

Priority Setting for Future European Occupational Safety and Health Research

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Background and project objectives

The "OSH Evidence - Systematic Review Clearinghouse on Occupational Safety and Health" Group covers part of tasks undertaken by the Partnership for European Research in Occupational Safety and Health (PEROSH). PEROSH was founded in 2003 and is now comprised of 12 OSH institutes from 11 European countries.

The OSH Evidence Group aims to facilitate knowledge transfer from scientific research into policy making by means of systematic reviews (SRev), scoping reviews (Sc.Rev.) and overviews of systematic reviews (OSRev). Against this background we have developed a database where reviews of OSH topics are stored. By making reviews available knowledge will be better accessible. We are now enhancing this initiative by setting a priority list of research questions which is in line with the major trends and research challenges in OSH.

Goal of the working group „OSH Evidence - Systematic Review Clearinghouse on Occupational Safety and Health (OSH)“ is to:

- coordinate European OSH systematic reviews
- promote the use of evidence in OSH practice and policy
- develop a best practice in OSH
- facilitate knowledge transfer
- encourage the exchange of expert knowledge among PEROSH partner institutions
- perform systematic reviews, scoping reviews or overviews of systematic reviews (if funding is available)

Methods

To prioritize the areas of highest importance for the OSH evidence based medicine research, we used the PEROSH paper "Sustainable workplaces of the future – European Research Challenges for occupational safety and health" as a starting point. In this paper, seven major research areas and future challenges in OSH were identified by the PEROSH member institutes: 1) Sustainable employability to prolong working life, 2) Disability prevention and reintegration, 3) Psychosocial well-being in a sustainable working organisation, 4) Multifactorial genesis of work-related musculoskeletal disorders, 5) New technologies as a field of action for OSH, 6) Occupational risks related to engineered nanomaterials, and 7) Safety culture to prevent occupational accidents. For each research challenge, the paper gives a description of the priority and the research needs at European level.

We translated the research needs in answerable specific research questions and predefined the criteria to decide if this question should better be answered with a systematic review or with a scoping review. Research questions were formulated using the 'PICO' format: P=Participants, I=Intervention/Exposure, C=Comparison/Control, O=Outcome. For scoping reviews, we described the target population, the intervention or exposure(s) and the intended results.

Systematic review	Scoping review
Focused research question with narrow parameters	Research question(s) often broad
Inclusion/exclusion usually defined at outset	Inclusion/exclusion can be developed post hoc
Quality filters often applied	Quality not an initial priority
Detailed data extraction	May or may not involve data extraction
Quantitative synthesis often performed	Synthesis more qualitative and typically not quantitative
Formally assess the quality of studies and generates a conclusion relating to the focused research question	Used to identify parameters and gaps in a body of literature

Literature

1. © Partnership for European Research in Occupational Safety and Health (PEROSH). Sustainable workplaces of the future – European Research Challenges for occupational safety and health. Brussels, 2012.
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Contributing project partners

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Current project results

A scoping review was considered to be more appropriate if: a) The research topic is very broad and allows sub-questions, b) An extensive body of literature is available c) Many different study designs might be applicable, and c) The research topic refers to a complex area that has not been reviewed comprehensively before.

A systematic review was considered appropriate if: a) The research question is well-defined, b) Appropriate study designs can be identified in advance, c) A number of primary studies but no relevant SRev is found.

Research topic	Research questions for systematic reviews already in the OSH Evidence database
1. Sustainable employability to prolong working life	<ul style="list-style-type: none"> • What factors predict prognosis of sick leave in workers with musculoskeletal disorders?
3. Psychosocial well-being in a sustainable working organisation	<ul style="list-style-type: none"> • Psychosocial stress at work and cardiovascular disease • Is aggression more frequent among health care workers compared to other workers in public function? • Do work-related psychosocial factors lead to low back pain? • Do work-related psychosocial factors lead to pain in the lower extremities? • Do work-related psychosocial factors lead to pain in the upper extremities?
4. Multifactorial genesis of work-related musculoskeletal disorders	<ul style="list-style-type: none"> • Does physical work lead to coxarthrosis? • What is the impact of work-related (physical) load on the development of knee osteoarthritis in the workforce? • Which interventions can prevent back pain in workers exposed to biomechanical load? • Do work-related psychosocial factors lead to pain in the upper extremities? • Do work-related psychosocial factors lead to low back pain? • Do work-related psychosocial factors lead to pain in the lower extremities?
7. Safety culture to prevent occupational accidents	<ul style="list-style-type: none"> • How can needle stick injuries in health workers be prevented? • Do visual warning signs in workplaces lead to compliance in behaviour and/or reduce injuries in workers compared to no signs or an alternative intervention?

Research topic	Unanswered research questions for scoping reviews	Research topic	Unanswered research questions for systematic reviews
1. Sustainable employability to prolong working life	<ul style="list-style-type: none"> • Which interventions are available to prolong working life and what is known about their (cost)effectiveness? • Which working conditions are related to transitions out of work in ageing workers? 	1. Sustainable employability to prolong working life	<ul style="list-style-type: none"> • Do economic incentives prolong the working life of ageing workers? • Are psychosocial work characteristics risk factors for early retirement? • Is physically demanding work a risk factor for early retirement?
2. Disability prevention and reintegration	<ul style="list-style-type: none"> • Which interventions/programs aimed at the rehabilitation and reintegration of workers suffering from a longstanding illness are available and what is known about their (cost)effectiveness? 	2. Disability prevention and reintegration	<ul style="list-style-type: none"> • What factors predict prognosis of sick leave in (ageing) workers with mental disorders? • Is work modification (hours, environment, organisation) effective in the prevention of disability? • Are life style interventions effective in the prevention of disability?
3. Psychosocial well-being in a sustainable working organisation	<ul style="list-style-type: none"> • Which working conditions are related to psychological and mental health and well-being? • Which interventions aimed at promoting positive aspects for employees' mental health and well-being (e.g. work and life satisfaction, motivation) are available and how is their effectiveness in the prevention of work-related stress and mental disorders? • What intervention approaches are available against violence at work and how effective are they in preventing work-related stress? 	3. Psychosocial well-being in a sustainable working organisation	<ul style="list-style-type: none"> • Does information overload lead to mental disorders? • Does work-life imbalance lead to mental disorders? • Do changes in working hours have an effect on work-related stress and common mental disorders? • What is the influence of restructuring on work-related stress and common mental disorders? • What is the effect of violence and harassment at the workplace on work-related stress and common mental disorders? • What is the effect of work engagement on work-related stress and common mental disorders?
5. New technologies as a field of action for OSH	<ul style="list-style-type: none"> • What are the effects of telework on employees' well-being and health? • Does real time monitoring of hazardous exposures lead to more interventions and lower exposure? 	4. Multifactorial genesis of work-related musculoskeletal disorders (MSDs)	<ul style="list-style-type: none"> • Does combined exposure of physical and psychological risks lead to higher MSD occurrence than one risk factor only? • Does lower physical capacity lead to an increased risk of MSD?
6. Occupational risks related to engineered nanomaterials (ENM)	<ul style="list-style-type: none"> • What are the risks of exposure to nanomaterials for human health? • What are reliable and valid ways of measuring nanoparticles? 	6. Occupational risks related to engineered nanomaterials (ENM)	<ul style="list-style-type: none"> • Is ventilation effective in reducing nanoparticles?
7. Safety culture to prevent occupational accidents	<ul style="list-style-type: none"> • Which company level approaches are most effective in improving safety culture and preventing injuries in high risk industries (e.g. construction, manufacturing industry, transport)? • Which regulations for improving safety culture and preventing injuries are most effective? 		

If more than one up-to-date SRev answering the same or a similar OSH topic is found, then an OSRev or a new SRev including all studies considered in all relevant SRev found could best answer the question. In case not enough studies exist, then there is a demand for primary studies.

The OSH Evidence Database of SRev on OSH topics is a place to find gaps of evidence. There one can find unanswered questions, detect the need for studies, SRev, Sc. Rev or OSRev on an OSH topic or can use the database resources to improve existing methodology.

Conclusions

Translating research priorities into research questions that can be answered with systematic reviews, scoping reviews and overviews for systematic reviews is feasible. These priority settings will help to fill in gaps in the area of occupational safety and health where evidence based studies are lacking.

Research on health and safety at work www.baua.de

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