Rapporteur's Report

Services Sector

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1. Introduction

The services sector includes industries and administrative programs among these sub sectors: Information; Finance and Insurance; Real Estate; Professional, Scientific and Technical Services; Management of Enterprises and Corporations; Administrative Support and Waste Technologies; Education; Arts, Entertainment and Recreation; Accommodation and Food Service; Other Services; and Public Administration. The sector comprised an estimated 65 million paid workers in 2005. These workers face risks that include workplace violence, over-exertion, shift work, and psycho-social stressors.

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

The most compelling ideas/recommendations to come out of the discussions include:

- Worker input is critical in the design of work tasks and equipment
- There is a need for public support for PtD in the Services Sector
- Standardized processes will be an important resource to those working to introduce PtD to the Services Sector.

3. Practice (Needs, Challenges, Opportunities)

One of the clearest examples of the invisibility of service sector workers comes from those who remove trash. Of all fatalities among sanitation workers, 40% occur as a result of being run over by a motorist racing to work in the early morning hours. Motorists do not even appear to 'see' garbage trucks and run right into them. Safety professionals in this industry assert that increasing public awareness and respect for sanitation workers is the key to improvements in the health and safety of this workforce. One way to do this is to increase the visibility of sanitation workers, and their trucks, by using an array of large lights, brightly colored paint, and a drop-down sign, similar to that used on school buses, that simply says "Stop." All of these are designed to change the basic way a garbage truck is perceived. It is not an impediment to be gotten around as quickly as possible, but a vehicle that is more akin to a school bus, and should be treated with the same respect.

The issue of respect is also central to another key safety concern in this industry: the biomechanical loads engendered by the manual handling of waste containers. The safest way to remove trash is one that uses a completely automated design, where an arm attached to the truck picks up a standard size container and empties its contents into the back of the truck. The driver never leaves the cab and therefore risk is minimized. The primary obstacle to this new design comes from the consider-able resistance of the public to accepting standardized practices that regulate container size, weight, and curb-side placement.

Standardized practices, which have been developed through an inclusive consensus-building process, are important resources for those working to introduce PtD into the services sector. They might include the application of American National Standard Institute (ANSI) standards for garbage truck step sizes, or in educational institutions, the application of purchasing specifications for chemical and building materials that have been proven to be safe. Another way to insure that best purchasing practices are implemented throughout large organi-zational systems is to organize the centralized purchasing of those products with proven safety features.

The application of best practices may also include the design of buildings to foster good indoor air quality (IAQ). Schools are complex environments that reproduce aspects of other work-places in their classrooms, kitchens, and in their chemistry and computer labs. Health and safety issues should be incorporated into the basic design of these facilities. The concept of devising safe buildings should take into account designs to prevent violent acts and protect workers, such as teachers, from being isolated and vulnerable to assault. Architects and interior designers need to

begin incorporating a concern for safety and environmental health in the very beginning of the school design process. This will require the active engagement and participation of administrators, teachers, students, parents, maintenance personnel, and the school board.

Among the occupational groups the NORA Services Sector Group discussed, one of the greatest challenges to successful PtD exists among hotel housekeeping workers. PtD in the hotel industry involves understanding that workload and staffing issues are a core part of the design process. This industry is currently moving toward the rapid development of service products and designs that demonstrate upscale, high end values. Hotels are being extensively remodeled through greater use of marble surfaces, mirrors, chrome, larger pillows, heavier mattresses, and more labor intensive bed linens and towels. As ongoing research at Ohio State's Biodynamics Laboratory is demonstrating, these service products result in increased workloads on the part of the housekeeping staff. Yet, the basic unit of work performance, the number of rooms that must be cleaned per day (i.e., the room quota) has remained the same. Research, using lumbar motion monitoring devices, demonstrates that this workforce has biomechanical loads that are higher than most industrial jobs (Marras, 2006).

Successful PtD in this industry could successfully focus on modifying basic work processes and equipment. For example, the simple shift from unfitted to fitted sheets can cut by 50% the number of times that workers repeat a tuck and lift process, reducing thousands of pounds lifted in a work day. Likewise, the introduction of long handled tools, such as mops and scrub brushes, can save workers the wear and tear that comes from being mandated to, according to a formal hotel company directive, "…wash entire bathroom floor on hands and knees using sponge." Finally, cleaning cart design has received little attention from a PtD perspective and can be improved in terms of size and ease of use. These improvements can then be applied to other hotel workers that use carts daily, such as stewards delivering clean dishes to kitchens, dining rooms, and cafeterias.

The major obstacle to introducing these improvements at present, is the lack of any mechanism or process by which workers' input is considered in the design of guest rooms, bedding packages (sheets, pillows, duvets), carts, cleaning surfaces (chrome, mirrors, expanded tile areas for flooring), processes, tools, or products. Rooms, their contents and associated amenities and processes, are designed and implemented most times without any consideration of their impact on the workload, safety, or health of the housekeeping staff. Participatory involvement of workers, their representatives, and workplace safety experts, in the redesign of rooms, amenities, methods and processes of cleaning, can readily reduce workloads without substantially increasing costs, and thereby lower the costs associated with work-related injuries. What is essential is a willingness on the part of the hotel industry to involve housekeeping staff in the process of implementing PtD efforts. The public may be the key to this process and these questions were raised: "To what extent does the public really want and expect high-end sheets, pillows, marble surfaces, etc? And at

what price do they want hotel housekeepers to pay providing such luxuries?'"

Does the public know and understand the impact of these luxuries on the health of those that clean their rooms, and will they be willing to pay more for them as a consequence? For those who need some incentive, one way to limit the use of these luxury items would be to charge guests more for them. Or better yet, can a best practices model be created where labor, management, workplace safety professionals, and the public, collaborate to design guest rooms and amenities that provide comfort and luxury, while creating a safe workload for the hotel worker?

4. Policy (Needs, Challenges, Opportunities)

For some workers in the services sector, such as hotel housekeeping staff, PtD policy initiatives may involve efforts to establish the most basic of human rights. In the hotel industry the processes and procedures of work should be redesigned so workers can take care of their essential human needs. This means things as simple as being able to take breaks to rest and recover from repetitive work, to drink water while working, and even being able to go to the bathroom when necessary. At present, many housekeeping workers cannot use the bathrooms in the rooms that they clean, are prohibited from drinking water in these rooms, and their workload effectively eliminates the possibility for taking breaks.

One clear direction for PtD policy innovation involves a focus on payment systems and their impact on worker safety. For example, the move to an hourly payment system, from the current daily quota of rooms, will substantially modify the intense workload of housekeepers, and give them more time to undertake the more arduous cleaning tasks at a safer pace with a safer workload. Another needed change is to do away with incentive pay to clean more rooms after their quota has been met. This encourages housekeepers to speed up and race to finish their quota, so as to earn more money cleaning additional rooms. Obviously, this speaks to a rate-of-pay issue in an industry that has seen tourism sky-rocketing, along with the price of rooms, as well as occupancy rates.

Other PtD policy innovations will require the awareness and support of the industry and the public. Another example from the sanitation industry illustrates this. Automated recovery of trash is largely dependent on enforcing a clear policy regarding the weight and size limits of trash containers as well as their contents. This clearly illustrates that the success or failure of an already existing PtD technology is largely dependent on the willingness of the community to support and implement a set of standardized practices that may appear to violate individual rights of choice concerning container size, weight, and placement.

In educational institutions there is clearly a need to develop policies that are designed to protect against violence. A considerable barrier to this occurs in instances where the school's administration chooses to cover-up and/or not report violent episodes for fear of disturbing the community. It is also important to examine the effectiveness of policies like zero tolerance, the use

of communication devices, team teaching, and physical workplace designs, in an effort to counter the rising incidence of violent acts involving teachers. The tacit acceptance by employers and the public that exposure to and threats of violence are simply a part of the work environment of teaching today should be challenged by the establishment of the statutory right to safe and healthy schools. In order for effective PtD violence policies to be developed, community members and school boards must be educated to accept the reality of violence and the impact it has on both teachers and their students. The NORA Services Sector Group also suggested that there was a need to develop Occupational Safety and Health Administration (OSHA) performance standards for violence that specifically address the issues of building design, as well as work processes. In a similar vein, the extension of universal OSHA coverage to all municipal workers, particularly those who are not currently covered, will provide a strong incentive for PtD policy formation in the sanitation industry.

5. Research (Needs, Challenges, Opportunities)

One of the major research needs in this sector, and perhaps in all sectors, involves examining the change process itself. How do we develop collaborative partnerships to begin undertaking PtD? How do we develop committees and groups that can help solve problems? There is a need to critically evaluate strategies to develop strong worker/community coalitions around issues like violence and indoor air quality. Our group agreed that there continues to be a considerable need for more research on participatory processes in general, and the process of mobilization and organization in particular. Other identified research needs are more specific to each of our three occupational groups.

In the sanitation industry, the primary research need is to develop a study that examines the health impact of redesigning trash pick-up procedures, and that specifically compares manual with completely automated and semi-automated systems. Other investigations should be designed to examine the long-term health effects on sanitation workers of exposure to potentially toxic or pathogenic chemical and biological waste products, and to biomechanical loads. Still others should explore the potential for reducing risk-taking behavior among sanitation workers by implementing an hourly wage structure rather than allowing workers to go home early if they complete their routes quickly.

In education, an emphasis was placed on the evaluation of interventions designed to create green systems and buildings. It was pointed out that little is currently known about how they really affect those who reside and work within them, such as teachers and students, particularly in regards to health outcomes, such as asthma. There is also a great need for more research on what kinds of building designs and methods of work are associated with a reduction in violence. More generally, there is a need to examine the impact of work organization and workload on violence, which should include an investigation of factors such as classroom size, the design of communication systems, the support of other teachers and staff, and the impact of 'no child left behind' policies.

Research needed to implement PtD among housekeeping staff includes:

- Designing rooms and amenities that are less labor intensive with less repetitive motion work
- Evaluating the ergonomics of cart, mop, and tool design
- Examining cleaning techniques and how they might impact health
- Evaluating the jobs/tasks of hotel housekeeping
- Evaluating the impact of hotel housekeeping on chronic disease (e.g., hypertension, stress and diabetes)
- Evaluating the impact of changing the basic unit of work from the "room" to the "hour," with no incentives for piece rate pay
- Conducting focus group studies of hotel customers and what level of "luxury" is important to them in light of the hazards of hotel housekeeping
- Recognizing the issue of racial and ethical inequities, in this vulnerable population and how it works to make housekeepers more invisible
- Developing a pilot study to implement and examine the effects of best practices and the efficacy of interventions, with an emphasis on labor management solutions with input from safety experts and workers.

6. Education (Needs, Challenges, Opportunities)

The ultimate goal in education should be to develop a new generation of engineers, architects, managers, and administrators that have been trained to include occupational and environmental health concerns as an integral part of their design of the work environment and processes. For example, the NORA Services Sector Group emphasized the importance of developing professional education in health and safety for engineers and architects that design schools, hotels, vehicles, as well as something as simple as a mop. Health and safety training should be introduced in schools of engineering, architecture, and interior product design. Health and safety training should also be included in professional schools of education (where it will reach both teachers and administrators), and hotel management. The methods by which PtD principles are introduced into the curriculum should utilize modules, case studies, and high-status exemplars. They should be designed to elevate the status of the entire PtD area in the same way that the green environmental design has done in relation to energy conservation. PtD educational innovations should carefully study the green building movement and learn from its successes and challenges with regard to health outcomes. It should also guarantee that the "greening" of workplaces includes worker friendly processes and workloads, and that the environment is a safe one in which to work in the broadest sense of the word. One example from the hotel industry is where the "Green program" was started with guests choosing not to have their towels cleaned as often. Though this reduced the use of cleansing products, many guests assumed it lightened the workload for hotel housekeepers. In many cases it did not, as hotel employers just added more rooms for cleaning

to the quota. Green must protect the environment, public, and workers.

Other education efforts should focus on training administrators, managers, human resources personnel, and supervisors in basic PtD principles. Certification programs can be developed that are specific to particular industries. Regional workshops that focus intensively on specific topics are one way of doing this. For example, Maine has developed an ongoing annual workshop that focuses on indoor air quality (IAQ) and targets those who are particularly interested in the built environment. Perhaps the greatest challenge will come in educating the public; specifically that portion of the public that can influence the PtD process, such as members of school boards. It is important to reach out to those members of the public that are responsible for creating, designing, and maintaining the built environment, as they have much influence over decisions that influence the PtD process. It is important to educate workers on how to: recognize and correct hazards in their work environment, mobilize and build advocacy coalitions to undertake the change process, and reach out to the public with their concerns.

7. Conclusions

A case study of a successful campaign to correct a major IAQ problem in a Connecticut middle school serves as an example. It demonstrates that one key element in any successful PtD change effort is the "deep involvement" of important stakeholders in an ongoing process of communication and action. In Connecticut, teachers, parents, and administrators were intensively engaged in a sustained effort to identify and correct the IAQ problems in their aging middle school. They assembled a team that included themselves, the facilities manager, the school nurse, the local health director, and university consultants. They engaged in a health assessment of the school community, risk communication, and in planning interventions to improve air quality. Resources were secured to remediate the school and protected occupants' health while renovations were underway. While this was ongoing, many other schools in Connecticut had similar IAQ challenges. The Connecticut General Assembly passed "An Act Concerning Indoor Air Quality in Schools" in 2003. This law requires schools to develop an indoor air quality program by 2008, provides for evaluation of buildings, and supplies financing to remediate substantial problems. As of 2007, more than 700 schools had established IAQ programs. These successes highlight, once again, the critical importance of winning public support for PtD. A central component of PtD in this sector must involve a greatly expanded awareness by the public. They have to understand the impact of their demands and expectations on the health and safety of service sector workers, along with those employers who legally have the responsibility to provide a safe workplace from known and recognized hazards. Whether it is the number of pillows and sheets in hotel rooms that must be changed, the way garbage is left at the curbside, or the increasing violence in schools, PtD will require a strong partnership between the community that is served, the workers who provide services to that community, employers, and the industry. The public, whether it is represented by a school board, the municipality, or the hotel customer, can be the major obstacle or the greatest ally for change.

Reference

Marras, W. S. (2006). Field applications of the lumbar motion monitor. *Biodynamics Laboratory, Department of Industrial and Systems Engineering*. Ohio State University. http://biodynamics.osu.edu/research.html#tools