HearWell: Using the CPH-NEW Intervention Design and Analysis Scorecard (IDEAS) Tool to Develop Interventions for Hearing Health in Transportation Workers

Concurrent Session 1.2
Day 2 – Wednesday
May 9th, 2018
1:00 – 2:15pm

Problem Statement: The US Occupational Safety and Health Administration (OSHA), mandates a hearing conservation program (HCP) when workers are exposed to noise above the threshold action level. While OSHA HCP content is specified (audiometry, noise monitoring, employee education, exposure control, recordkeeping), there are no program delivery guidelines. Typically, HCPs are delivered as top-down organizational interventions where workers are passive program recipients. We sought to improve HCPs by adopting the participatory and root causes approach developed by the Center for the Promotion of Health in the New England Workplace (CPH-NEW) as part of the Healthy Workplace Participatory Program (HWPP). The program, called HearWell, seeks to protect and promote hearing health via an integrated approach involving behavioral changes by workers and changes to work organization through the Intervention Design and Analysis Scorecard (IDEAS) Tool. We piloted HearWell among transportation maintainers who perform seasonal tasks including snow plowing, tree removal, road paving, and mowing and are often exposed to noise levels above the OSHA action level. Current results are part of a larger study evaluating the effectiveness of HearWell versus a traditional HCP.

Methods: Following the HWPP, we identified and trained a facilitator, formed a steering committee (SC) of key management stakeholders, administered an employee survey on hearing safety and health, and formed a design team (DT). The DTs consisted of 5-6 maintainers from 2 regional garages within the state Department of Transportation, and met for 1-hr biweekly. Employees used 5 steps of the IDEAS Tool to 1) identify contributing factors as root causes to hearing loss, 2) develop a wide range of intervention objectives and activities, 3) set key performance indicators (KPIs) to evaluate their own performance.

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intervention ideas, 4) rate and form a select set of intervention proposals, and 5) rank and put forward the best intervention proposals for SC consideration.

Results: The DTs met over 13 meetings. In IDEAS Step 1, workers identified health and safety problems and contributing factors related to hearing loss. Themes included noise in the workplace, hearing protection problems, lack of training and knowledge, as well as safety climate. In Step 2, the DTs brainstormed solution activities with specific activities suggested in the areas of policy, training, hearing protection devices (HPD), noise level and hearing awareness, and equipment. In Step 3, the DTs identified KPIs which in Step 4 were applied to the solution activities (from Step 2). In Step 4, the interventions were grouped and rated and selected in Step 5. The DTs crafted and ranked 4 intervention packages within the following themes: policy, hearing (noise) awareness, hearing protection device (HPD) options, and HPD allowance (Table 1).

Conclusion: DTs were able to identify a range of interventions that could occur at the company level (via policy change) down through the individual level (training) and further differentiated the need for a range of training (15 minute tailgate talks through 2-hour hands-on training). In the next steps of the IDEAS Tool, the proposed interventions will be presented to the SC for modification, rating, approval, implementation and assessment.