

A research project completed by the Nursing Health Sciences Research Unit at McMaster University in collaboration with the Public Services Health & Safety Association

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INTRODUCTION

The Public Services Health and Safety Association (PSHSA) recently developed a unique approach to the prevention of musculoskeletal disorders (MSD) and slips, trips and falls (STF) using principles of Participatory Ergonomics (PE). Utilizing experiences from the WellAware program developed by BJC HealthCare (St. Louis, Missouri), PSHSA created the **EPIC program**.

In 2010, in the public sector, MSD and STF accounted for 59% of all lost time injuries. PE has been used widely as a strategy to reduce the incidence of MSD and results have shown benefits for employees and employers. Given the positive impact of PE in MSD interventions, there appears to be value in applying PE principles to other hazards in the workplace. Using these principles, EPIC aims to create an internal framework that will enable organizations to respond to both MSD and STF problems while enhancing participation and internal competency to improve health, safety and wellness.

The purpose of this study was to evaluate the implementation of EPIC as a best practice in the health and community care sector.

RESEARCH QUESTION

How effective is EPIC in reducing hazards and the incidence of MSD and STF across participating pilot sites using a PE framework?



METHODS AND SAMPLE

Mixed methods, utilizing both a qualitative and quantitative approach, was used to evaluate the implementation of the EPIC program at six sites for one year. It included a pre and post intervention evaluation and a two-tier evaluation methodology.

Tier 1: All sites provided baseline data regarding their organization including existing safety, health and wellness profiles and completed a pre implementation assessment, which identified hazards and systems in place for incident reporting.

Tier 2: Participant input was obtained pre and post implementation using a standardized data collection tool. The research team analyzed notes taken during site visits, as well as assessment reports and consultant feedback logs.

Four organizations chose MSD as their area of focus and two chose STF. Four of the six organizations previously participated in the Health and Safety Management System (HSMS), developed by PSHSA in 2007.

RESULTS

Thematic analysis of the pre and post implementation was completed through examination of information collected. Major themes, discussed below, emerged from this analysis.

Organizational Infrastructure	Commitment of the senior leader assigned to the project was identified as an essential facilitator. All sites agreed that having a distinct committee structure for EPIC facilitated successful and timely outcomes, but this structure must "fit" the organization.
Resources	EPIC requires a significant organizational investment to achieve outcomes. Must overcome logistical challenges such as scheduling, cost of replacing staff, time required to participate.
Outcomes	Perception that EPIC contributed to the reduction of exposure to or progression of a hazard, but data is not yet available to validate this.
Experience with EPIC	All sites reported that participants in the project were "more engaged" in advancing a culture of safety and safety was becoming the "way of working" at their organization. The most notable difference was recognition by frontline staff that "they have a role in identifying hazards and taking initial steps to prevent incidents." The sites reported positively on the outcomes to date and recognized that the program is not a "one-time" project but an ongoing safety initiative. It was suggested that the program be at least a two-year project to allow the organizations to enact the plan and evaluate the outcomes.
Safety Culture	Showed a heightened awareness of safety within the organizations and the activities of the participants. Also a slight increase in the number of employees wearing personal protective equipment.



CONCLUSION

Participating sites felt EPIC was thorough and well structured and that participation in the project resulted in more safety-related initiatives than the organizations would have identified and implemented on their own. Since many improvements are still in progress, the sites are not yet able to demonstrate measurable long-term improvements or outcomes, such as reduced staff incident and lost-time injury rates. All sites believe the program will contribute to advancing a culture of safety.

The key **facilitators** to advancing EPIC: strong leadership commitment, dedicated and involved PSHSA consultants, open communication and dialogue, use of existing committees where possible and active frontline staff involvement.

The main **barriers** to implementing EPIC: organizational resources, logistical issues in scheduling and attendance at meetings, time for staff to attend educational sessions, resistance to change, financial resources, and ensuring long-term sustainability and accurate measurement of outcomes.

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BJC HealthCare is one of the largest non-profit healthcare organizations in the United States, delivering services to residents primarily in the greater St. Louis, southern Illinois and mid-Missouri regions. BJC HealthCare services urban, suburban and rural communities and includes 13 hospitals and multiple community health locations. PSHSA would like to thank Laurie Wolf and BJC Healthcare for sharing their experiences using participatory interventions.

REFERENCES

- Kuorinka, I 1997, 'Tools and means of implementing participatory ergonomics', *International Journal of Industrial Ergonomics*, vol. 19, no. 4, pp. 267-270.
- Villeneuve, J 2003, 'Participatory Ergonomic Design in Healthcare Facilities', in *Back Injury amongst Healthcare Workers: Causes, Solutions, and Impacts*, Charney, W & Hudson, MA (eds.), CRC Press, Boca Raton, FL, pp 161-178.
- Cole, D, Rivlis, I, Van Eerd, D, Cullen, K, Irvin, E & Kramer, D 2005, 'Effectiveness of Participatory Ergonomic Interventions: A Systematic Review', Institute for Work & Health, Toronto.
- St-Vincent, M, Bellemare, M, Toulouse, G & Tellier, C 2006, 'Participatory ergonomic processes to reduce musculoskeletal disorders: Summary of a Québec experience', *Work*, vol. 27, no. 2, 123-135.

