Rapporteur's Report

Policy Issues in Prevention through Design

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1. Introduction

The Policy Functional Area includes internal and external initiatives that are intended to integrate Prevention through Design (PtD) into business and governmental organizations. Research will determine what works best, practice will develop tools and implementation plans, and education will teach those who can implement PtD. Functional areas are not separated by clear and distinct boundaries. Instead there is significant overlap and interdependence.

Prior to the Policy Functional Area breakout session, the Sector workgroups identified four major policy areas. They were:

1) Cost-benefit analysis and incentives
2) Culture
3) Standards, codes, and regulations
4) Strategic alliance development

In the Policy Functional Area breakout session, participants divided themselves into small groups according to these four areas. The participants were asked to brainstorm, as well as discuss barriers and initiatives for inclusion in the national strategy.

The purpose of this report is to summarize and briefly discuss key issues and initiatives for the above four policy topics.

2. Cost-Benefit Analysis and Incentives

- Large host employers and contracting companies should encourage subcontractors and suppliers to practice PtD
- Establish individual and organizational certification for PtD
- Expand financial incentives, tax credits, and grants to support PtD
- Develop the business case for PtD based on its impact on business processes

- PtD certification should lower product liability risk and doing nothing should increase product liability risk
- Modify product liability legislation to reduce or limit liability for organizations that practice PtD
- Reduce insurance premiums for organizations that implement PtD
- Encourage government entities to adopt PtD principles and methods (example - the Occupational Safety and Health Administration (OSHA) should modify the Voluntary Protection Programs (VPP)).
- Demonstrate that PtD supports sustainability and corporate social responsibility
- Create incentives for designers and methods to reward "good practice"

The workgroup emphasized the importance of demonstrating the benefits of PtD and the need for research to prove the business case. Many organizations recognize that PtD reduces rework and some see the connection to "lean manufacturing." A variety of company case studies were presented from diverse sectors, demonstrating PtD's effectiveness in reducing injuries and illnesses, lowering costs, and improving productivity and quality, through management's support of its processes. Examples included the Washington Group construction firm, Kaiser Permanente, and Intel. However, it is particularly difficult to implement PtD in organizations whose management is completely absorbed by short-term cost-benefit, as most PtD benefits are long-term by the very nature of prevention. The group brainstormed on initiatives that could be implemented to promote a long-term solution in a short-term environment. Demonstrating value is further hampered by injury and illness reporting variation and recordkeeping problems, as well as the lack of outcome data related to the benefits of PtD.

The ability to make the economic benefits of PtD obvious is affected by the nature of business systems. They segment processes into phases and measure cost for each individual phase rather than the whole project or process. An example is

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the segmenting of architects, builders, and those who occupy and manage buildings. Design improvements made by the architect may increase design cost, but will substantially reduce costs of construction and/or maintenance.

Participants suggested that large host employers and contracting companies encourage, or require, subcontractors and suppliers to practice PtD. Large corporations often require suppliers to be International Standards Organization (ISO) 9001 (quality) and ISO 14001 (environment) certified. Large government organizations, such as the Department of Energy, can demonstrate leadership by requiring suppliers to implement PtD policies. One of the barriers to this approach is the lack of a clear definition and scope of PtD. A consensus standard on PtD can clarify the scope and definition, and establish measurable performance criteria essential for certification (see item #4 - Standards, Codes and Regulations).

PtD certification can be established on an individual and organizational level. ISO 9001 and ISO 14001 have led to many significant improvements in culture, management systems, and business practices. The essential ingredient is a standard by which performance can be measured. Presently, some corporations have created internal guidelines, specifications, and procurement policies to implement PtD. Corporation "best practices" are often used as the starting point when developing a standard.

Financial incentives, tax credits, and grants for practicing PtD should be expanded. States, such as New York and California, provide financial grants of $300 and $500 respectively for installation of tractor rollover protection. Financial incentives for PtD certification can include reduction in Workers' Compensation insurance and liability insurance.

Finally, the VPP should be enhanced to include PtD. Performance criteria can be based on best practices from leading companies.

3. Culture

- Engage CEOs and workers. The highest management support and worker involvement are critical for PtD success in the workplace.
- Change workplace performance and appraisal systems to include PtD
- Promote workplace safety as a fundamental community value
- Incorporate patient/consumer safety, worker safety, and environmental safety into the design process
- Implement approaches that explicitly connect occupational health and safety to environmental sustainability, financial competitiveness, and community health
- Establish policy to fund research projects to explore PtD concepts and applications
- Change the mindset that blames workers for most injuries and illnesses. Create safe environments in which employees can work
- Establish and encourage mechanisms to report near-misses, which will provide valuable information for safer design of systems
- Seek approaches at the national level to ensure highest government support for PtD.

Cultural change begins at the top of any organization. CEOs must be engaged to move PtD forward. A minority of public and private organizations practice PtD in a substantial way. For the vast majority of organizations, practicing PtD will require major change starting at the top. The change will involve beliefs, values, and assumptions, as well as measurement, performance, and appraisal systems. The method and criteria used to assess and reward managers should include PtD elements.

Cultural change in today's organizations is particularly challenging, given the trend for massive subcontracting, outsourcing, and dispersed work settings, such as working at home. Companies outsource segments of the business, such as transportation, and often the most hazardous work activities. Temporary staffing organizations are often used to perform such work on the company's property, potentially exposing the host employer's employees, or the surrounding community, to risk. PtD decision making is routinely delegated to subcontractors who design processes, equipment, and buildings; host employer contracts, bid-specification, and design criteria frequently lack sufficient PtD requirements.

Blame-the-worker attitudes in health and safety remain a major barrier to PtD. Such views and assumptions, regarding the causes of injury and illness, are deeply ingrained in management, as well as traditional health and safety professionals. Workplace injury, illness, and near-miss investigations, supply valuable information to pinpoint deficiencies in the existing design systems.

Safety and health engineering concepts are seldom included in traditional health and safety training. Likewise, engineering curricula does not always include safety and health training. A common perception is that it is not necessary to review designs and incorporate engineering improvements if a training program, a few procedures, safety slogans, or personal protective equipment can do the same job.

Crucial to an organizational culture change is broad involvement of workers, consumers, communities, and government, in the health and safety decision making process. Such an approach will ultimately maximize the impact of PtD and minimize the cost of design and implementation. Kaiser Permanente, for example, emphasized the importance of considering the needs of all affected by hospital design.

4. Standards, Codes, and Regulations

- Create a broad and generic voluntary consensus standard on PtD
- Survey standards, codes, and regulations for PtD requirements
- Modify and add PtD requirements to standards, codes, regulations, and guidelines
- Create a sector-specific best practices and solutions clearinghouse for PtD.

Standards, codes, and regulations often have a significant impact on business performance, as well as health and safety. The impact of European and international standards on United States business practices is quite evident, as seen in ISO 9001 and ISO 14001.

A recommendation for a new legal requirement for PtD might not be widely accepted in the United States at this time, although support may vary by sector. The next step should be the development of a generic American National Standard Institute (ANSI) consensus standard on PtD applicable to all sectors. The standard can be used as the basis for organizational and individual certification described above. Launching an effort to develop an ANSI standard will better define PtD, build a broad conceptual base, and raise awareness of PtD, by generating ongoing discussion and publicity. During its development process, ANSI Z10 (the occupational health and safety management standard) generated important, substantive discussion about management systems and PtD issues. A prerequisite to developing an ANSI standard would be the selection of a secretariat to manage the process. The standard should be carefully crafted to ensure that performance requirements do not inhibit design innovation. Organizations from the strategic alliance described in Item #5 below should be involved in the process.

NIOSH should launch an effort to identify all applicable standards, codes, and regulations by sector. Member organizations of the strategic alliance (see Item #5) will then be encouraged, on a sector basis, to identify existing PtD requirements and potential opportunities to include new ones.

Finally, a clearinghouse for sector-specific best practices and PtD solutions should be created. Best practices can include internal design guidelines, organization models, management systems, design review processes, model contracts and bid documents, specifications, and assessment tools.

5. Developing a Strategic Alliance

- Build a strategic alliance for PtD
- Conduct an environmental survey to identify organizations, key players, and what is being done
- Create an inventory of stakeholders and affected organizations
- Identify gaps in PtD activity for potential research
- Develop Continuing Education Unit credits for PtD through these organizations

Workshop participants talked about the critical importance of NIOSH establishing a broad strategic alliance for PtD. The purpose of the alliance will be to advance the goals and initiatives of the national strategy. The alliance should promote PtD as the most effective method to reduce injuries and illnesses, as part of what is done every day, not as a new isolated burden. The alliance should conduct an "environmental scan" by surveying organizations to find out what is being done on PtD. The role of NIOSH should be to invite organizations to join the strategic alliance and work cooperatively with them, but not to dictate policy. Member organizations would work collectively to create and implement initiatives.

NIOSH should undertake the development of an inventory of stakeholder organizations and key players. Groups that participated in the PtD workshop should be surveyed to identify additional organizations for inclusion in the strategic alliance. Professional organizations can also be involved, such as those for engineers, architects, lawyers, professors, business managers, health and safety personnel, doctors, and nurses. Some of the organizations recommended include: trade associations, traditional health and safety organizations, such as the American Society of Safety Engineers and the National Safety Council, American Industrial Hygiene Association, Department of Defense, Federal Aviation Administration, American Association of Occupational Health Nurses, National Fire Protection Association, ISO, System Safety, American Law Institute, ORC WorldWide, National Occupational Research Agenda, Department of Energy, Department of Transportation, sector organizations, construction groups, academic and educational, government and business organizations.