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Rapporteur's Report Wholesale and Retail Trade Sector

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1. Introduction

The Wholesale Trade sector comprises establishments engaged in wholesaling merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. The wholesaling process is an intermediate step in the distribution of merchandise. Wholesalers are organized to sell or arrange the purchase or sale of (1) goods for resale (i.e., goods sold to other wholesalers or retailers), (2) capital or durable non-consumer goods, and (3) raw and intermediate materials and supplies used in production. Wholesalers sell merchandise to other businesses and normally operate from a warehouse or office.

The Retail Trade sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise. The retailing process is the final step in the distribution of merchandise. Retailers are organized to sell merchandise in small quantities to the general public. This sector comprises two main types of retailers: store and non-store retailers.

Within the larger rubric of the National Institute for Occupational Safety and Health (NIOSH) National Occupational Research Agenda (NORA), the Wholesale and Retail Trade (WRT) sector is diverse. It ranges from large businesses, such as “big box” retailers, including Home Depot, Wal-Mart and Lowes, to small “mom and pop” businesses, such as corner gas stations. The NORA WRT Sector Council strives to develop an overall strategy that can address this varied range. At least 85% of the WRT sector consists of small businesses, but the sector itself is remarkably large, and has nearly 1 million injuries a year. High economic costs characterize this large number of injuries. For this reason, WRT opinion leaders from a cross section of disciplines gathered together to discuss Prevention through Design (PtD) approaches that would be useful to achieve NORA's strategic goals.

2. Most Compelling Idea/Recommendation to Come Out of the Discussions

The most compelling idea, during the WRT sector discussions, arose from “brainstorming” the problem of how to get businesses interested in PtD. Many large retailers already have safety programs. The majority of businesses, which are small businesses, do not. The varying size and diversity of the section further compounds the problem.

The WRT sector proposed a “voluntary safety certification” program. This would be similar to “International Standards Organization (ISO) 9000” or “Cradle to Cradle” (McDonough & Braungart, 2002). There was a time when a few businesses displayed “ISO 9000” certification banners. Now, a large number of businesses have sought ISO certification and many purchasing agents require ISO certification. Ken Alston spoke of how many companies display a “Cradle to Cradle” sticker on their products. Christine Malcolm described how Kaiser's designs of health care facilities have generated a harmony between patients and workers. The proposed voluntary safety certification could be administered by a retail trade association. The voluntary safety certification program would then drive education, policy, practice, and research, while “changing the culture” without laws, regulations, and standards. This idea can easily be applied to all the sectors and be part of a national strategy.

The WRT sector-based session group discussed four goal areas of focus for reducing injuries and fatalities. The research investigation of the following approaches was recommended by designing new studies, creating new data sets, and partnering with untapped organizations. This will allow for communicating the best practices through continuing professional education, creating a clearinghouse of information for academic faculty, and by encouraging student access to information through awards, grants, and fellowships.

1. Musculoskeletal Disorders

- a. Use ergonomically designed computer keyboards
- b. Design display cases with shelves that slope from back to front, so that products remain accessible. This design

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- approach reduces the likelihood that people will reach into deep display cases when stocking or grabbing merchandise.
- c. Design cashier stations to eliminate or reduce ergonomic stresses (using anti-fatigue mats, adjustable keyboards, etc.)
 - d. Design load transportation routes with strategies that use pushing, instead of pulling
 - e. Keep lifting loads knee to chest level
 - f. Train staff to use the appropriate techniques for lifting, and use the NIOSH manual lifting equation to prevent overloads
 - g. Use mechanical assist devices, conveyors, cranes, and fork lift trucks, instead of manual lifting
2. Falls and Contact Related Injuries
 - a. Use non-skid mats in areas where wet floors are expected
 - b. Use skid-resistant floor treatment in areas where floors are likely to be wet
 - c. Install floor drains to drain standing water in wet areas
 - d. Install guardrails at open-sided floors
 - e. Use fork-lift trucks when retrieving merchandise from high areas
 - f. Use rack guards on open sides of warehouse racking to prevent merchandise from falling
 - g. Shrink wrap pallets to prevent merchandise from falling from a high level
 3. Motor-Vehicle Related Injuries
 - a. Use sensor-based obstacle detection (backup sensor)
 - b. Use lane departure warning alarm (for when vehicle drifts into another lane)
 - c. Install camera-based video system to provide visibility in blind spots
 - d. Separate entrance and exit roadways with suitable signs
 - e. Construct parking lots so that no one needs to cross a roadway to get to the building
 4. Workplace Violence
 - a. Limit unlocked access doors to the extent feasible, while adhering to fire prevention laws
 - b. Limit the total amount of cash available on site
 - c. Use drop safes
 - d. Lock doors used for deliveries
 - e. Use silent alarms to notify police
 - f. Require security badges
 - g. Provide mobile phones for people working in dangerous neighborhoods
 - h. Enhance lighting
 - i. Install closed circuit cameras
 - j. Install panic bar doors locked from the outside

3. Practice (Needs, Challenges, Opportunities)

Designs, relative to the four strategic goal areas, should be identified with case studies. Relationships should be developed with trade associations to promote activities and good practices. Immediate action should be taken to develop a program with the Retail Industry Leadership Association.

PtD should include and engage employees, which can reduce loss, injuries, and shrink the amount of theft/damage. PtD awareness should be raised within community groups (i.e., Rotary Clubs, Lion's Clubs), and outreached to schools to show how the intervention helps workers, customers, and the environment. This way one could get "buy-in" from stakeholders in all three of the areas.

4. Policy (Needs, Challenges, Opportunities)

The main recommendation on policy concerned development of a voluntary safety certification program. Additionally, NIOSH can use the NORA Sector Councils to focus on the four functional areas. Cost-benefit models should be developed so that businesses can project cost savings from using PtD intervention. Many large retailers have successful safety policies and programs in place. The templates for such policies should be promoted to other businesses, and tailored as necessary to meet the unique needs of small businesses.

5. Research (Needs, Challenges, Opportunities)

PtD designs, models, and procedures have been in existence for many years, but their use is somewhat scattered. One main area of research is how to diffuse good ideas and get companies to pay attention and implement them. There is no available information supporting the business case relative to the four strategic goal areas. Analysis of existing surveillance data could identify additional research gaps.

Given the limitations with current surveillance data, new surveillance tools (e.g., an occupational health supplement to the National Health Interview Survey) should be developed. Another need is for more third party research, similar to the NIOSH/Wal-Mart back belt study (Wassell et al., 2000). Grants should be increased for faculty to do PtD research.

6. Education (Needs, Challenges, Opportunities)

Regarding education of future professionals, tight curricular requirements make it problematic to meet the need for increased course content about PtD. To get faculty acquainted with integrating PtD into coursework, NIOSH should create a clearinghouse for case studies for faculty use. PtD competitions within universities can help generate interest in PtD. It is hoped that using these strategies, PtD eventually can be "folded" into existing courses. For example, a course in structural engineering might include examples of fall protection anchors, without actually altering the existing course structure. Employers can influence university curricula by requiring PtD education for new graduates that they seek to hire.

Currently, there are no continuing education courses in PtD. There are no known professional societies (American Society of Safety Engineers, American Society of Mechanical Engineers, American Society of Civil Engineers, National Fire Protection Association) that offer PtD or Design for Safety courses. Yet, the daily mail is full of continuing education courses on a variety of topics, such as bridge design, pump design, HVAC

design, high performance concrete, wind effects on buildings, wood structures, sprinklers, fire alarms, and life safety. An immediate action item should be to write and promote continuing education courses in PtD. The Occupational Safety and Health Administration (OSHA) Alliance Design for Safety Workgroup is already doing this for construction safety. A two-four hour course for design professionals is available online, and a 10 hour OSHA course is in the works. Offering courses can be done outside of universities as well. Many of the professional safety societies (National Safety Council, American Society of Safety Engineers, American Industrial Hygiene Association) have materials on PtD (aka Design for Safety), which can be packaged (or re-packaged) and made available.

7. Conclusions

The diversity of the WRT sector, from large companies to small businesses, creates a challenge for deployment of PtD

solutions. Influencing the implementation of PtD principles in small businesses using a “voluntary safety certification program” may have merit. The voluntary certification program will then drive the education, policy, practice, and research recommendations offered by the workshop participants.

References

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