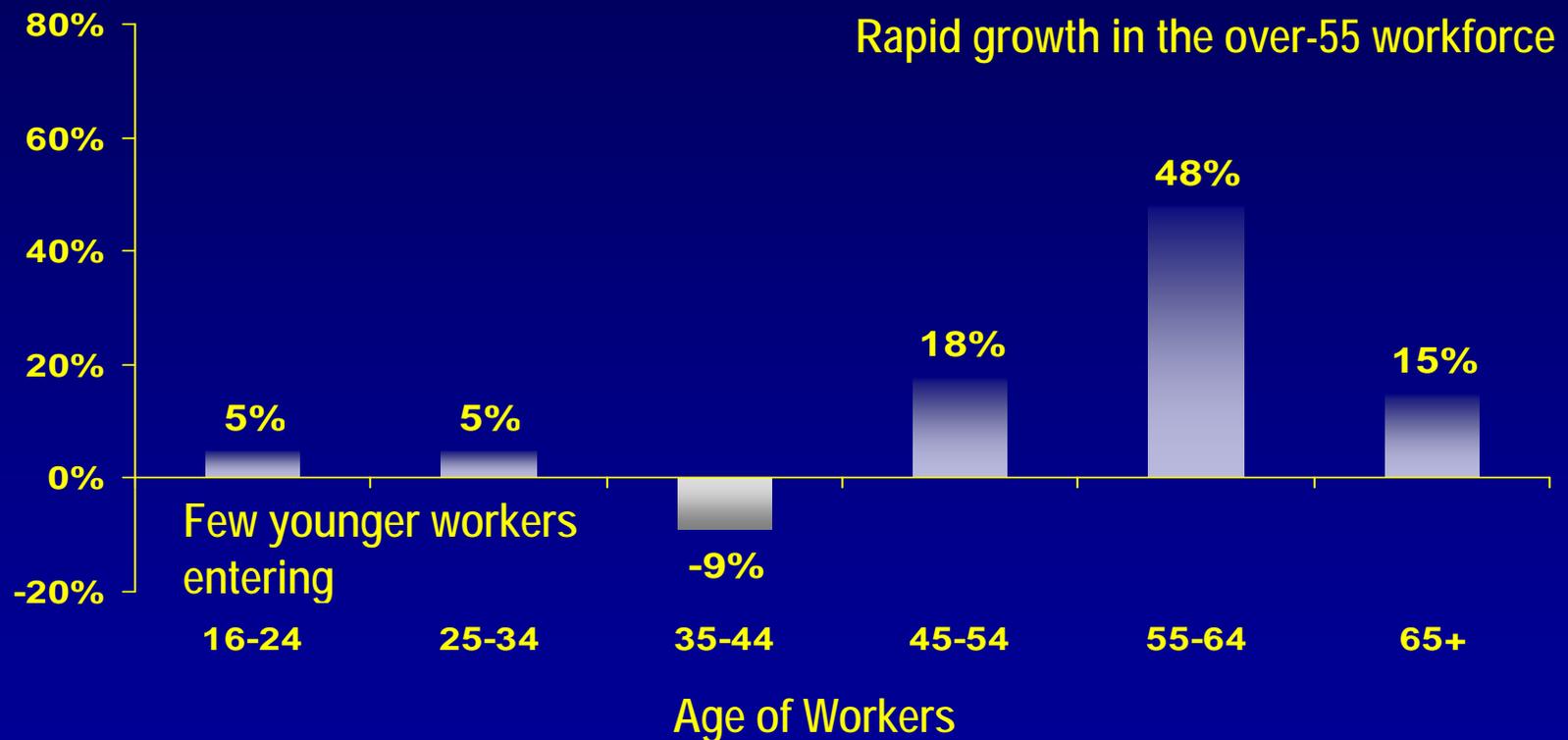
# Screeching to a Halt: Growth in the Working-Age Population



Source: Deloitte Research/UN Population Division (<http://esa.un.org/unpp/>) It's 2008: Do You Know Where Your Talent Is? Why Acquisition and Retention Strategies Don't Work, p.6

# Dramatically Different Patterns of Growth by Age

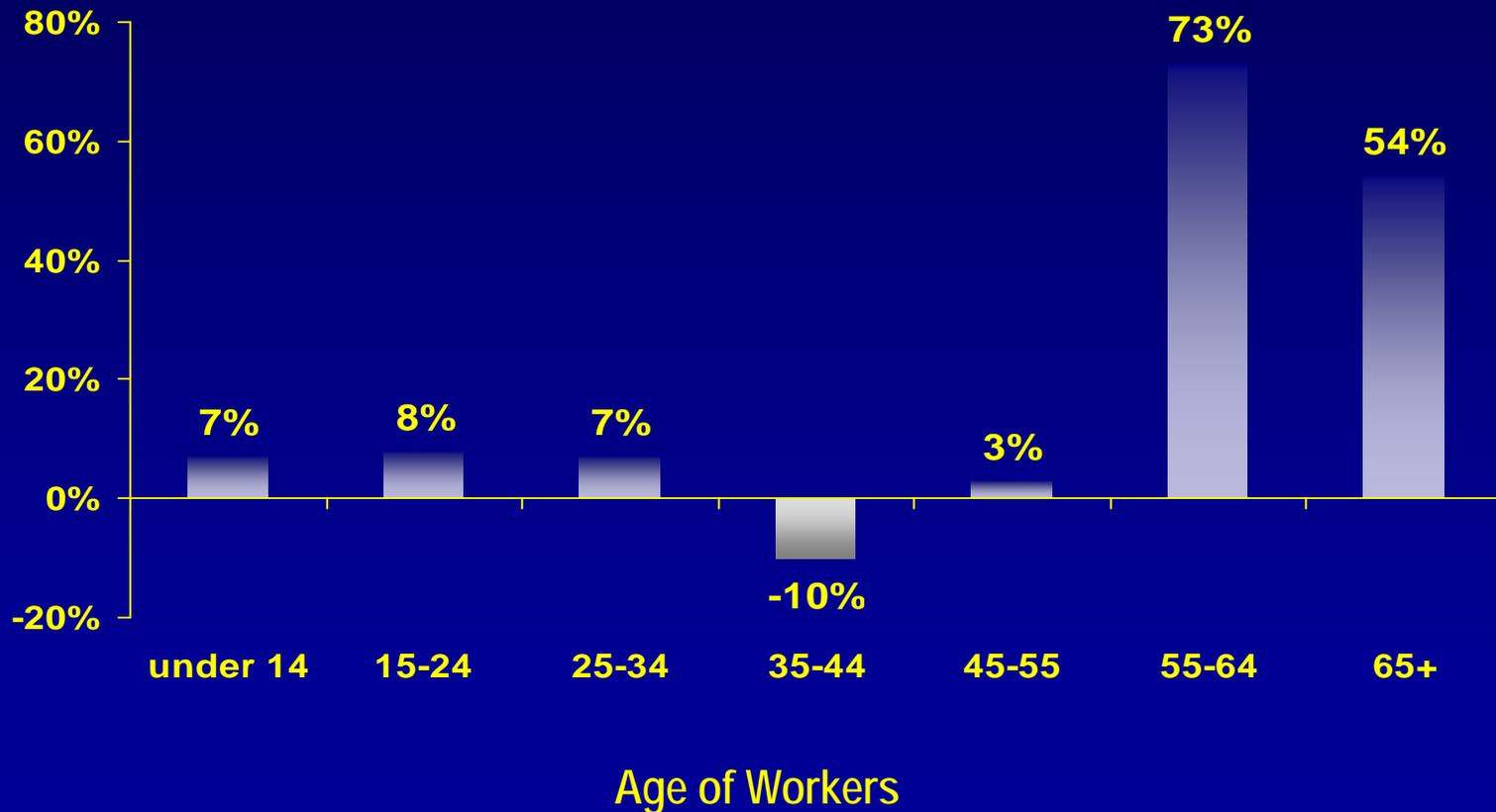
*Percent Growth in U.S. Population by Age: 2000-2010*



Source: U.S. Census Bureau. 2000

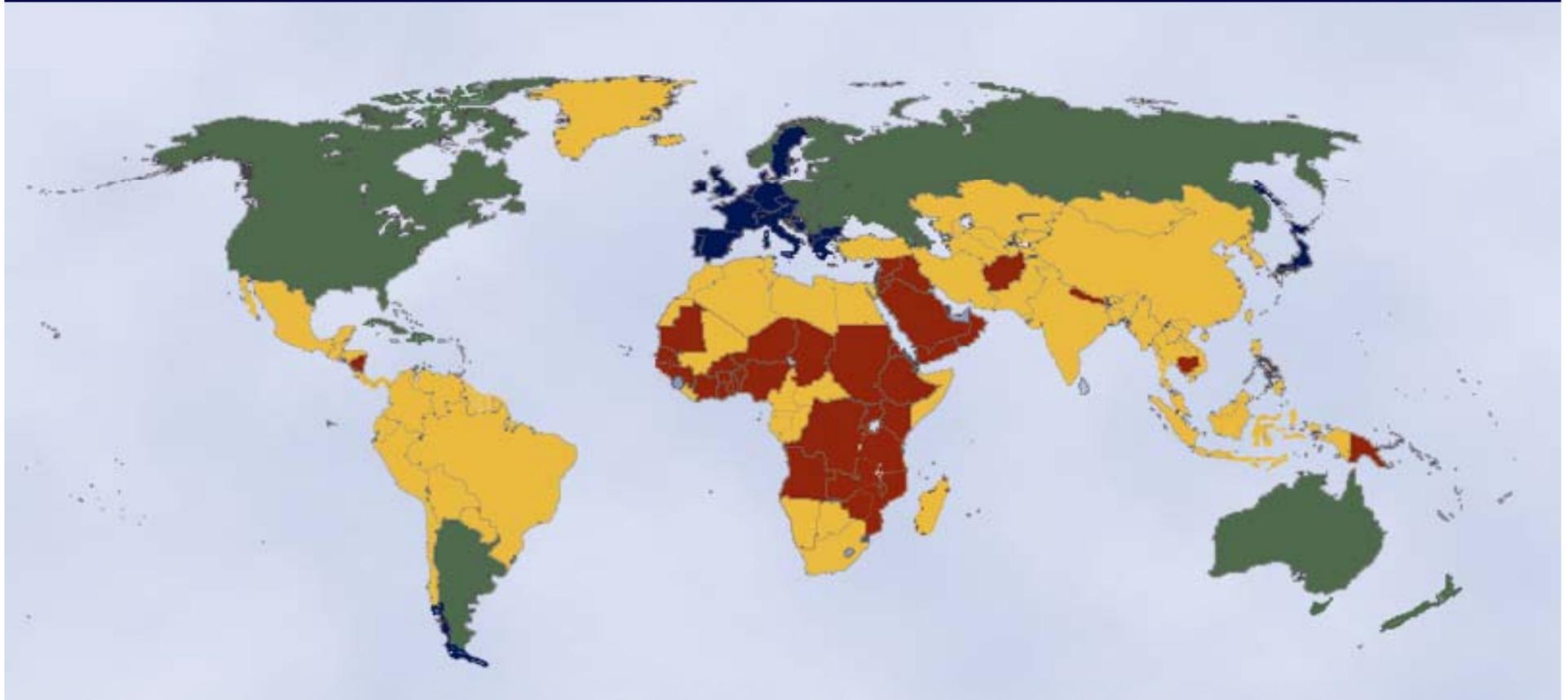
# ... Continuing Into the Future

*Percent Growth in U.S. Workforce by Age: 2000-2020*



Source: U.S. Census Bureau

# In 2000, A Fairly “Young” World . . .

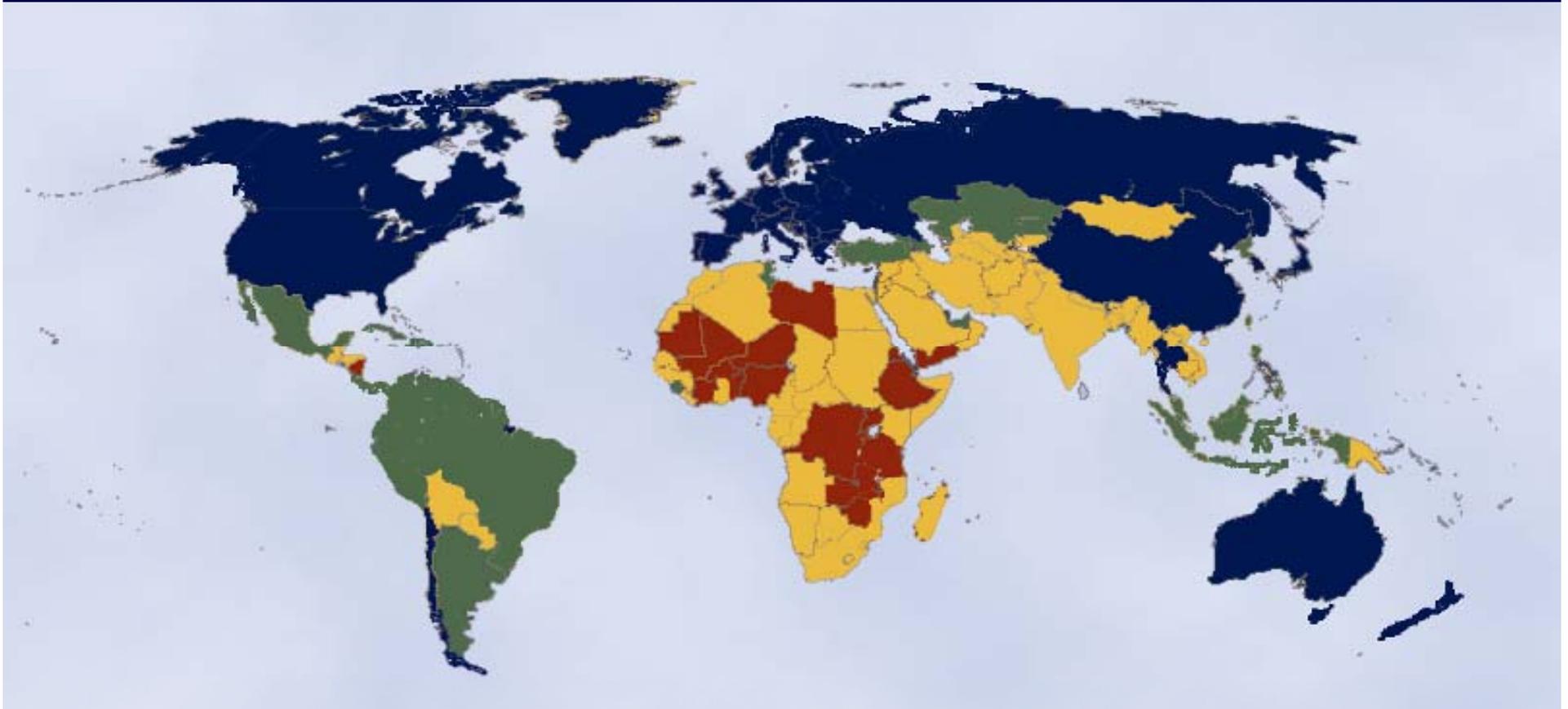


**Under 5%**      **5% to 12.4%**      **12.5% to 20%**      **Above 20%**

## Percent of Population Age 60+ in 2000

Source: U.S. Census Bureau, 2000

# ... Rapidly Aging by 2025



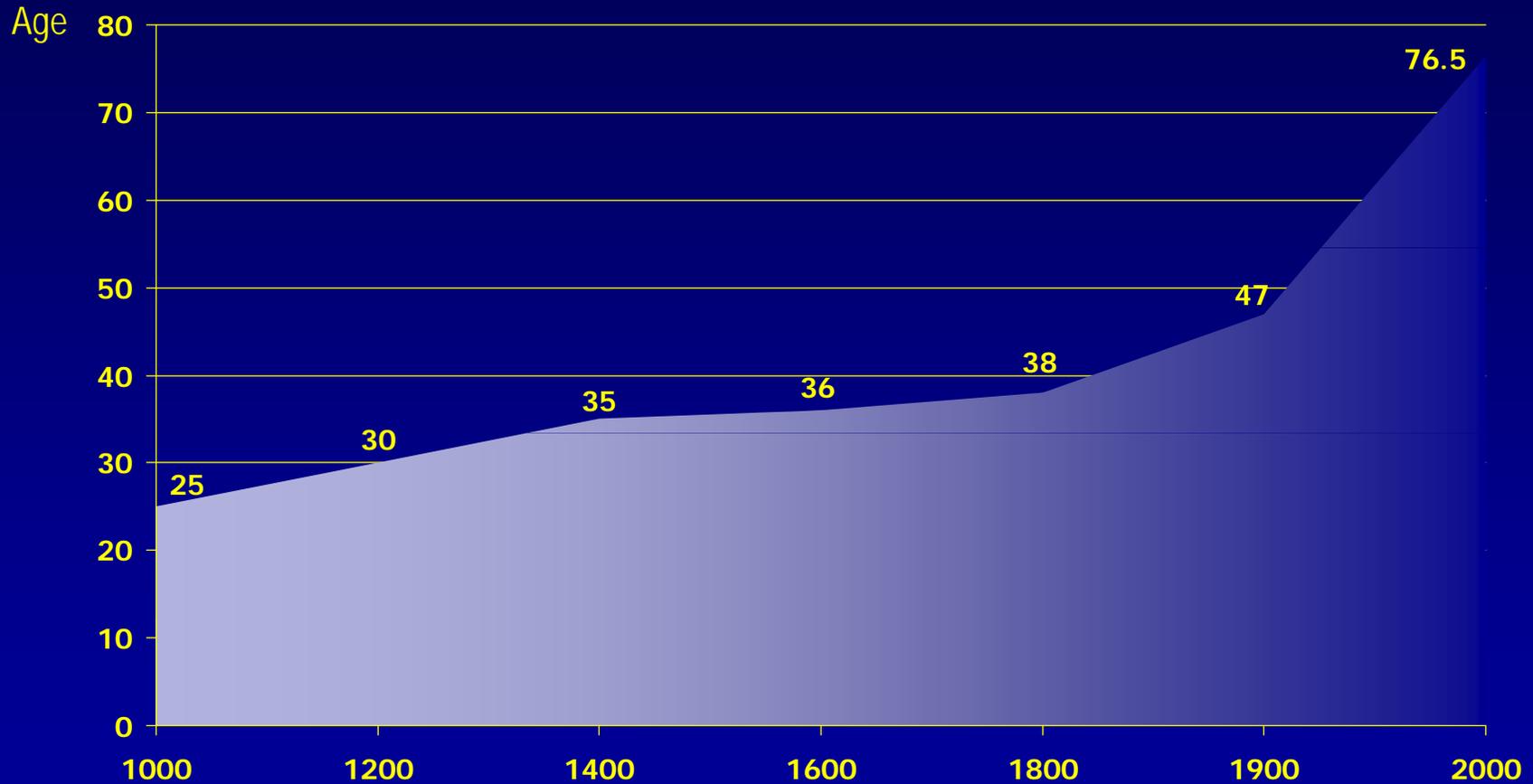
**Percent of Population Age 60+ in 2025**

Source: U.S. Census Bureau, 2000

# Why?

## “Sudden” Boom in Life Expectancy

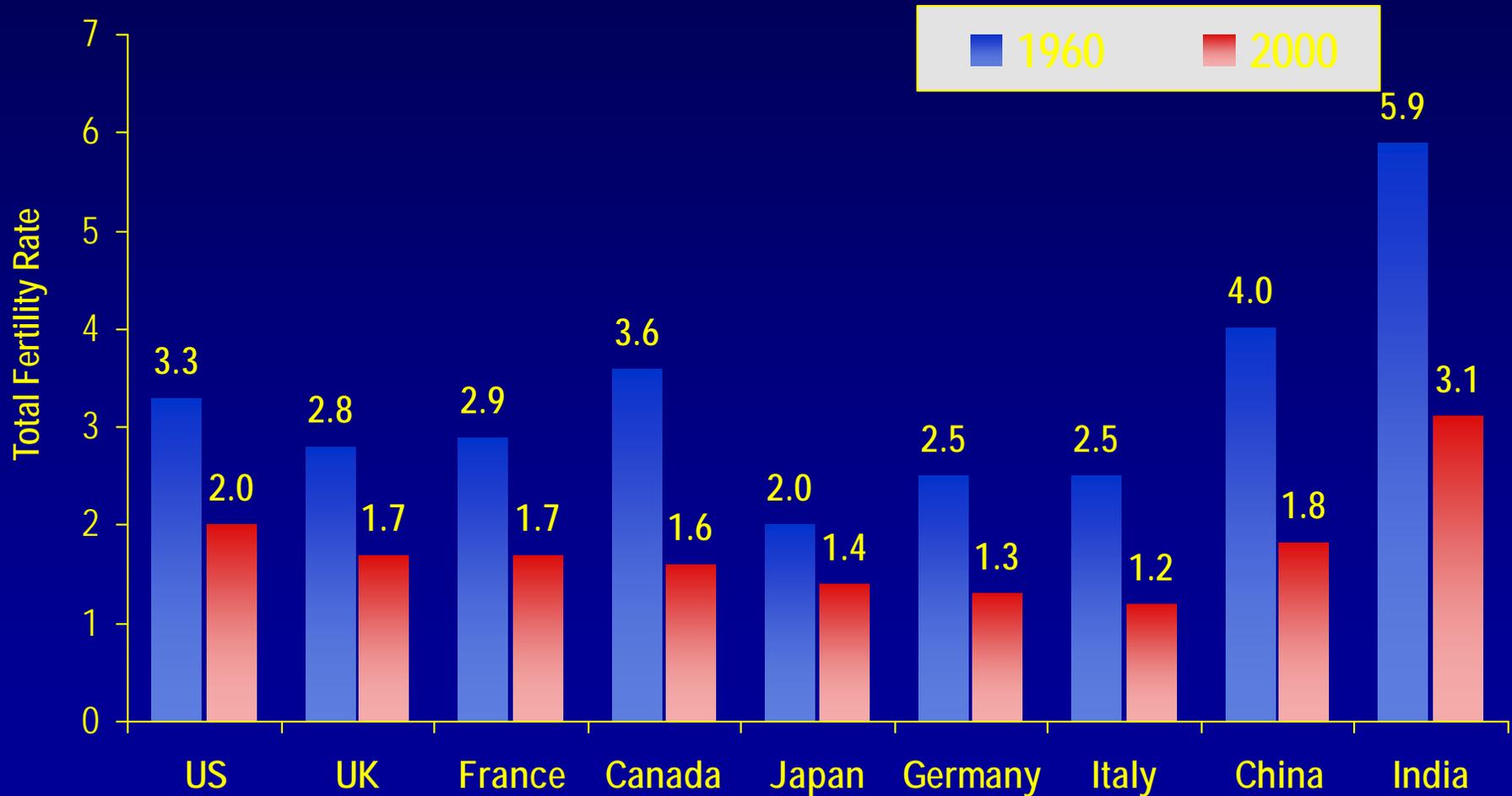
### Life Expectancy at Birth: 1000 - 2000



Source: U.S. Census Bureau, 2000

# And a Dramatic Drop in Birth Rates

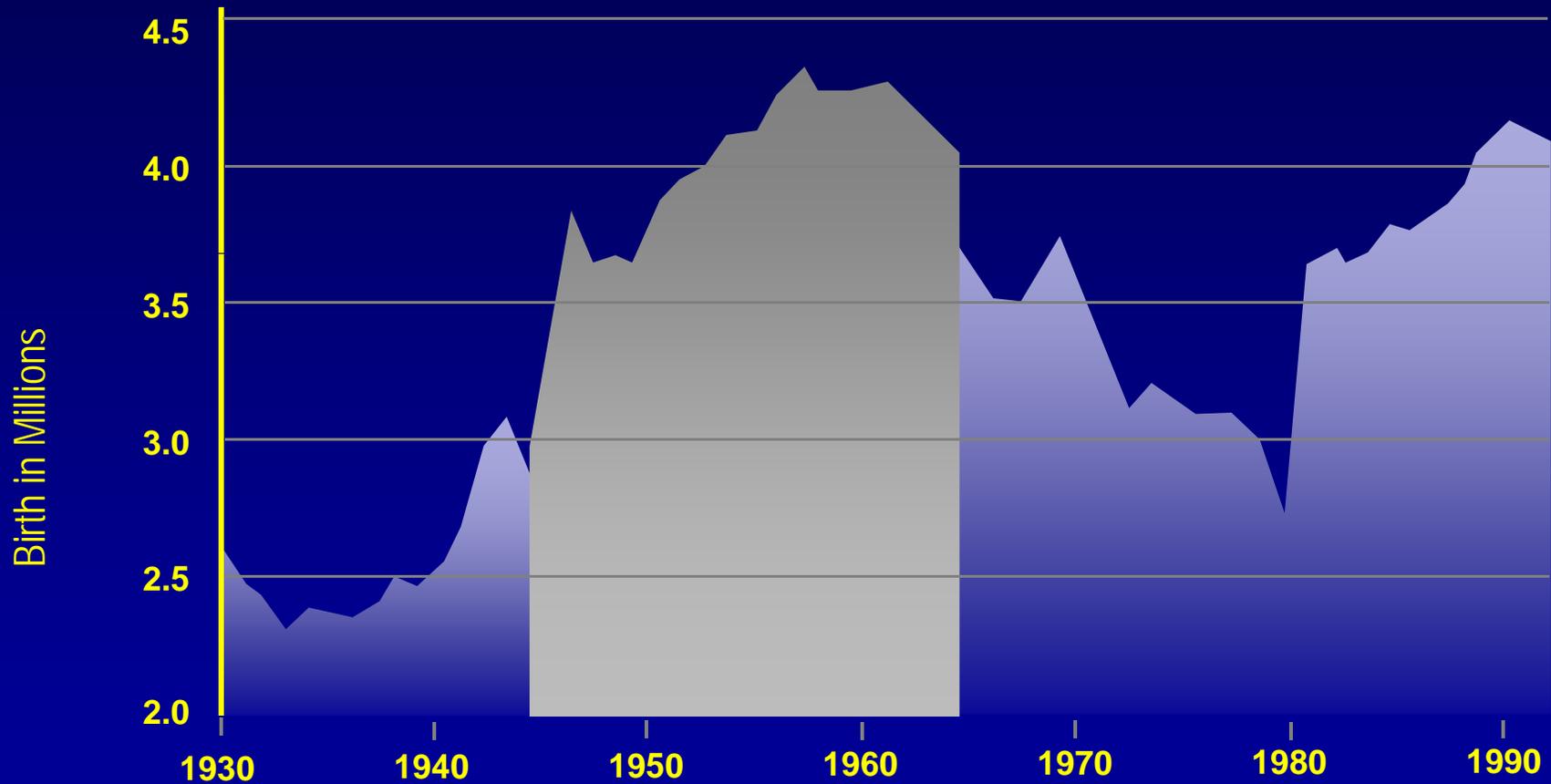
Total Fertility Rate: 1960 ■ and 2000 ■



Source: Age Wave

# Why? The Baby Boom Pattern

## The Boom Years: 1946-1964



Source: U.S. Census Bureau International Data Base

**What is health?**

**Am I healthy?**

Do I care if others in my life are healthy?

*What influences my health?*

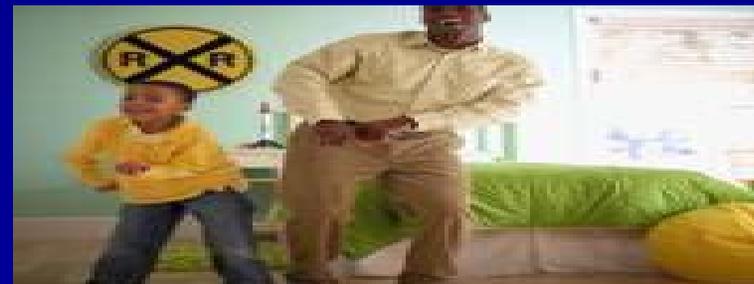
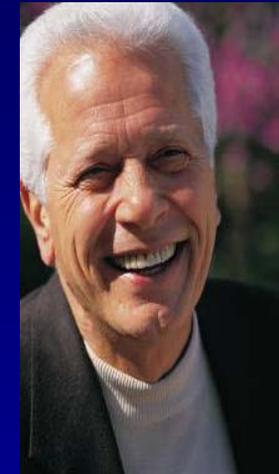
Where do I go for help with my health?

**How can I change my health?**

*I've Lost my health, now what?*



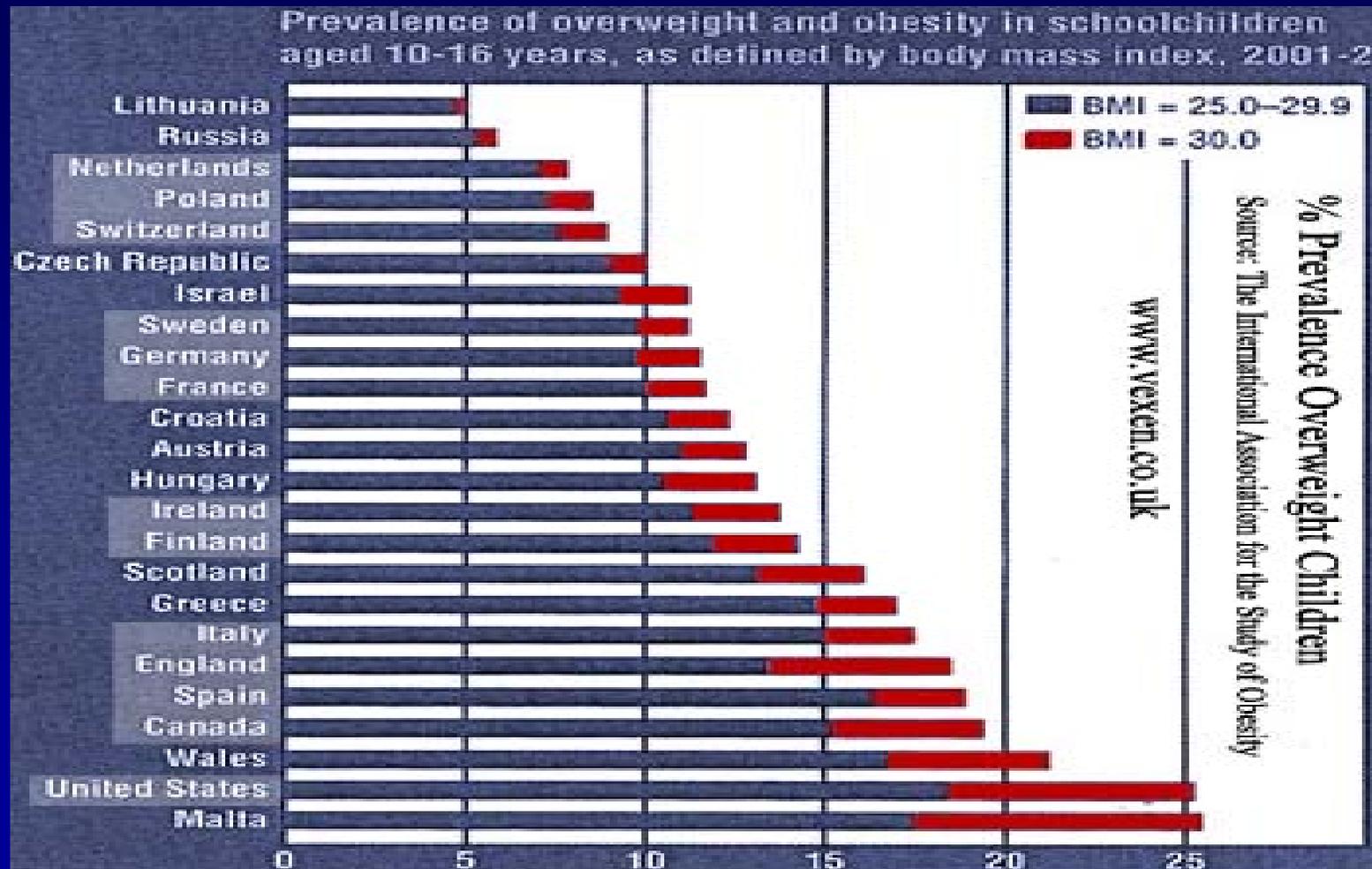
# Health challenges of the younger, older and those sandwiched between



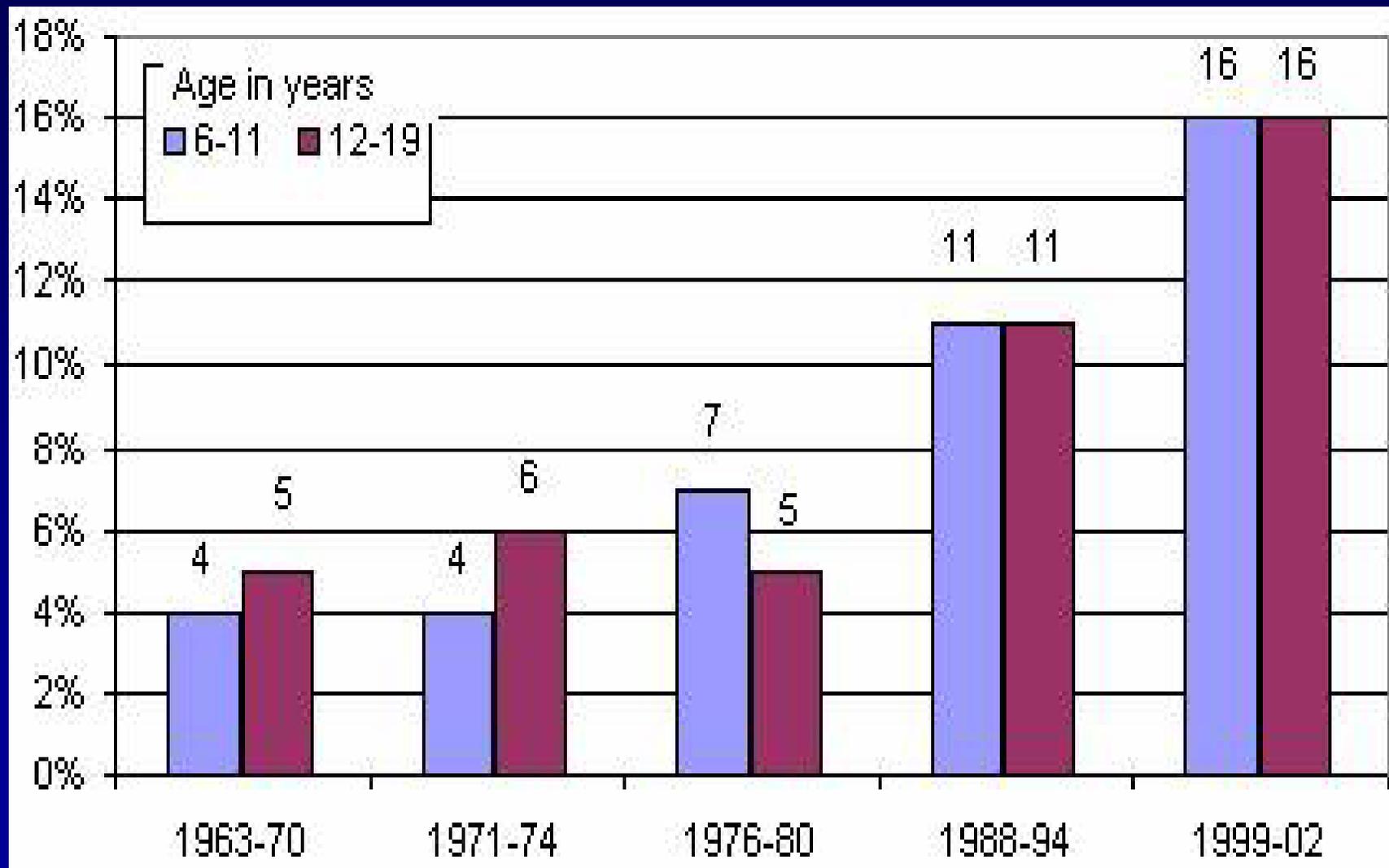
# Diabesity and the *Future Workforce*

- 39 States with 40% of young adults considered to be overweight or obese in just last decade!
  - In Kentucky, Alabama and Mississippi, >50% young adults are overweight
- Medical Consequences:
  - High Blood Pressure
  - High Fats in the Blood
  - Type 2 Diabetes (formerly called adult-onset)
  - Hepatic steatosis epidemic (fat deposits in the liver)
  - Sleep apnea (too much fat around the upper airway)
- Psychological stress
- Musculoskeletal disorders
  - what the old and the young worker share

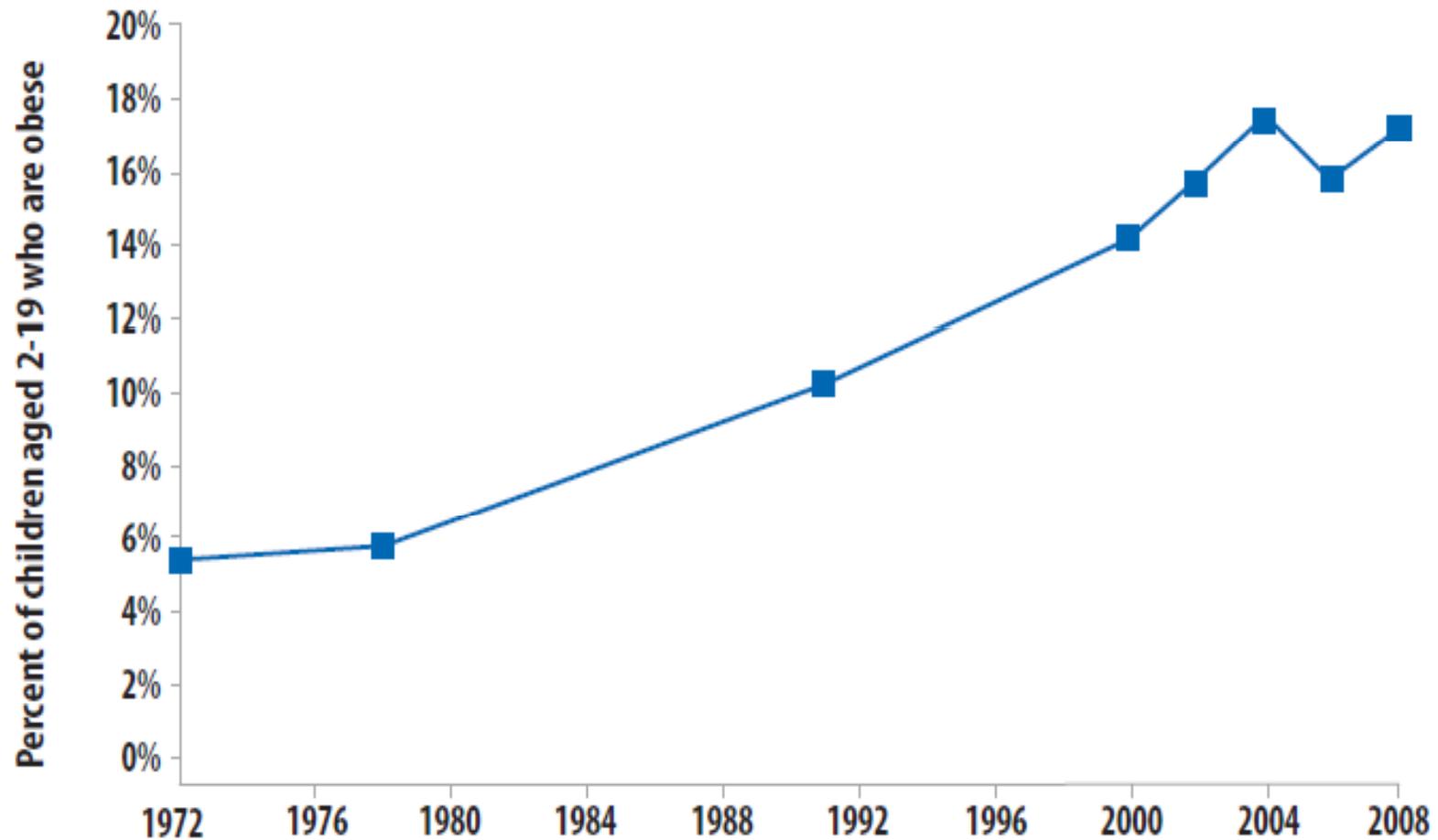
# Childhood Obesity by Country



# US Childhood Obesity: 1960 - 2002



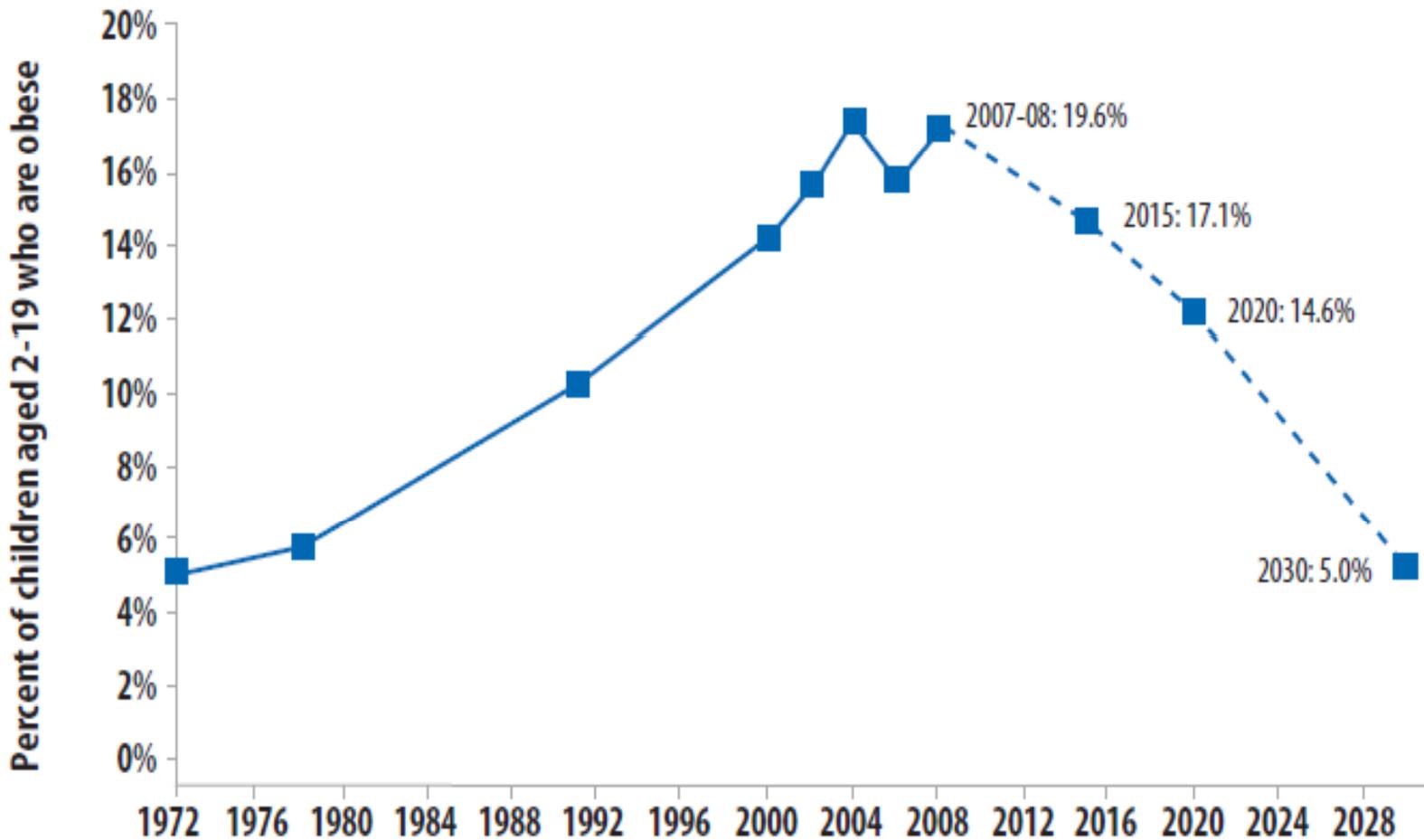
## Growth in Childhood Obesity, 1971 to Present



Source: CDC, National Center for Health Statistics, National Health and Nutrition Examination Surveys.

Note: Obesity is defined as BMI  $\geq$  gender- and weight-specific 95th percentile from the 2000 CDC Growth Charts

## Bending the Curve: Childhood Obesity, 1972 to 2030



Source: CDC, National Center for Health Statistics, National Health and Nutrition Examination Surveys.  
Note: Obesity is defined as BMI  $\geq$  gender- and weight-specific 95th percentile from the 2000 CDC Growth Charts.

# HEAVY LOSSES

Military experts declare obesity a national security threat as more and more young Americans become too fat to fight 11



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# Too Fat to Fight

- Since 1995, proportion of recruits who failed their physical exams because they were overweight has risen by nearly 70%.
- Being overweight is now the leading medical reason for rejection.

# Global Competition for Workers

- Migration of talent now plays an important role in shaping skilled workforces
- In 1990s, U.S. benefited from inward migration
  - Brain drain and remittances dominated policy
- In 2000s, more opportunities in *sending* countries
  - India, Brazil, China, Europe, Africa, South America
- Increased Mobility = internationalization of the labor market
- Global competition for talent is growing fast
  - Previously favored nations like U.S. cannot count on having no competition for acquiring skilled workers
  - MNEs now face global health issues involving their employees
    - Not just chronic “American-type” diseases
    - Acute infectious diseases that are more prevalent in foreign countries
    - Most employer-based health promotion programs are based on American model

# Innovative Employment Arrangements

- “Flexible” or “Precarious”
- Contingent = work without promise of longevity
- Evidence that contingent workers are at higher risk for work-related injury, illness, and death:
  - Outsourcing of more hazardous jobs
  - Lack of experience and familiarity with operations in a dangerous workplace
  - Inadequate safety training and protective equipment
  - Limited access to preventive measures such as medical screening programs
  - Components of current health and safety regulations, and the workers' compensation system, which were designed in an era of different employment arrangements, play a role.
    - Does your employee wellness program cover all persons who work for you or your contactors or not?

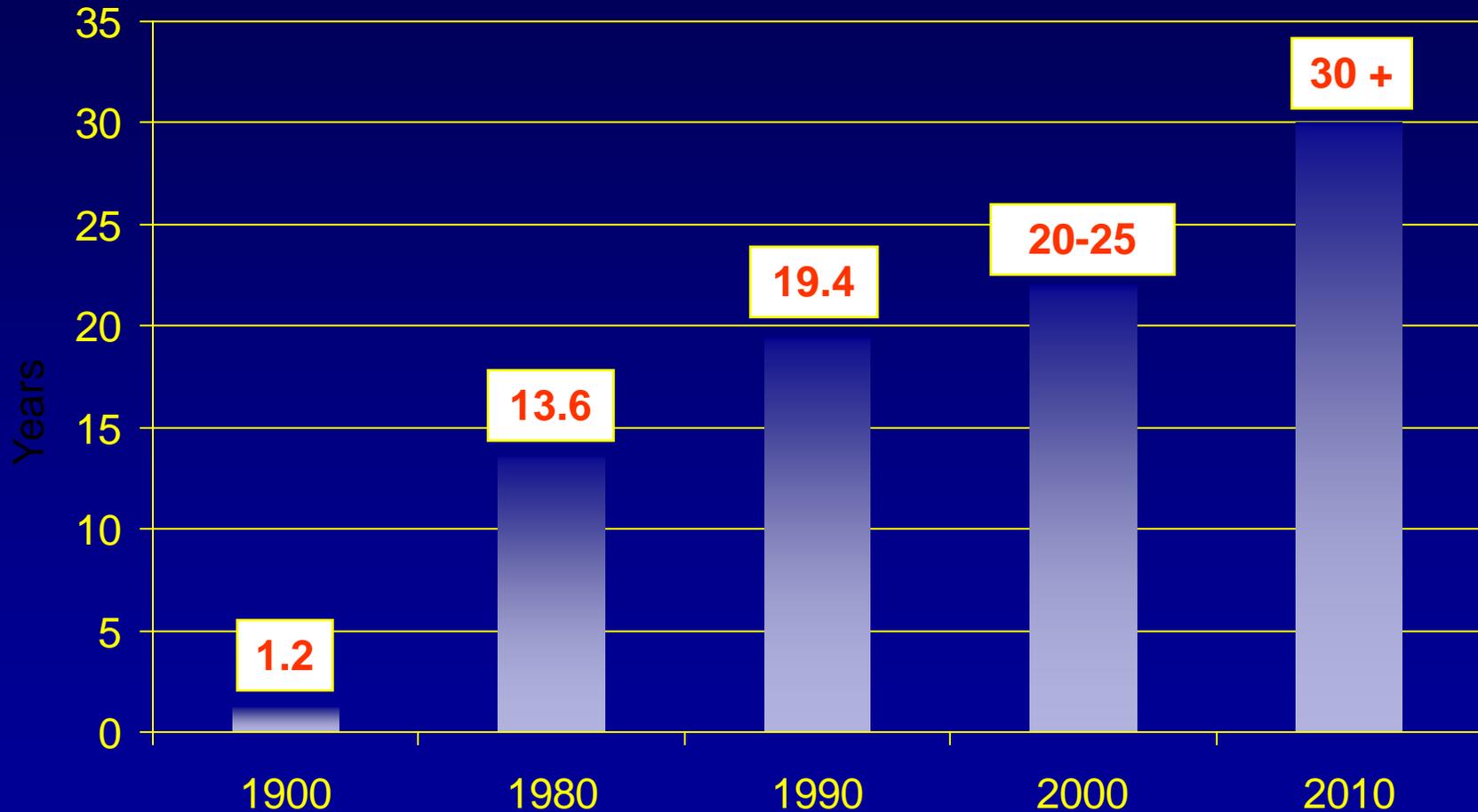
# Webster's Definition of Retirement

- *to disappear*
- *to go away*
- *to withdraw*



Source: Webster's New Twentieth Century Dictionary

# More Years Spent in “Retirement” After First Career



Source: Age Wave, based on U.S. data, and  
The Concours Group

# Aging Productively



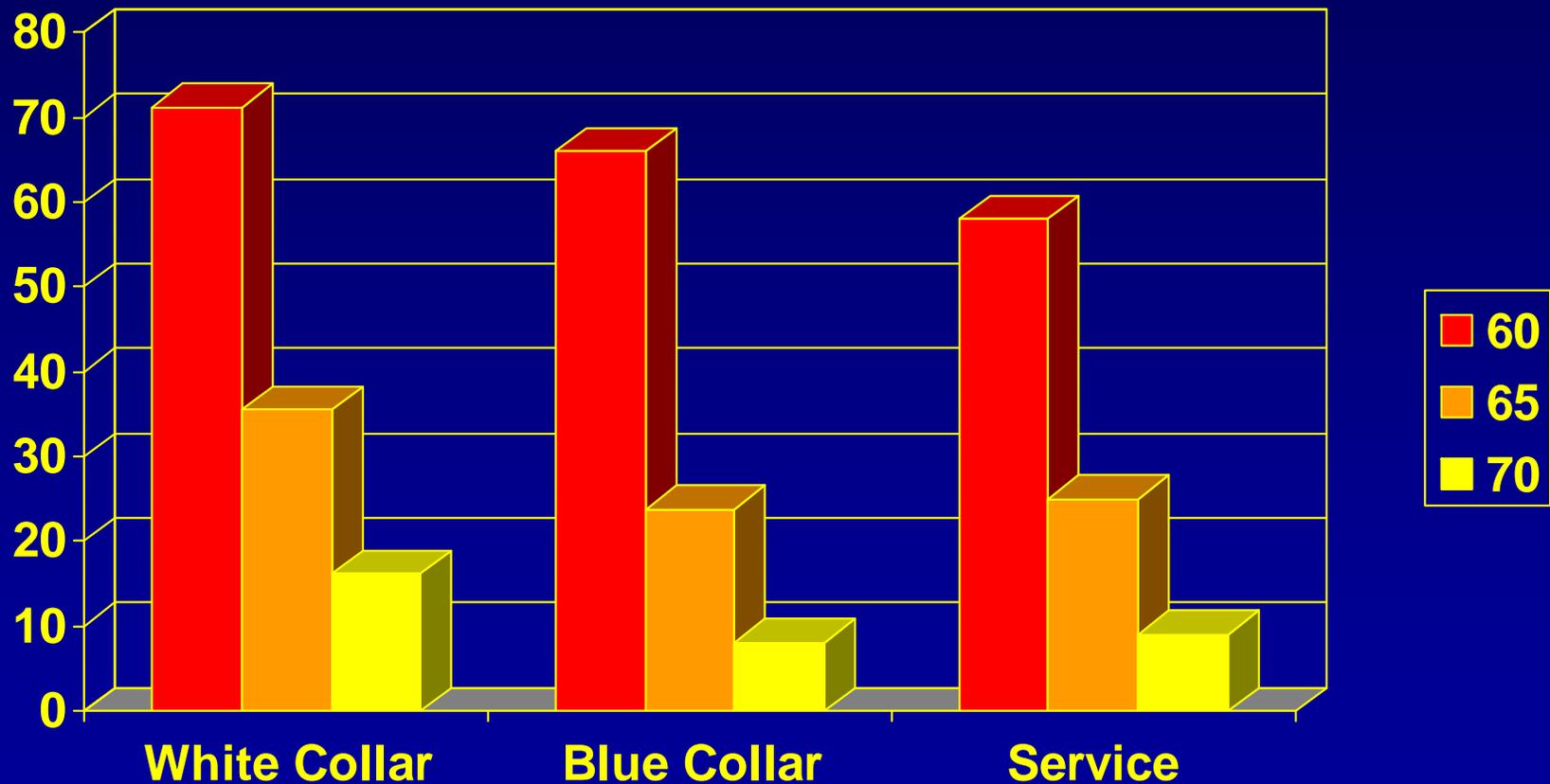
# Impact on Occupational Safety and Health



**Changing workforce demographics mean that we all need to be thoughtful about how to age and work productively.**

**Is aging always compulsory?**

# Proportion of 50 yr-olds Still Employed at Subsequent Ages by Age Attained and Class (U.S.)



# Aging Workforce and Social Security

- Social Security
  - In 1935, average life span at birth was 62
  - So, retirement benefits started at 65!
  - Rising costs impacts discretionary spending
- Changing pension systems
  - Greece
    - Raised retirement from 63 from 61
    - Banned early retirement altogether
  - Other nations facing pension pressures?
  - Effect on blue collar workers?

# Aging: A Balance of Factors

- Possible Limitations
  - Cognitive Limitations
  - Chronic Conditions
  - Physical Capacity
- Compensating Factors
  - Attitude
  - Judgment
  - Flexibility
  - Interest in learning

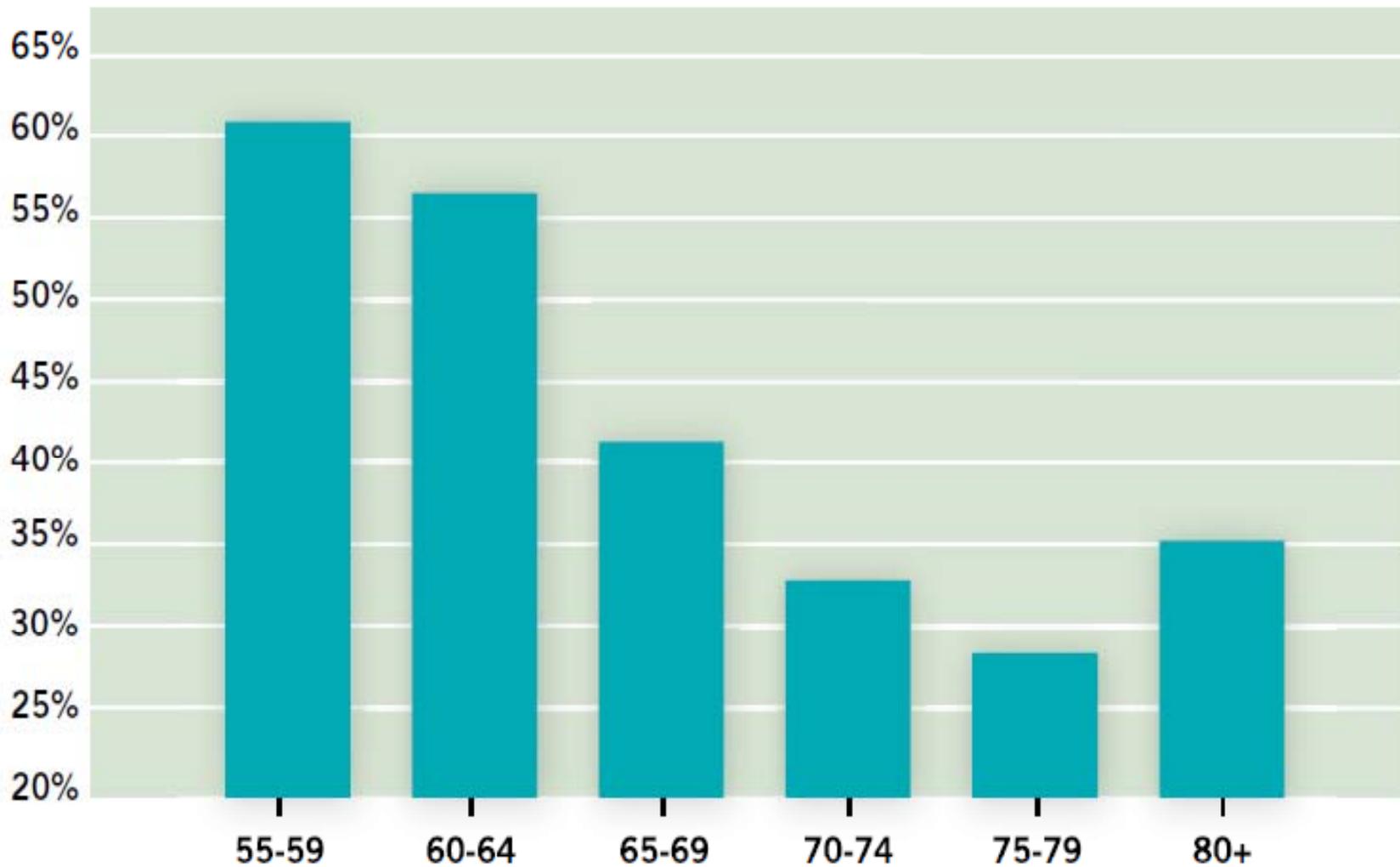
# Mental Capacity

- **Laboratory Tests**
  - **Cognition speed**
    - Information retrieval slower, unless material is familiar
  - **Learning and recall slower, but equally successful in the end**
  - **Greater retention, higher learning achievement and more likely to complete a new field of study than younger workers**

FIG. 2-4

**STRESS ON THE JOB, BY AGE: 2002**

*(Percent saying that their job involves "a lot of stress")*

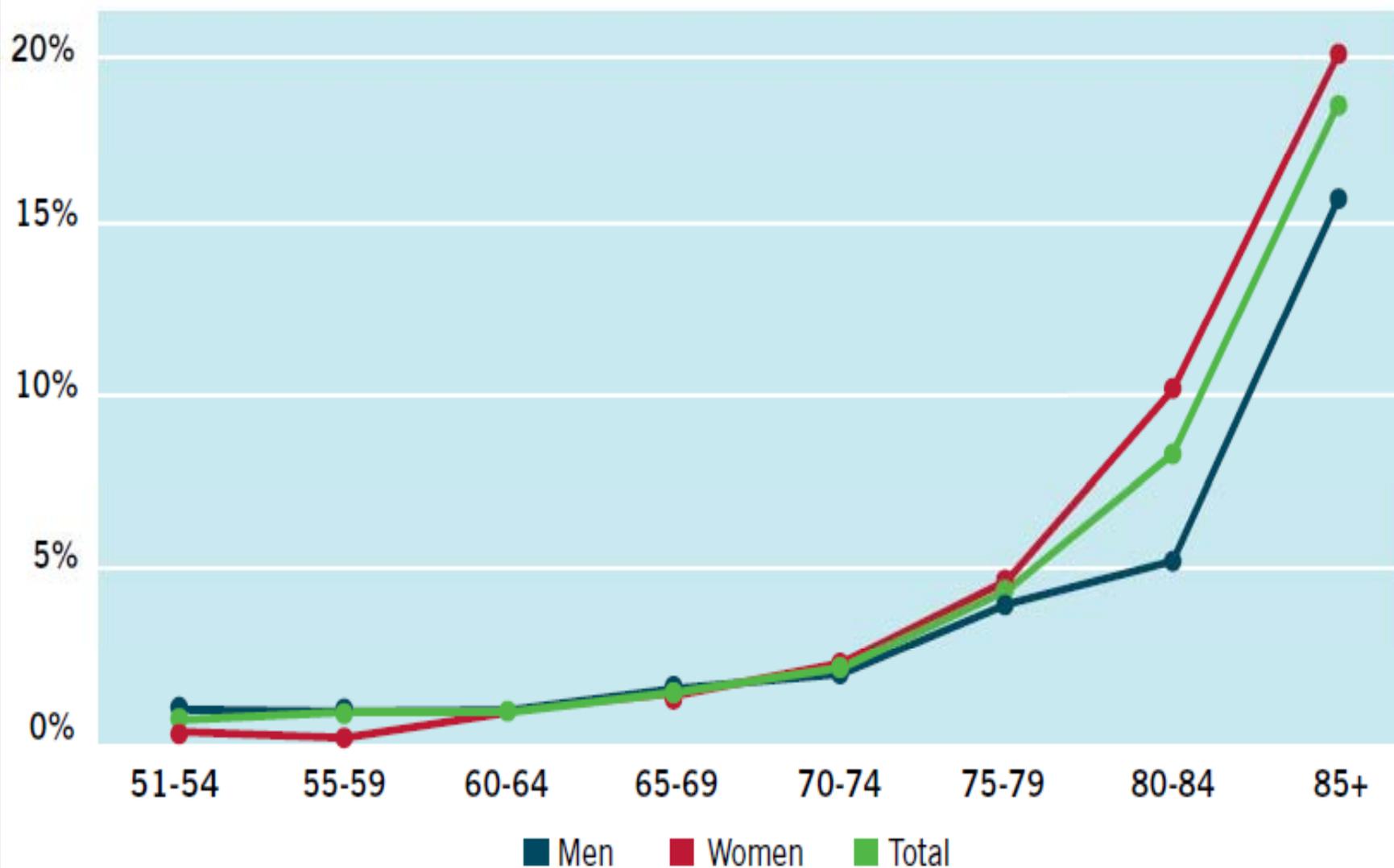


## Mental Capacity: Relevance to On-the-Job Performance

- Lab tests do not translate well to actual work settings
- Factors other than *psychometric* cognitive abilities appear important to perform well at work
  - How well worker gets along with co-workers
  - Desire to perform well
- Individual measures are quite sensitive to occupational class

FIG. 1-4

SEVERE COGNITIVE LIMITATION, BY AGE AND GENDER: 1998



# Age and Chronic Medical Conditions



# Workers with >1 Chronic Condition by Age (U.S.)

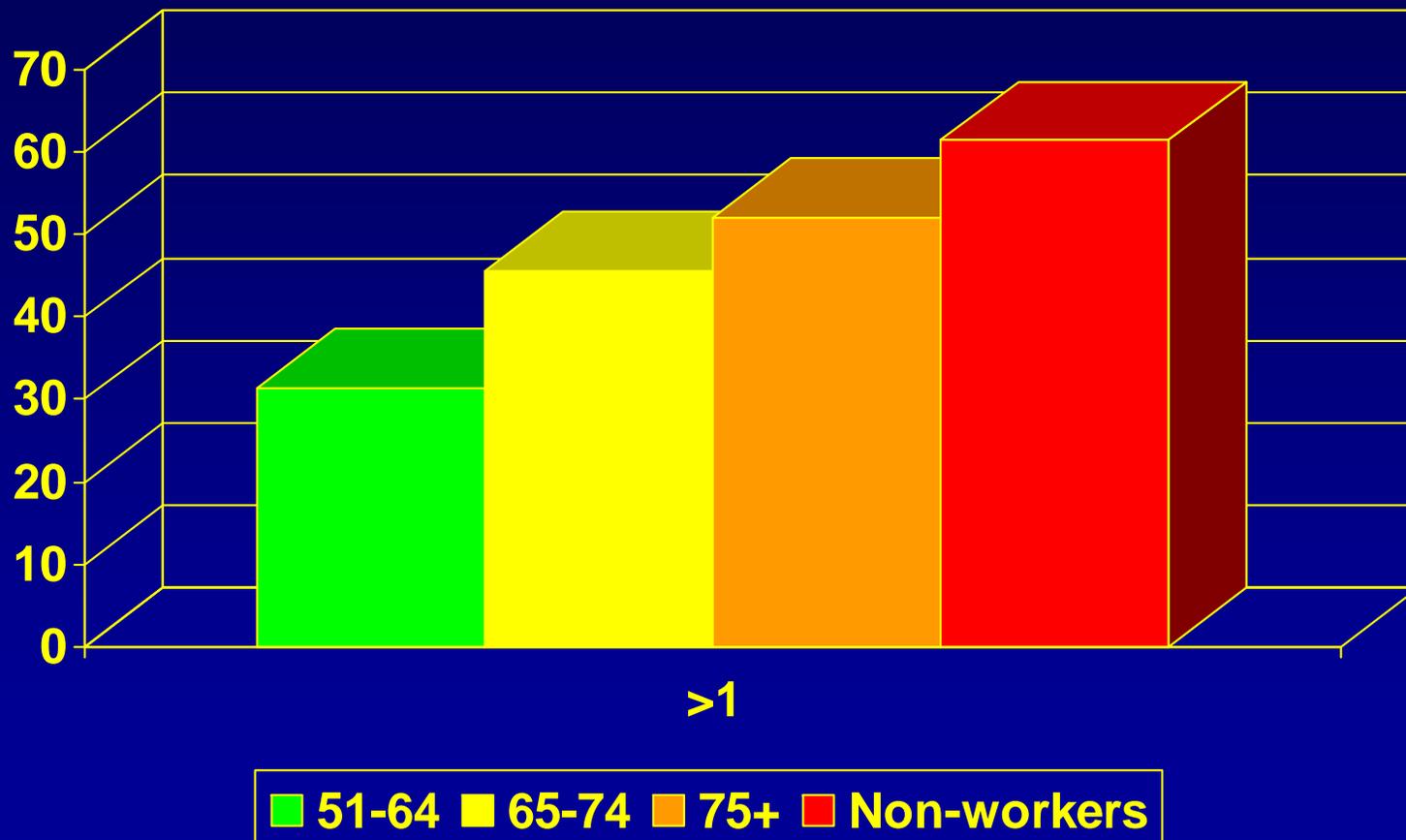
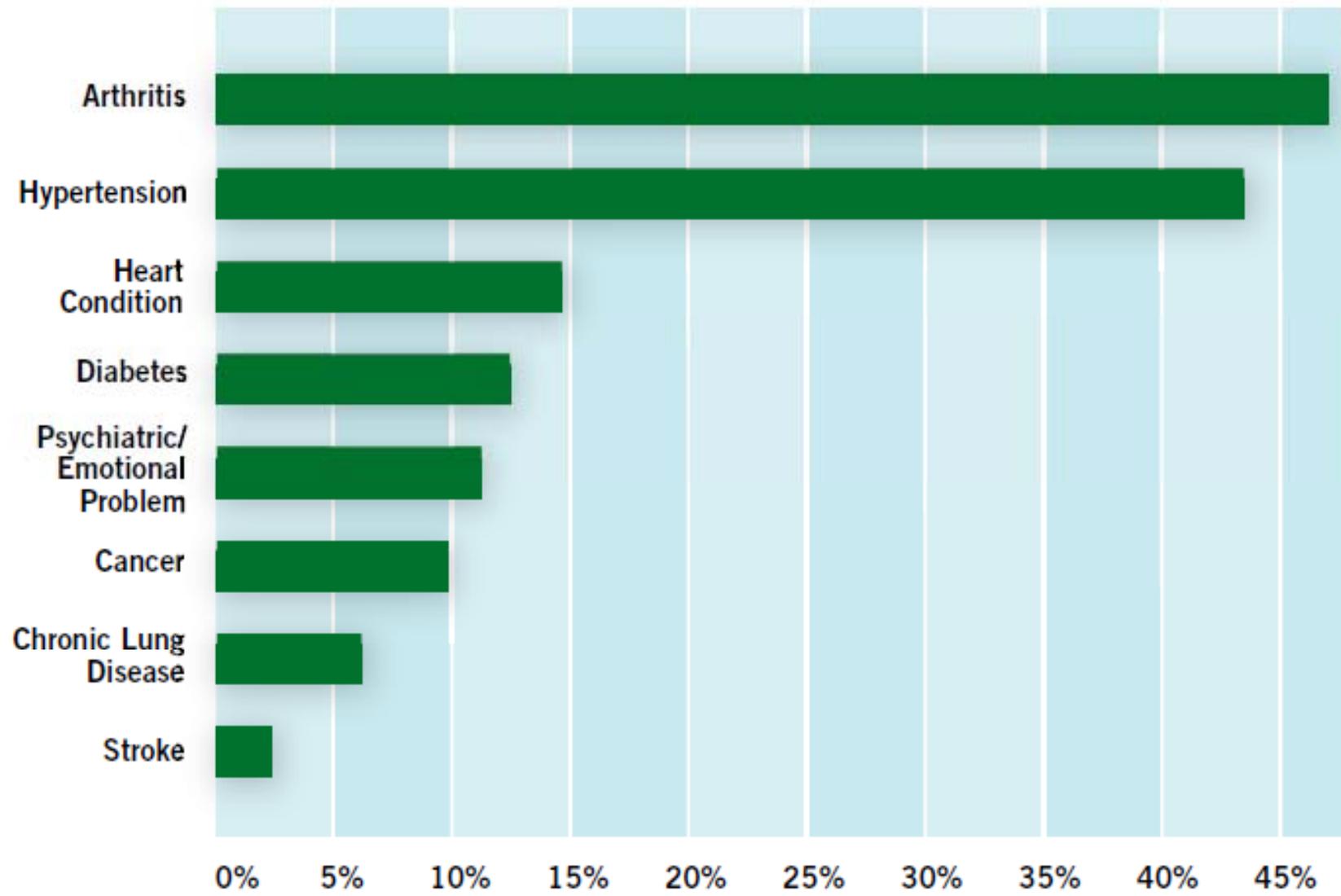


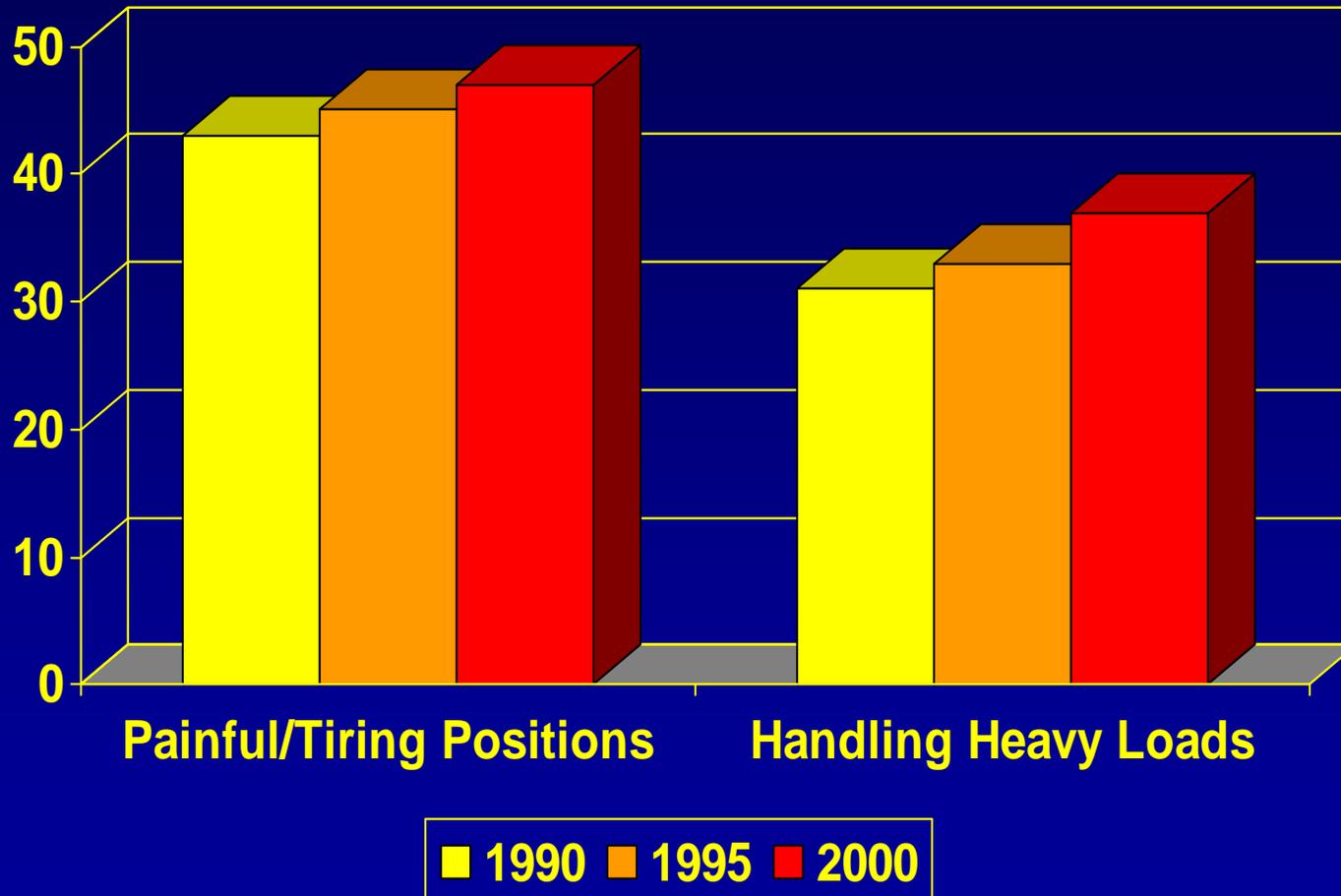
FIG. 1-16

**HEALTH CONDITIONS AMONG WORKERS AGE 55 AND OVER: 2002**

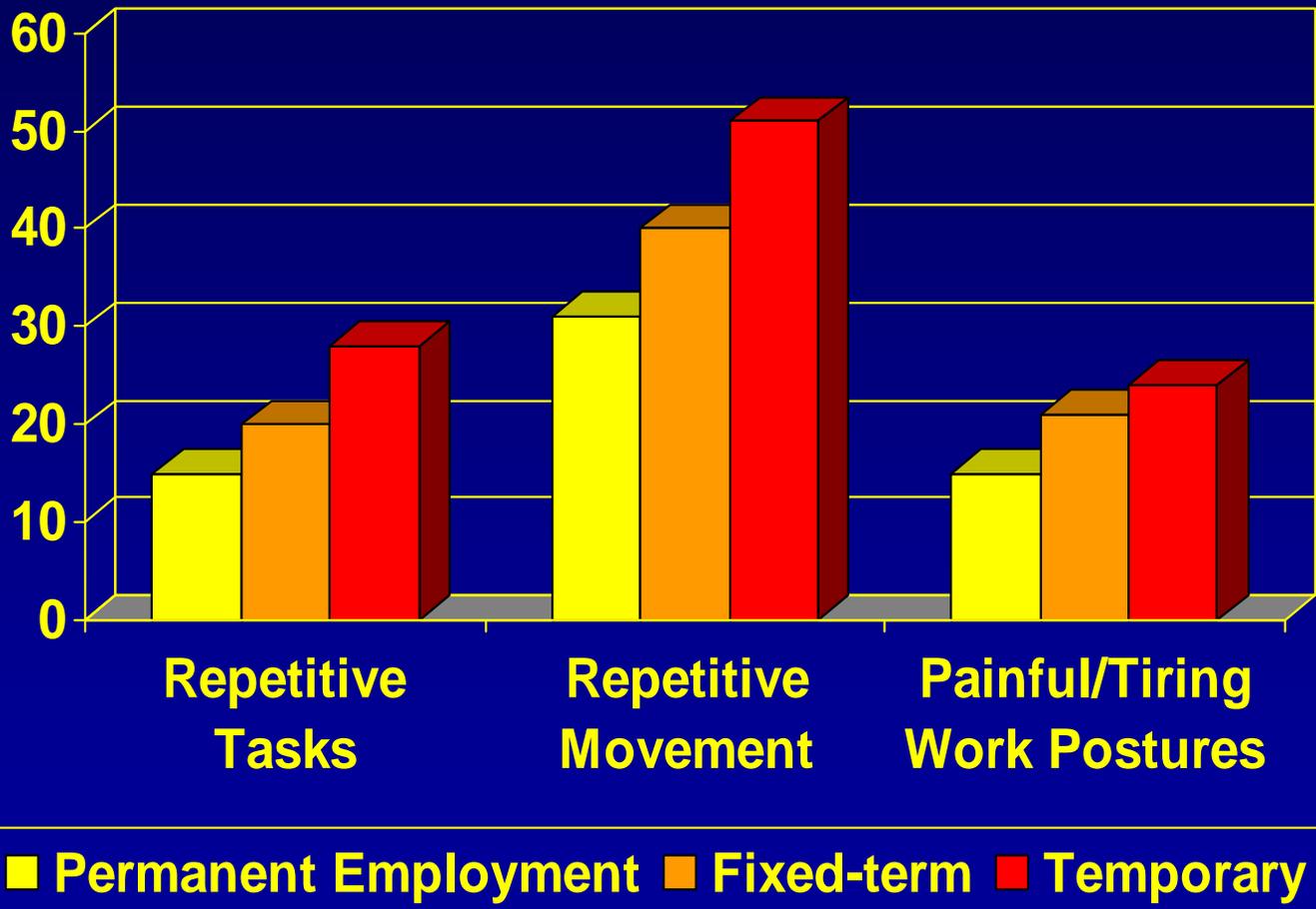


# Exposure to Physical Stressors

## EU - 1990-2000



# Exposure to Physical Hazards By Type of Work Contract



# Physical Capacity: Can Older Workers Keep Up?

- **Physiology Facts**

- Maximal strength at 20-30 years
- O<sub>2</sub> uptake reduced to 70% (max) by 65 years
- Older adults work closer to capacity!

- **Decreased Performance, Yes But ...**

- For physically demanding work only
- *Work uncommonly* demands maximal effort

- **Non-physical advantages that older workers bring to a job are rarely measured in studies!**

# Physical Capacity: Match Task to Ability!

- Maintaining musculoskeletal health will be increasingly important
- Workers abilities matched to the job:
  - Results in less morbidity
  - Based on practical ergonomic principles
  - Accommodation practices not fully integrated yet into employment practices:
    - May change with ADA Amendments Act of 2008
    - Increases chances lawsuit will go to trial

# Essential Points About Aging

- **Do aging workers need special accommodations?**
  - A well-designed workplace benefits everyone
  - Work stations and job tasks need to be matched to the capacity of each worker
  - There should be no conflict between ergonomic principles vs. reasonable accommodations
- **Are there any specific health and safety concerns related to aging workers?**
  - Older workers have fewer injuries, but when one occurs, that injury tends to be more severe and it takes worker longer to get better.
  - Injuries differ in older workers—there are more musculoskeletal injuries
  - No consistent relationship between aging and work performance!

# Providing Opportunities for Health to Emerge at Work



# What's the Evidence-Base for Employee Health Promotion Practices?

- Evidence:
  - More than opinion or testimony
- “...Growing body of *empirical evidence*”
  - Large proportion of diseases are preventable (risks are modifiable)
  - Risk-dependent diseases are costly & reduce worker productivity *within short time window*
  - Targeting risk behaviors can decrease costs and increase productivity
  - Worksite health promotion and disease prevention programs save companies money and produce + ROI

\* Goetzel & Reuters, Value in Health Care , IOM (2010)

# Integration of Traditional Occupational Health with Health Promotion



## *WorkLife*



[www.cdc.gov/niosh/worklife](http://www.cdc.gov/niosh/worklife)

- WorkLife Centers of Excellence
- Essential Elements of Effective Workplace Programs for Health and Safety
- Resources Page: 99 Web-Links Worth Having



# WorkLife

- Protect existing health and safety
- Provide respect to workers
- Build a healthy environment
- Develop understanding and partnership
- Seek to engage
- Recognize need for flexibility and autonomy
- Integrate safety and health at every opportunity





# WorkLife

## Examples of Integrated Programs

- **Respiratory protection programs that comprehensively address tobacco abuse**
- **Ergonomic consultations that also discuss arthritis management strategies**
- **Stress management efforts that first seek to diminish workplace stressors, and only then work on building worker resiliency**
- **Integrated training and prevention programs (falls, motor vehicle safety, first aid, hearing conservation, stretching, flexibility and lifting programs)**

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# Healthy Work Makes Healthy Families

**Celebrating National  
Work and Family Month**

**October, 2010**