

# Prevention *through* Design National Initiative



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# Prevention through Design



A National initiative on PtD has been inaugurated by NIOSH and a group of collaborating organizations

*American Industrial Hygiene Association*

*American Society of Safety Engineers*

*Association of Equipment Manufacturers*

*The Center for Construction Research and Training (CPWR)*

*Kaiser Permanente*

*Liberty Mutual*

*National Safety Council*

*Occupational Safety and Health Administration*

*ORC WorldWide™*

*Regenstrief Center for Healthcare Engineering*

# Australian Study 2000-2002

- Main finding: design continues to be a significant contribution to work-related serious injury.
- 37% of workplace fatalities involved design-related issues.
- In another 14% of fatalities, design-related issues may have played a role.

# Yearly Burden of Occupational Morbidity and Mortality

- Morbidity and mortality
  - 5,800 Deaths (8<sup>th</sup> leading cause)
  - 228,00 Illnesses
  - 3.9 million Serious injuries
- Comprehensive estimates of US costs of occupational injury and disease
  - Direct and indirect: \$128 billion - \$155 billion
- Social consequences of occupational morbidity and mortality
  - Pain; impact on families, community, and personal mental health

# Health Care and Social Assistance (HCSA)

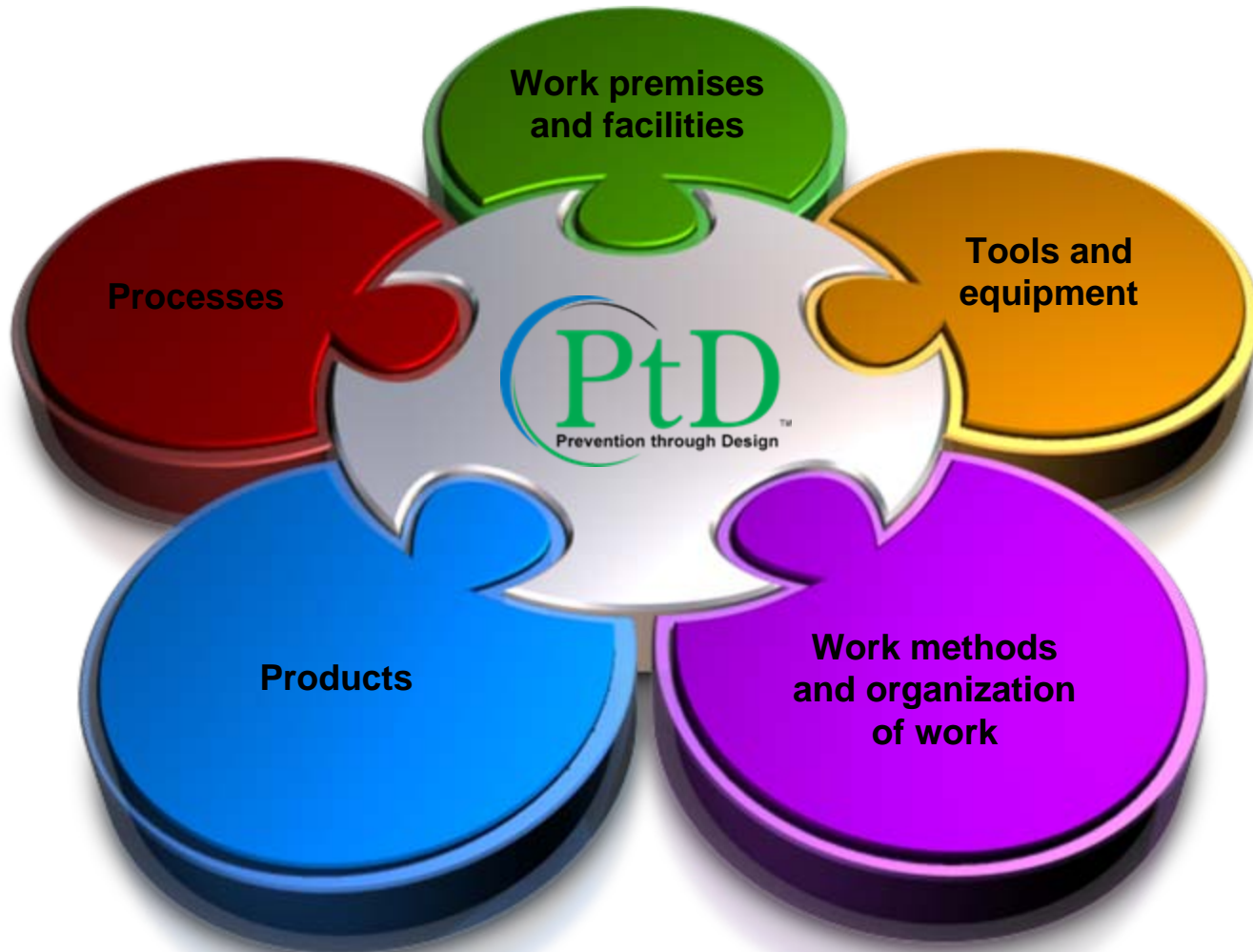
- Entire Sector
    - 15 MM workers
    - Recordable case rate: 5.6
      - Lost time case rate: 2.5
        - Days away from work rate: 1.4
  - For the Sector, 50% of lost time injuries involve sprains, strains and tears
- 4.4 MM hospital workers
    - Recordable case rate: 7.7
      - Lost time case rate: 3.0
        - Days away from work rate: 1.7
  - 2.9 MM Nursing and Residential Care workers
    - Recordable case rate: 8.8
      - Lost time case rate: 5.2
        - Days away from work rate: 2.6

*Data from the Bureau of Labor Statistics*

# Incentives for

- PtD provides a framework to deliver on the vision of an injury and illness-free workplace
  - Planning for success by integrating OSH with key business processes
- Limited resources drive the need for increased efficiency and cost effectiveness
- PtD lays the foundation for OSH sustainability

**Mission:** To prevent occupational injuries, illnesses, and fatalities through the inclusion of prevention principles in all designs that impact workers





# HCSA Most Compelling Issues

*as identified by PtD stakeholders*

- Investigate and promote the interrelationship of patient safety, worker safety and environmental safety
- Integrate PtD into the healthcare management culture by aligning it with sustainability and patient safety
- Include healthcare workers in design decisions



# PtD Strategic Goals

<b>Research</b>	Research will establish the value of adopted PtD interventions, address existing design-related challenges, and suggest areas for future research.
<b>Education</b>	Designers, engineers, health and safety professionals, business leaders, and workers understand PtD principles and apply their knowledge and skills to the design of facilities, processes, equipment, tools and organization of work.
<b>Practice</b>	Stakeholders access, share and apply successful PtD practices.
<b>Policy</b>	Business leaders, labor, academics, government entities, and standard-developing and setting organizations endorse a culture that includes PtD principles in all designs affecting workers.
<b>Small Business</b>	Small businesses have access to PtD resources that are designed for or adapted to the small business environment.

# Selected HCSEA-Driven Strategic Goal Activities

- Research
  - Support research to evaluate the effectiveness of design interventions
  - Investigate the motivators, enablers and barriers to PtD implementation
- Education
  - Develop / disseminate educational programs, training modules and case studies
  - Educate decision makers about the value of PtD
- Practice
  - Share successful practices and processes
  - Demonstrate the value of worker involvement
- Policy
  - Develop PtD consensus standards
  - Integrate PtD requirements into new and existing standards, codes, regulations and guidelines



# Stages of Adoption

## Stages for Adopting PtD

### Monitor Performance

PtD in Culture  
Links to Sustainability  
PtD in Licensure Exams  
Industrial Sector Integration

### Implement Change

Identify 'Safe Design' Equip.  
Share Successful Practices  
New Technology Integration  
Educational Compendium

### Plan for Change

Investigation/Surveillance Methods  
Full Worker Involvement  
"Tool" Development  
Industry Standards

### Gain Commitment

Establish Business Case  
Info Sharing Methods  
Professional & Worker Education  
PtD Consensus Standard

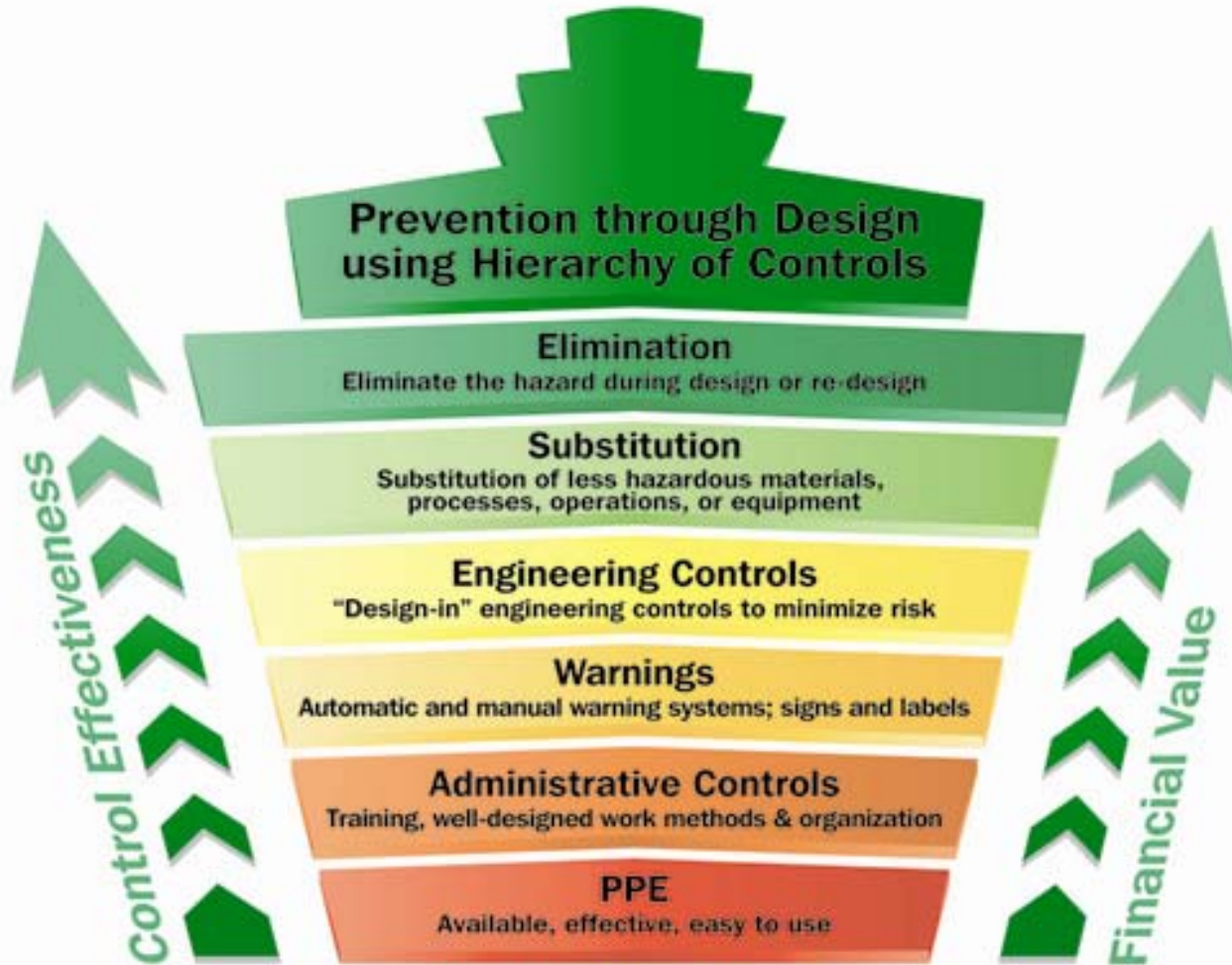
### Create Awareness

Define PtD  
Awareness Education  
Publish Case Studies  
Identify Motivators/Barriers  
Value of Worker Involvement

## Activities to support stages of adoption

PtD Program Maturity





# Mechanical Devices Reduce Risks to Workers and Improve Patient Safety



*Mechanical lifting devices reduce worker injuries and worker compensation expenses AND improve patient safety.*

Source: NIOSH [2006]. Safe Lifting and Movement of Nursing Home Residents. By Collins JW, Nelson A, Sublet V. DHHS (NIOSH) Publication Number 2006 - 177.



# NIOSH-Led Activities

- Research
  - Benchmarking Management Practices related to PtD in the US and UK
- Education
  - Diffusing PtD Principles through Engineering Textbooks and Course work
- Practice
  - Moving NIOSH Engineering Design Solutions into Practice; Sharing Successful Case Studies and Practices
- Policy
  - Integrating PtD into Management Systems/Consensus Standards

# To Learn More...

- Visit the NIOSH PtD Topic and Portfolio Pages  
<http://www.cdc.gov/niosh/topics/ptd/>
- Download the draft PtD Plan for the National Initiative
  - Anticipate posting by April 2009
- Offer comments on the PtD Plan
- Join NIOSH and others in implementing the Plan