

## EDITORIAL

# Occupational Health and Safety in the Expanding Economies: Severe Challenges and the Need for Action Through Education and Training

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The occupational health and safety (OHS) situation in expanding economies is not encouraging. As was dramatically demonstrated by the recent epidemic of Ebola virus disease in West Africa in which many health care workers lost their lives, the majority of low- and middle-income countries (LMICs) are currently not able to adequately prevent occupational diseases. Every year occupational health services in these countries fall farther behind those in high-income countries (HICs). The widening gap in occupational health services between the global north and the global south parallels the increasing gap between high- and low-income countries in national wealth, a gap apparently caused by unbalanced development of globalized markets.<sup>1</sup>

Review of the relatively scant published literature on occupational health services in expanding economies finds that these services tend to be inadequate in the following areas: a) capacity (ie, the number of available trained OHS professionals); b) the range of OHS services provided; c) adoption and ratification of international guidelines such as International Labor Organization conventions; and d) implementation of national OHS policies.<sup>2</sup>

Professional education and training provided by international networks of dedicated scientists offers a powerful strategy for enhancing occupational health services in LMICs by increasing the number of trained OHS professionals. Several international courses are currently providing this type of education in locations around the world:

1. “Occupational and Environmental Determinants of Diseases: A Multidisciplinary Approach as a Key for

Prevention” is a summer course held annually at the University of Brescia, in Italy ([www.summerunibs.org](http://www.summerunibs.org)).

2. “Teaching Interventions Crossing Borders” is a summer course held annually at the Ludwig Maximilian University of Munich, in Germany.<sup>3</sup>
3. The “Advanced International Training Course in Occupational and Environmental Health” is held biennially at the Chulabhorn Research Institute in Bangkok, Thailand ([www.cri.or.th/en/](http://www.cri.or.th/en/)).

Students and faculty have opportunities to rotate among these 3 courses.

In addition to providing high-quality hands-on training in OHS, these courses provide unique opportunities for networking among OHS professionals from both HICs and LMICs and for developing approaches to continuing education that extend beyond the courses.

To provide an opportunity for young OHS professionals from LMICs to publish their work in a peer-reviewed journal, we recently invited students and faculty participating in the above courses to submit publications reflecting OHS issues in their countries in an annual special issue of the *Annals of Global Health*, specifically dedicated to occupational global health. The present issue is the first in this new series.

The contributions included in this special issue cover a wide range of topics in OHS. Among them are reports describing novel developments in education and training based on online material and interactive learning. Also included are analyses of the current status of OHS in a number of countries ranging from Tanzania and the Southern African region, to the Russian Federation,

Kyrgyzstan, Turkey, Iran, Nepal, Korea, Peru, and the Andean region. These snapshots of OHS in various developing countries demonstrate that there are common challenges and situations that deserve major attention and support from the international scientific community.

Increasing rates of occupational diseases and injuries in LMICs are common challenges. As economic activities in LMICs grow and expand, occupational injuries and diseases will likely increase among workers in diverse sectors of economy, including agriculture, mining, transportation, and manufacturing. This may result in increasing demand for OHS services, which is unlikely to be met by developing countries that are prioritizing economic expansion without regard to their effect on human health and the environment.

Another common challenge in LMICs is that OHS services are usually limited to major enterprises and existing laws and regulations are not comprehensive enough to cover the entire population. Workers in small enterprises, migrant workers, and recent immigrants in many countries are likely to not be included in too many OHS programs. Implementation of legislation is weak and not protective of workers and their families.

Mental health problems among workers, which seemed previously to be restricted to workers in Europe and North America, are another emerging challenge for OHS services in LMICs. These problems are now spreading to workers in LMICs, who are experiencing levels of job-related stress that are similar if not higher than workers in HICs, with negative effects on their health.

Changing economic patterns are another challenge. In the countries of the former Soviet Republic, the transition from a centralized to a market economy led to increase layoffs of workers and to unemployment. These threats were followed by

increased workload, and the health and safety of workers became of little priority.

Shortages of trained OHS professionals pose another challenge. In Tanzania, for example, less than 10 OHS professionals currently exist in the entire country. Increased efforts on education and training are needed.

The reports published in this special issue document that for developing countries, reliable online OSH information offers great opportunities especially when this information is available on mobile phones or tablets. Opportunities to train students, workers, and professionals in all countries on how to find reliable OSH information online should not be missed. Online website platforms are suitable vehicles for exchanging ideas, experiences, good practices, evaluation models, and educational materials. The use of online technologies and blended educational forms can increase the coverage and quality of OSH education in developing countries enormously.

In the future, we will continue this experiment of linking education and training provided by high-profile international courses, with dedicated space where ideas and experiences can be shared more broadly through high quality peer-reviewed publication. Our commitment is to actively support the workers throughout the world through high-quality scientific research, cutting-edge educational effort, and the new infrastructures provided by information technology that may help reducing world inequalities and disparities.

A new generation of highly qualified, independent, and dedicated OHS professionals is a feasible objective that can be successfully achieved through coordinated international effort. This goal will guarantee a more balanced global economic development, with adequate contribution from OHS, which is necessary to minimize health risks and optimize productivity.

## REFERENCES

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