ONLINE SUPPLEMENTARY MATERIAL

Title: Burden, Need and Impact: An evidence based method to identify worker safety and health research priorities.

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Author	Study	Purpose and Scope	Methods	Results	Conclusions
Iavicoli et al, 2005	Identification of research priorities in occupational health	The benefit of establishing national priorities in the OSH sector is clear from the success of several stakeholder efforts to focus research and funding in key topical areas of occupational health, based on judgements that indicate the likelihood of addressing serious occupational health and safety problems.	This study looks at the methods, results, and impact of priority setting systems in a sample of seven European and North American OSH agencies.	Most national systems used the Delphi technique with different methods for selecting subject matter experts. Stakeholders likely to be impacted by or benefit from the research were also included. There was wide variation in types of SMEs selected and the degrees of agreement reached.	The success of these seven national agendas may encourage occupational safety and health institutions in other countries to identify national priority topics for which focused funding and research efforts could make substantial contributions to reduce occupational illness and injury,
Mador et al, 2016	Using the Nine Common Themes of Good Practice checklist as a tool for evaluating the research priority setting process of a provincial research and program evaluation program	The Nine Common Themes of Good Practice checklist, described by Viergever et al. (Health Res Policy Syst 8:36, 2010) was used as the conceptual framework to evaluate the research priority setting process developed for the Locally Driven Collaborative Projects (LDCP) program in Ontario, Canada.	Multiple data sources were used to inform the evaluation, including a review of selected priority setting approaches, surveys with priority setting participants, document review, and consultation with the program advisory committee.	The evaluation assisted in identifying improvements to six elements of the LDCP priority setting process. The modifications were aimed at improving inclusiveness, information gathering practices, planning for project implementation, and evaluation. In addition, the findings identified that the timing of priority setting activities and level of control over the process were key factors that	The findings demonstrate the novel adaptation and application of the 'Nine Common Themes of Good Practice checklist' as a tool for evaluating a research priority setting exercise. The tool can guide the development of evaluation questions and enables the assessment of key constructs related to the design and delivery of a research priority setting process.

				influenced the ability to effectively implement changes.	
Rehfuess et al 2015	An approach for setting evidence-based and stakeholder-informed research priorities in low- and middle-income countries	To derive evidence-based and stakeholder-informed research priorities for implementation in African settings, the international research consortium Collaboration for Evidence-Based Healthcare and Public Health in Africa (CEBHA+) developed and applied a pragmatic approach.	Online survey and face-to-face consultation between agency partners and policy-makers to generate priority research areas. Evidence maps for priority areas generated by policy and practice representatives. Priority maps analyzed and yielded 3 research questions on top priority disease outcomes.	Helped formulate research questions and study protocols with strong partner ownership to fill gaps in evidence base and address policy and practice needs. Highly labor intensive effort.	
Rosenstock et al 1998	The National Occupational Research Agenda: A Model of Broad Stakeholder Input into Priority Setting	The National Institute for Occupational Safety and Health (NIOSH) and its public and private partners developed the National Occupational Research Agenda to provide a framework to guide research for the next decade.	Approximately 500 organizations and individuals outside NIOSH participated in the development of the research agenda.	NIOSH selected those research priorities endorsed by 3 or more of the 5 working groups for inclusion in the draft research agenda. NIOSH undertook the task of setting research priorities in response to a broadly perceived need to systematically address those topics most pressing and most likely to yield gains to workers and to the nation. The development process resulted in the creation	In addition to using the agenda to guide its own intramural and extramural efforts, NIOSH expects decision makers, scientists, and professionals working in all areas of occupational safety and health to use the research agenda. NIOSH is working with partners in implementation and will track the nation's progress on the agenda.

				of a broad-based agenda to guide research in both public and private sectors.	
Viergever et al 2010	A checklist for health research priority setting: nine common themes of good practice	Moreover, because of the many different contexts for which priorities can be set, attempting to produce one best practice is in fact not appropriate, as the optimal approach varies per exercise.	Therefore, following a literature review and an analysis of health research priority setting exercises that were organized or coordinated by the World Health Organization since 2005, we propose a checklist for health research priority setting that allows for informed choices on different approaches and outlines nine common themes of good practice. It is intended to provide generic assistance for planning health research prioritization processes.	The checklist explains what needs to be clarified in order to establish the context for which priorities are set; it reviews available approaches to health research priority setting; it offers discussions on stakeholder participation and information gathering; it sets out options for use of criteria and different methods for deciding upon priorities; and it emphasizes the importance of well-planned implementation, evaluation and transparency.	
Yoshida 2016	Approaches, tools and methods used for setting priorities in health research in the 21st century	Health research is difficult to prioritize, because the number of possible competing ideas for research is large, the outcome of research is inherently uncertain, and the impact of research is	To obtain a better understanding of the landscape of approaches, tools and methods used to prioritize health research, I conducted a methodical review using the PubMed database for the period 2001-2014.	A total of 165 relevant studies were identified, in which health research prioritization was conducted. They most frequently used the CHNRI method (26%), followed by the Delphi method (24%), James	The number of priority setting exercises in health research published in PubMed-indexed journals is increasing, especially since 2010. These exercises are being conducted at a variety of levels, ranging from the

		difficult to predict and measure. A systematic and transparent process to assist policy makers and research funding agencies in making investment decisions is a permanent need.		Lind Alliance method (8%), the Combined Approach Matrix (CAM) method (2%) and the Essential National Health Research method (<1%). About 3% of studies reported no clear process and provided very little information on how priorities were set. A further 19% used a combination of expert panel interview and focus group discussion ("consultation process") but provided few details, while a further 2% used approaches that were clearly described, but not established as a replicable method.	global level to the level of an individual hospital. With the development of new tools and methods which have a well-defined structure - such as the CHNRI method, James Lind Alliance Method and Combined Approach Matrix - it is likely that the Delphi method and non-replicable consultation processes will gradually be replaced by these emerging tools, which offer more transparency and replicability. It is too early to say whether any single method can address the needs of most exercises conducted at different levels, or if better results may perhaps be achieved through combination of components of several methods.

Appendix 1. Summary of national and international efforts to prioritize health research**.**