

attempt to sort out what currently is known and not about hazards of ENMs.

Methods The scientific literature from 2000–2017 was assessed using keywords and environmental scanning techniques to capture information about the health effects of ENMs. The focus will be on high volume ENM.

Result The extent of research health effects that have been identified for various high volume ENMs will be described. While many nanomaterials have been developed there are a limited number that are widely used in commerce. Common determinants of toxicity will be identified.

Discussion Assessing the hazard potential of ENM is a complex task since there are so many combinations of physiochemical parameters that may lead to ENMs having differential toxicity. The implications of this will be discussed as well the research needed to address the hazard potential of engineered of nanomaterials that are or could be in commerce.

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AIR PNEUMO: AN ACADEMIA-BASED QUALITY ASSURANCE OF PHYSICIANS' PROFICIENCY IN READING CHEST RADIOGRAPHS OF PNEUMOCONIOSIS

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Introduction Early detection of the disease, by routine standard chest X-ray, is one of the essential measures for secondary prevention. ILO has provided the guideline for radiographs reading for pneumoconioses according to the ILO classification to support the medical screening test and clinical purposes. The aim of this article is to describe the history and concept of the AIR Pneumo.

Methods Asian Intensive Reader of Pneumoconioses (AIR Pneumo) is a quality assurance program to train and certify physicians who works for prevention of pneumoconioses, which is one of the major occupational health problems worldwide. The system is useful for epidemiological research, screening and surveillance of high-risk workers, diagnosis and compensation. Because of variability of reading by physicians, some organisation, e.g., US NIOSH, has developed the certification testing, called B-reader.

Result Since its first Bangkok workshop in 2006, AIR Pneumo has conducted 17 workshops 6 times in Thailand, 4 times in Brazil, twice in Japan, and one in each in Philippines and India. As Bangkok workshops invited international participants, most of physicians from ASEAN countries and D.R. Congo has attended the workshops.

Discussion The classification system holds its uniqueness in possessing standard radiographs that show profusion 0 to 3 for each types of small opacities, large opacities and pleural abnormalities. By using standard radiograph side-by-side to the subject radiographs that physicians are reading and classifying, higher inter reader agreement can be achieved. Understanding and using the classification properly demands certain amount of training. In accordance with WHO/ILO Global Programme for Elimination of Silicosis, ILO has been encouraging GPES participating nations to educate physicians to increase proficiency of reading radiographs of pneumoconioses. The AIR Pneumo, an academia based quality assurance of physicians proficiency in reading pneumoconiosis radiographs is sustainable approach with active involvement of local experts in GPES participant nations.

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APPLYING HUMAN FACTORS TO PROMOTE A POSITIVE SAFETY CULTURE

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Introduction Safety management has traditionally been based on technical solutions and regulations. Although these traditional safety methods are still needed, they do not necessarily raise real safety levels. A prerequisite for improving safety is proper safety management, implemented by people who create and maintain safety through vigilance, competence, communication and group work, if the organisational structures around them support this human success. In this review, I summarise the research and development processes implemented in 2000–2017 to improve the safety, efficiency and well-being of organisations, from the aspect of human factors (HF) with safety critical domains.

Methods In 2000–2017, we conducted interviews, questionnaires and interventions among operative personnel, management and experts in the nuclear industry and the aviation, railway, and maritime sectors. Both business and authorities were represented. The HF tool was designed and modified for each field and the user experiences are presented here. The HF tool consists of a single tool, material for HF training, techniques for analysing cases at work, and proceedings for corrective actions. Its aim is to promote a positive safety culture.

Result The HF interventions helped the organisations handle incidents more transparently, giving way to more open discussions on demanding situations at work. The HF tool became more of a philosophy, with which to highlight and understand human performance at the individual, work, group and organisational level, also taking successes into account. It helped concretise cognitive, work and organisational psychology as a facilitator of safety.

Discussion The HF tool promoted Safety-II thinking, which has recently been actively discussed as a safety paradigm shift, but has lacked the concrete tools to transform it from scientific debate to practice.

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6TH EUROPEAN WORKING CONDITIONS SURVEY: JOB QUALITY IN EUROPE

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Introduction The Union and Member states shall have as their objectives improved living and working conditions (article 151 of the TFEU). More and better job is an important policy objective for the European Union.

Methods Statistical analysis of the 6th European Working Conditions Survey. In 2015, the Sixth European Working Conditions Survey interviewed almost 44 000 workers in 35 European Countries.

Result Seven job quality indices are produced which at the level of the job, gathers these characteristics of work and employment that have been associated in positive or negative with health and wellbeing of workers. The job quality indices are: physical environment, social environment, work intensity, working time quality, skills and discretion, prospects and earnings. They are presented and discussed. Each index is associated with a positive experience of working life in health and well being, work life balance, engagement and motivation, financial security. The job quality indices are pooled together

to create cluster of jobs in Europe on the basis of the job quality: high flyers, smooth running, active manual, under pressure, poor quality. They are presented and discussed.

Discussion Results support the importance of monitoring job quality in Europe and in the world. How can they be improved?

1723 WORKERS' COMPENSATION AND SOCIAL SECURITY SYSTEM AND OCCUPATIONAL INJURIES

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Worker's compensation is different for each country according to their histological and cultural background and socioeconomic status. The number of workers and the kind of diseases covered by worker's compensation differs for each country depending on approval criteria and degree of worker's compensation.

It has close relationship with social security system of each country. Therefore, it is important to understand various situations when using worker's compensation statistics or comparing with other countries. We compared and analysed worker's compensation and social security systems of South Korea, Japan, Germany and US, and studied the correlation between socioeconomic status and worker's compensation statistics of OECD countries. Occupational injury rate of South Korea is not high compared to Japan, Germany or US, but fatal injury rate is significantly high. This is presumably related to under-reporting and the under-reporting is in relation with social and political situations of Korea. US shows very high ratio of musculoskeletal diseases including sprains and strains, while Germany shows lower ratio. This seems to be related with paid sick leave of each country. South Korea, Japan and Taiwan have almost identical approval criteria for cerebrovascular diseases, but approval rate is exceptionally high in South Korea. This is because of high application ratio due to the fact that the all cerebral haemorrhage cases during work were compensated as occupational diseases in South Korea in the past. For developing countries trying to benchmark other countries' worker's compensation system, should consider not only the workers' compensation system, but also other social security systems and the socioeconomic status.

44 THE QUALITY AND GOVERNANCE OF OCCUPATIONAL HEALTHCARE SERVICES IN SOUTH AFRICA: WHAT LESSONS FOR UNIVERSAL HEALTH COVERAGE?

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Introduction The 2015 United Nations sustainable development goals have underscored the importance of universal health coverage (UHC), a healthy, well-educated workforce and compliance with international occupational health and safety standards. This paper draws on key findings of a doctoral research study to explore the [dis] connexions between quality, governance and models of occupational health service (OHS) delivery in South Africa. Within the context of UHC,

the paper will highlight key recommendations emerging from the study.

Methods The Human Research Ethics Committee provided ethics approval. The research used a combination of methods, which included a review of occupational health (OH) legislation and policy documents; in-depth interviews with 12 key informants; 11 focus group discussions in three South African provinces, and a web based survey of OHS practitioners. We used thematic content analysis to analyse the qualitative data and STATA to analyse the web based survey.

Results The study found diverse models of OHS delivery in South Africa, of varying quality, with an excessive focus on physical examinations to achieve legal compliance. Furthermore, OHS occupy a relatively low priority on the health reform agenda and are delivered in a fragmented and complex legislative framework. These quality and governance problems are exacerbated by a perceived lack of employer emphasis on OH, insufficient human and financial resources, and lack of specific quality of care standards for OH. The survey found that external assessment of OHS is associated with improved compliance with relevant legislation.

Discussion Improvement in the quality and governance of OHS delivery is essential to realise South Africa's quest for UHC. While the exact nature and form of external assessment needs to be determined, there is need for nationally agreed upon standards for the delivery of OHS, implemented through a cohesive structure which is cost effective, sustainable, and mandatory without marginalising small to medium service providers.

1772 PROMOTING A POSITIVE PSYCHOSOCIAL WORK ENVIRONMENT: INDIVIDUAL, ORGANISATIONAL AND SOCIETAL BENEFITS

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The psychosocial work environment underpins every organization's operations and concerns psychological and social dimensions of the work environment relevant to aspects of work organization, design and management, and interpersonal relationships. Despite often viewing the psychosocial work environment as something new, the way we organise our work and how we work with others are issues that are as old as work itself. What has brought about an increased focus on the psychosocial work environment is the accumulating evidence on the negative outcomes of poor management in terms of potential harm to employee health, safety and well-being, poor organizational performance with associated negative societal impacts.

Efforts have been made over the past decades to promote a positive psychosocial work environment and mental health and well-being in the workplace. These include interventions both at the policy and at the organizational level. This presentation will consider the action framework so far implemented to address the psychosocial work environment across the world. It will discuss differences across countries and highlight priorities to be addressed. It will showcase successes and good practice examples.

Taking the overall state of the art in this area into consideration it will identify necessary actions both in relation to policy and practice for necessary progress to be achieved. These will specifically consider evolution in knowledge, technology, and society that has brought about inevitable changes in our working