

Editorial

Global Qualitative Risk Management (Control Banding) Activities

Efforts are underway on all continents to provide simple guidance for employers to reduce workplace risks. These qualitative risk management ('Control Banding') toolkits mostly target small businesses and address the following risks: **chemicals**, including specialized toolkits for specific chemicals, silica, nanoparticles, and allergens causing bakers' asthma; **ergonomics**, including agricultural ergonomics; **safety**; **psychosocial issues**, and **sector specific toolkits**, including Construction, Health Care Workers and Health Care Wastes.

The 4th International Control Banding Workshop (4ICBW) was held during the XVIII World Congress on Safety and Health at Work in Seoul Korea on July 1, 2008¹. Presenters described exciting new efforts, the limitations of the systems in place, and research to evaluate some of the control banding approaches. Providing simple guidance for small business owners to enable them to conduct a qualitative risk assessment and to control exposures of workers to chemicals in the workplace is a complementary approach to traditional reliance on implementing engineering controls to comply with existing international occupational exposure limits (OELs) in countries everywhere. An additional impetus comes from the experience of highly developed societies that too many chemicals are still without OELs, and also that small businesses have neither the expertise nor the money to measure exposures and implement appropriate controls. The foundation of control banding approaches for small businesses is the UK Health and Safety Executive system entitled *Control of Substances Hazardous to Health (COSHH) Essentials*, which enables small businesses in the UK to meet their regulatory obligations. *COSHH Essentials* (now in a user friendly and free internet version) has instructions how to control worker exposures to chemicals often encountered in workplaces². This occupational risk assessment and management instrument is intended for use by the small employer without on-site technical experts and expensive exposure measurements (unless the need is identified by the instrument).

The International Occupational Hygiene Association (IOHA) recognized the value of this approach and developed for the International Labor Organization (ILO) an internationalized version of the COSHH Essentials intended for use in developing countries, now called the International Chemical Control Toolkit hosted on the ILO

website³. The concept of providing simple guidance for employers to control exposures is persuasive and the approach was adopted in 2002 by the International Program on Chemical Safety (IPCS), composed of WHO, ILO and the United Nations Environment Program (UNEP). An International Technical Group was formed to guide future steps. International control banding workshops to share advances and problems have been held in London (2002), Cincinnati, Ohio (2004), South Africa (2005), and now in Korea (2008).

Focus of Work

Two major streams of work have flowed out: 1) Evaluation of the effectiveness of chemical control guidance; and 2) Development of new qualitative risk assessment and management approaches, not only for chemicals, but also for ergonomic, safety, psychosocial and sector specific risks at work. The activities in the second stream adopted the concept that a qualitative risk assessment and management tools can help small businesses by providing an easy-to-understand, practical approach to controlling hazardous risks at work.

Much has been written by those working in the first stream about the limitations of various chemical control guidance approaches. A critical lesson learned is to incorporate in new systems an evaluation of effectiveness in the design and implementation of control approaches. A caution, however, is to not let the demand for the control to be 'perfect' get in the way of doing 'good' for workers who otherwise would have no protection from the exposures. The approach of control banding is intentionally simple so that ordinary persons can follow the instructions. This is true to the long tradition of public health.

Highly Developed Economies

New activities are advancing well. The adoption of REACH by the European Union and of the Globally Harmonized System by the United Nations has provided impetus to advancing chemical control approaches. The Netherlands' Stoffenmanager includes evaluation in its implementation activities, benefiting from critiques of the UK COSHH Essentials and of the International Chemical Control Toolkit. This is now in English, allowing wider

international use and further validation of the model and verification of the effectiveness of its control outcomes. Another dynamic web-based data exchange module is called STEAMBASE (Stoffenmanager Exposure and Modeling DATABASE), which provides data for ongoing evaluation studies. IOHA and organizations in The Netherlands are developing Barrier Banding, advancing the concept to 'band' risk in safety, thus implementing barriers for injury prevention⁴.

Difficulties exist for successful use of chemical control approaches in small businesses, even in highly developed nations, because most of these countries do not have successful systems for reaching the small business owners. The ease of use model of the UK within the COSHH regulation is an exception. Future steps in highly developed countries must implement systems to reach small businesses. In general, future efforts might recognize the need for tools suitable for three economic arenas: highly developed countries, emerging economies, and developing economies.

Emerging and Developing Economies

Most difficult is the development and application of chemical control approaches in developing and emerging economies, where the controls suitable for small businesses in developed nations are too expensive or simply not available. The International Chemical Control Toolkit was set up to contain simple control approaches applicable in developing nations. However, it has few guidance sheets at this point in time, so future steps need to include development and posting of control guidance sheets for use and evaluation by others. One model is the effort underway by occupational experts in the U.S. and Chile to develop simplified silica exposure sheets from Spanish translations of the UK Silica Essential Sheets for stone crushing and brick making⁵.

Another difficulty faced by developing nations is the limited presence of the internet, which houses all of the chemical control systems and guidance sheets. Future steps should include train-the-trainer courses for professionals in developing nations that utilize the internet resources for training. However, the courses need to include training in how to engage in-person small business owners or associations in partnering and methods of training for employers, workers and other trainers. Some successful models exist that could be utilized, modified and evaluated in future steps. The training approaches and their evaluations need to be posted in a readily accessible site to encourage others to use and evaluate their efforts. A possible candidate for posting training approaches or links to existing training programs is the electronic WHO Global Environmental and Occupational

Library (www.geolib.org).

One successful program to assist small businesses in developing nations is the ILO Work Improvement in Small Enterprise (WISE) program⁶. WISE has been used worldwide for nearly two decades and translated into many languages. WISE uses intuitive action-oriented checklists to guide owners or managers to control and improve working conditions, while increasing productivity at the same time. Another successful program, developed by the German development agency (GTZ), is called the Chemical Management Guide for Small and Medium Sized Enterprises⁷. It takes the International Chemical Control Toolkit a step further by establishing a simple systematic method to apply the toolkit and by linking improvements in the working environment to greater profits. The GTZ approach recognizes that small businesses have insufficient infrastructure and lack the information necessary for the risk assessment process, such as the Material Safety Data Sheets that should accompany the chemicals.

Global Projects to Develop Simple Guidance

The WHO Global Network of 65 Collaborating Centers around the world aims to assist developing nations by working together in a common Work Plan 2006–2010⁸. There are about 25 projects underway that utilize the concept of control banding to develop simple guidance to employers to control risks at work. Illustrations are provided here, organized by continent. In Asia, the Korean Occupational Safety and Health Agency (KOSHA) is developing web-based guidance to control chemicals used widely by SMEs in Korea. In India, the Chennai University colleagues are conducting GTZ-based training programs for employers to manage chemicals, and the National Institute of Occupational Health and non-governmental organizations (NGOs) are preparing guidance for silica flour milling, stone crushing, and agate grinding. The Ministry of Manpower in Singapore is using a chemical control toolkit with small and medium enterprises. In China, the National Institute for Occupational Safety and Health and Poison Control (NIOSHPC) translated the UK COSHH Essentials into Chinese in preparation for going forward, and the Fudan University in Shanghai is working with volunteer factories. A toolkit for healthcare workers has been piloted in Vietnam.

Europe is the leader in qualitative risk management approaches, as described above. EU partners are now developing a Psychosocial Risk Management Toolkit. In South Africa, projects include control of silica in quarries and baker's flour in shops. In the Americas, as mentioned above, Chile is active in controlling silica exposures, and Brazil has been working with partners in control banding

activities in foundries and elsewhere⁹). Control of ergonomic risks is central for the International Ergonomics Association (IEA), working also with ILO, IOHA and the International Commission on Occupational Health (ICOH).

Challenges for the Future

Challenges that must be addressed include the need for appropriate university and post-graduate professional training in and for developing countries to greatly increase experts in industrial hygiene, engineering, ergonomics, safety and psychosocial issues. Large companies could be involved in solving problems in small ones, perhaps as socially responsible partners. Labor inspectorates need to be trained to use toolkits. Health ministries and agencies need to focus more on prevention and less on cure. Health and Labor ministries would benefit from national Focal Points to facilitate collaborations. Innovative methodologies are needed for the informal sector in developing nations. Migrant workers in all countries require methods that reach across language and culture. Financial resources need to be identified. One resource for developing nations that could provide the opportunity to develop control banding approaches to the management of chemicals is the United Nation Environment Program (UNEP)'s Strategic Approach to Integrated Chemical Management (SAICM)¹⁰.

Millions of workers have no access to expert advice. Multitudes of pilot projects are needed to develop, implement, evaluate and post simple guidance for employers to control risks at the workplace. To quote the GTZ Chemical Management Guide: "Our best advice to you is 'Just do it'." Join in by developing new toolkits, by partnering with colleagues, by advocating for implementation of existing toolkits in your country, by conducting relevant research, by training local small and large businesses, union members and line managers, and by supporting the use of toolkits in workplaces when applicable¹¹.

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