

The intervention design and analysis scorecard: a business decision-making tool for participatory design of integrated health and safety interventions in the workplace

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Abstract. Using a participatory ergonomics framework, the Intervention Design and Analysis Scorecard (IDEAS) was developed and tested for engaging front-line employees in the design of integrated safety and health interventions. The IDEAS provides a stepwise approach for developing intervention proposals and was tested at four diverse worksites with trained facilitators. Employees were able to develop and gain management support for integrated interventions at each worksite.

Keywords. Participatory ergonomics, business case, integrated health and safety interventions

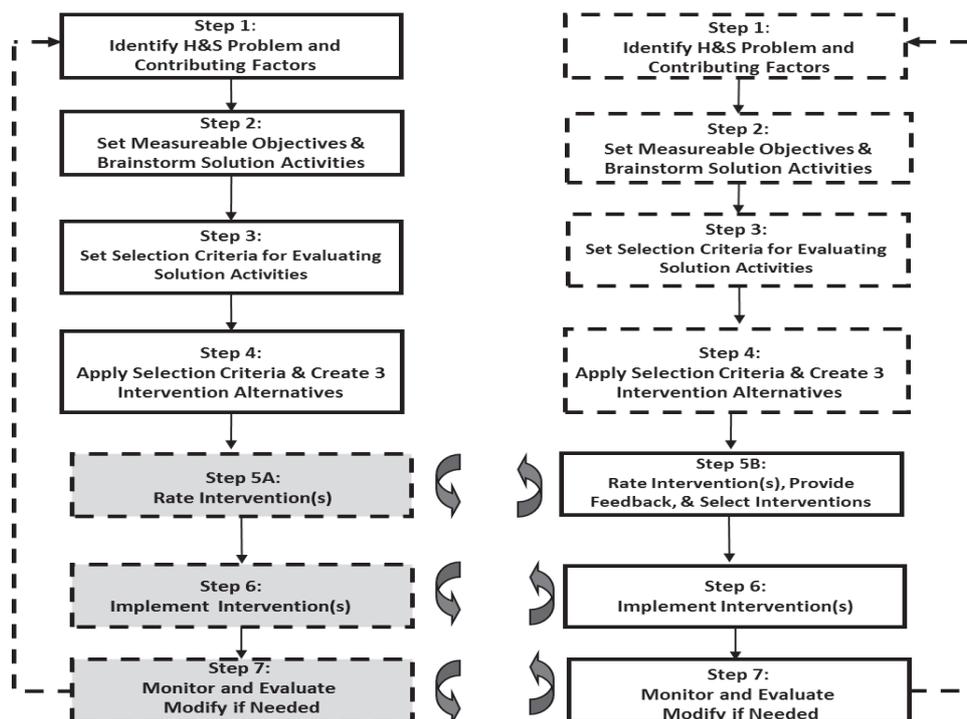
1. Introduction

Conventional workplace safety programs with a top down management approach are limited in their effectiveness, appear to be short lived, and are not well integrated into organizational cultures. Therefore, a primary research focus and effort has been to develop a way to fully engage front-line employees and managerial/supervisory personnel in the collaborative, iterative design of workplace interventions. Our novel approach expanded the Participatory Ergonomics (PE) process to encompass integrated safety and Health Promotion (HP) interventions to support continuous improvement of employee's safety and health to achieve Total Work Health (TWH). This PExHP "bottom-up" approach actively engages employees in the design of workplace interventions. Teams of employees, supported by a multilevel steering committee, are involved in the decision-making, problem-solving actions, and evaluation of these interventions, all of which appear to be necessary for the success of a functioning program (Henning & Reeves, 2013). This paper presents an overview of the Intervention Design and Analyses Scorecard (IDEAS).

2. Methods

The IDEAS tool is a seven-step format developed through an iterative design process during field testing. The key feature of the IDEAS tool is the use of a stepwise, scorecard approach to develop, evaluate, rank, and select the most practical and effective intervention ideas and solutions. Use of the IDEAS tool fulfills four key scientific and programmatic

needs: (1) to address the multiple contributing root causes of health/safety issues/concerns, 2) to provide balanced interventions integrating both safety and health promotion principles involving combinations of behavioral changes, training initiatives, and work organization/workplace changes, 3) to propose a range of intervention options for the steering committee to consider for any specific health/safety issue, and 4) to develop intervention proposals aligned with business decision-making practices and strategic goals that consider return-on-investments metrics. The seven planning steps of the IDEAS tool planning process and the respective roles of the design team and steering committee are depicted in the flow diagram, figure 1 (see Robertson et al., (2013) for details).



3. Results and Conclusion

The IDEAS tool was tested at four diverse worksites with trained facilitators. Employees were able to develop and gain management support for integrated interventions at each worksite. The IDEAS tool can be used effectively by front-line employees to plan integrated interventions in a program dedicated to continuous improvement of employee safety and health and Total Worker Health.

References

- Henning, R.A., and Reeves, D.W. (2013). An integrated health protection/promotion program supporting participatory ergonomics and salutogenic approaches in the design of workplace interventions. In: Bauer G., Gregor J., ed., *Salutogenic Organizations and Change: The Concepts Behind Organizational Health Intervention Research*. The Netherlands: Springer, 307-324.
- Robertson, MM., Henning, R., Warren, N., Nobrega, S., Dove-Steinkamp, M., Tibirica, L., Bizarro, A., CPH-NEW Research Team. (2013). The intervention design and analysis scorecard: A planning tool for participatory design of integrated health and safety interventions in the workplace. *Journal of Occupational Environmental Medicine*, 55(12).