

developed countries are ageing rapidly, the most dramatic increases are occurring in developing countries. Because most elders prefer to be cared for at home, these profound demographic shifts are driving a global need for home care (HC) at an unprecedented rate. As a result, HC aide jobs are among the fastest growing occupations and yet their occupational safety and health (OSH) experience is nearly invisible. The Safe Home Care Project at the University of Massachusetts, Lowell USA, funded by the US National Institute for Occupational Safety and Health, was established to protect and promote the OSH of the HC workforce.

Methods We used mixed methods ranging from focus groups to large scale OSH questionnaire surveys, microbiology field studies, and laboratory experimental studies of chemical, biologic, and biomechanical hazards. These studies were performed among HC aides and elders who are HC recipients.

Results HC aides experience numerous OSH hazards similar to hospitals and nursing homes: back injuries from patient lifting; needlestick injuries; respiratory irritant exposures from cleaning and disinfecting; and serious encounters with violence from patients or family members. Aides also experience hazards not seen in institutional settings: exposure to second-hand smoke, risk of fire from patients smoking cigarettes while on oxygen, patients re-using needles for injections and storing them improperly, and lack of medical equipment for patient lifting. Overall, we found that high quality care delivery depends significantly on HC aide safety.

Discussion HC aides need OSH protections. Despite OSH challenges, the great majority of aides report high job satisfaction due to meaningful relationships with patients and families and to the relative autonomy compared to institutional care work. Interventions should enhance these beneficial aspects of HC work as well as improve OSH.

1765 SEED SAFETY AND HEALTH WHEN RUSHING TO HELP

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Introduction Helping local populations develop economic independence is an important aspect of international development programming, and can be critical for longer-term resilience building after major natural disasters. When teaching new skills and methods, one needs to make sure that:

1. those teaching the skills stay healthy while on site, and
2. that the new workforce learns about the essential elements of workplace safety and health (WSH) so that they stay healthy while becoming economically more stable.

Methods The principle to keep both, trainers and trainees safe and healthy during a training and later on is universal. However, many of these interventions happen in ill-controlled situations with many other concerns such as security and administrative challenges related to the exceptional situation. Furthermore, many well-intending teams perceive the situations as 'emergency'. Combined with the hesitance to be 'better treated' than the locals, this can lead to them accepting and taking more risks than they would accept at home.

Result Trainers need to plan how to recognise and teach good safety and health practices in situations where they don't have access to sophisticated or expensive measures. They can set an example to the local population by using WSH methods that are adapted to the specific risks of the solutions. They need to be simple and cheap so that they can later be applied by the locals. Trainers need to emphasise the importance of WSH to prevent the creation of long-term health problems.

Discussion Once development partners and emergency responders understand these WSH-challenges, they can plan for them. It is important to train all stakeholders in how to include WSH aspects. Also donors need to understand the importance of WSH so that they can accept, if not even demand that WSH is given importance also from a perspective of value for money.

1591 MY TRUTH IS BETTER THAN YOURS – HOW TO FIGHT BACK IN THE AGE OF ALTERNATIVE FACTS

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Apparently we live in the time of post-truth and alternative facts. However, we do not have to take this lying down. What we, the scientific community, can offer is a viable alternative, meaning real facts. There are two things that are critical in this: what to do when faced with outright lies or opinions parading as facts and what to offer in their place. The key to both issues is bias. Alternative facts consciously ignore biases and their effects. Somehow a personal gut feeling just trumps scientific reasoning. The best thing we can do is to accept the existence of biases and to try and minimise their effects in what we do. One way to do this is by means of systematic review. It is a means of abstracting a higher level of truth from multiple scientific studies that each examine a similar issue. Whilst synthesising their results and formulating overall conclusions, one explicitly displays the biases affecting both the existing research (what others have done) and the process of synthesis (what you do to combine the results of the studies in one conclusion).

For example, a Cochrane review found high quality evidence that the use of blunt needles appreciably reduces the risk of exposure to blood and bodily fluids for surgeons and their assistants over a range of operations. High quality evidence means that the finding is not significantly affected by biases in the evidence or in the process to combine their results. Future research is unlikely to change this conclusion. Conversely another Cochrane review found very low quality evidence that bullying behaviours may be prevented in the workplace. Future research is very likely to change this conclusion. Know thyself and be open about your failings. That is a sound basis for true facts.

1590 THE ROLE OF EPIDEMIOLOGICAL RESEARCH IN THE PREVENTION OF OCCUPATIONAL ILL HEALTH

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Introduction Concerns about occupationally-related diseases that are rare in the general population have provided an

impetus for the development of epidemiological research (the study of the distribution and causes of disease in human populations) into the adverse health effects of the workplace.

Methods There are numerous epidemiological studies of specific industries, occupations and workplace 'exposures', from chemical, physical and biological agents to ergonomic factors and psychosocial stressors. These are usually observational in design and 'classical' intervention studies are much rarer. Occupational epidemiology plays an important role in identifying and quantifying risks and understanding the aetiology of disease and makes important contributions towards

- i. risk and health impact assessment,
- ii. setting standards/limits in workplaces and the general environment
- iii. provision of evidence for compensation
- iv. estimation of the burden of occupational disease to society.

Results Epidemiological studies of current risks from past exposure have directly informed strategic workplace risk reduction programmes and campaigns and production of guidance and practical interventions for stakeholders. Together with mechanistic information they contribute to occupational exposure limit (OEL) setting. More recent studies illustrate prediction modelling of the impact of reduction of OELs and strategies such as improving compliance. Results from epidemiological studies are also incorporated into economic evaluations of risk options and this in turn has been important in decision making e.g. in the choice of EU OELs. International epidemiological studies can demonstrate important differences across nations in workplace exposures, resulting health consequences and use/lack of prevention measures.

Discussion Occupational epidemiology thus plays a vital role in increasing awareness of occupational disease and enumerating the impact of adverse working conditions and exposures. The occupational health community should continue to push for increased education on occupationally related ill-health, encourage routine collection of occupational data and, of course, persuade organisations to fund appropriate research.

1589 INFECTIONS IN THE WORKPLACE: IDENTIFYING PROBLEMS AND APPLYING RESEARCH TO PREVENTION

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Introduction Infections are the only occupational diseases that can be transmitted from one worker to another. Although workplace and community-acquired infections have a long history of affecting health and productivity, from miners' 'consumption' and seafarers' plague to influenza and Ebola, occupational infections have been under-recognised, under-reported and under-researched. In most workplace settings, infectious diseases have not received the same attention as physical, chemical and psychosocial challenges. Similarly, workplaces have generally been underutilised in the prevention and control of infections. However, epidemics in the 21st century have evoked attention not only from the occupational health fraternity, but also from employers, workers and the media seeking policies and procedures to prevent and manage infection in the workplace.

Methods Selected infections and their impact in various occupational settings are explored to illustrate the challenges of

their identification and management, as is the interface between public health and occupational health surveillance, research and interventions. The unique nature of infectious agents as an occupational hazard is considered, while longstanding and new public health research and strategies for prevention are evaluated in an occupational context.

Discussion A major challenge for research and prevention is measuring occurrence, morbidity or mortality from occupationally-acquired infections, especially when exposure in the workplace is not always recognised. Primary prevention interrupting the transmission cycle of micro-organisms comprises a variety of interventions that are implemented concurrently rather than in a hierarchy of control, while secondary prevention for affected individuals, becomes effective primary prevention for others. To date, even for health care workers, who dominate global research and interventions related to occupational infections, success has been somewhat limited to better resourced workplaces. It is vital for the focus to extend beyond the workplace in collaboration with public health care to promote research, recognition, prevention and management of infectious diseases for all workers.

1730 WORKING TOO MUCH, ANYWHERE AND AT ALL TIMES – WORKERS' HEALTH IN OUR CONTEMPORARY COMMUNICATION SOCIETY

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The advancement of information and communication technologies (ICT) has changed spatial and temporal dimensions of work. Currently, in several occupations, there is a blurring of the boundaries between professional and private life, thus providing access to workers at any time of the day or night. This presentation will deal with consequences of ICT to workers' health and well-being, including the supplemental work from home, intensification of work, and the intrusion of work into individuals' personal life, affecting work life balance. Besides, the presentation will focus the phenomenon of constant connexion and its relation to a general feeling of time scarcity, also with implications to well-being. The view of organisations that care about working conditions, such as the Eurofound and the International Labour Office, will also be addressed, as well as policies to protect workers, such as the so-called 'right to be disconnected' recently implemented in France.

1746 OVERVIEW OF THE CURRENT STATE OF KNOWLEDGE ABOUT THE HEALTH EFFECTS OF NANOMATERIALS

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Introduction It has been close to 20 years that engineered nanomaterials have entered commerce. There are tens of thousands of types of nanomaterials that have been produced and the hazard potential varies across them. Some may be hazardous and some not. The last decade of research has begun to identify important determinants of ENM toxicity but there is still much uncertainty about hazard potential. It is useful to